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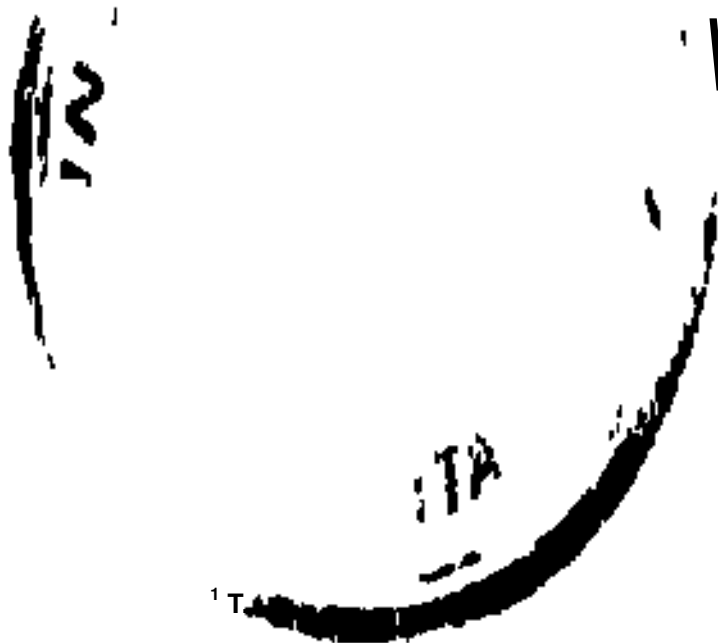
BOTANICAL SURVEY OF INDIA

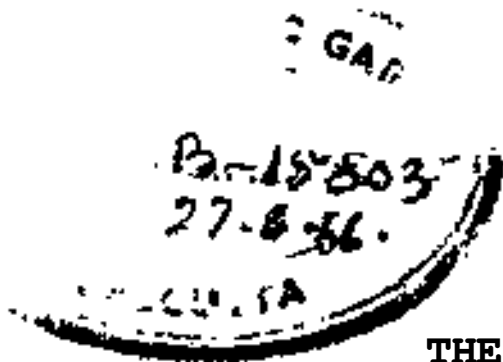
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EDITED BY

W. J. HOOKER, K.H. L.L.D...F.R.S. & L.S.

of a BOTANICAL TOUR *in the* WESTERN AZORES.

tier from HEWETT¹ C. WATSON, Esq., *to the Editor,*
da(%)d, November, 1842.)

As my wish to write to you from the Azores, by way
of sorting the progress I was likely to make in investigating
botanical productions of those islands, during the survey-
operations of Her Majesty's War Steamer, Styx, com-
menced by Captain Vidal; to whom I had been introduced,
through the instrumentality of yourself and Captain Beaufort,
I person, willing to go out at my own cost, for that object,
I obtained an order from the Admiralty was obtained for a pas-
sage in the Styx. I postponed writing, until I should reach
the island of Flores, often stated to have originally derived its
name from the beauty or variety of its flowers; and, by this
postponement the intention was ultimately defeated. The
East India mail-packets touch at Fayal on their homeward
journey. W. the island of Flores is upwards of a hundred
miles in length, with irregular and uncertain opportunities

1. +A V < * fr > r / ' , vnr rpfnrn to FavaL T had re-

sufficient coals to carry us to Falmouth with a fair wind. The wind proved adverse the whole way, and for a few days blew a hard gale, so that our stock of coal was exhausted before we could make the English Channel; and there was no resource left but that of turning back and running before wind, under such small sails as could be raised in the bay across the Bay of Biscay to Corunna, for a fresh supply. In this dilemma, it was some consolation to anticipate a nautical day or two on Spanish ground; but scarce had we anchored before we had notice from the Spanish authorities that none of us could leave the ship, which was put under quarantine, in consequence of having come from the West Indies. Could this have been foreseen, I should have spent a fortnight on shore in Fayal, and taken my passage on the succeeding mail-steamer; the Styx being about to proceed to the more eastern islands of Terceira and Santo Antão to which I would not go, as it appeared very uncertain whether I should be able to land on them for botanical purposes. By coming home in the mail-packet Dee, I thus lost the opportunity of autumnal botanizing in Fayal, and merely wasted the time in playing at "pitch and toss" in the Bay of Biscay.

My collections were left on board the Styx, to be brought to England in December; and in their absence, at present I cannot speak with certainty about the specific names of several species that were novelties to me, and therefore not yet determined in the absence of botanical works, which are entirely unknown in the Azores. With a few exceptions, all my specimens belong to European genera. Several of them are identical with those of the South of Europe, and some of the plants of Madeira or the Azores.

ter temperature is equal to that of May in England. I had expected to sail in April, but a succession of trifling circumstances (not all of them accidental or unavoidable, I suspect) concurred to detain the Styx a month longer in England, and it was not until the 18th of May that we at length steamed out of Plymouth Harbour. The War Steamers are built with a much sharper run from the deck to the keel, than is seen in the ordinary trade and passenger steamers; their form being something like the rapidly sloping roofs of old-fashioned houses turned upside down. In consequence of this build, they roll about most tumultuously on the ocean, and are by far the most uncomfortable ships in regard to their motion, that my slender experience has hitherto made me acquainted with. However, if the Styx rolled much from side to side, she rolled onwards also at a brisk rate; and by eight o'clock in the morning of the 25th, I was gratified, on going on deck, by seeing that we were already among the Central Azores, having passed Terceira, and being then on the north side of Santo Jorge; beyond which, in the distance, appeared the lofty Peak of Pico, rising high and sharp into the deep blue sky, with a wreath of white clouds floating like a loose drapery around its dark sides, much below the summit. Before one o'clock of the same day, we dropped our anchor in the Bay of Horta, the principal town of the island of Fayal, right opposite to which, at a distance of five miles, is the northern extremity of Pico island, whose towering Peak thus forms a noble background to the sea-view from the town of Horta. Looking at this great volcanic cone from the deck of the ship, I felt extremely anxious to be upon it, anticipating a rich harvest of Alpine plants, on a mountain whose altitude had been variously estimated from 6700 to 9000 feet. This anticipation was not afterwards realised; the other islands visited yielding me a larger supply of such plants, although their mountains have only half the elevation of the Peak of Pico.

To a lover of plants, who had before never been farther south than Cornwall, the island of Fayal afforded much of interest and attraction. It is of small size, about ten and

twelve miles in cross diameters. Everywhere the coast is formed of precipitous cliffs, with the exception of Praya, the Bay of Horta, and its suburb Port Pym, The Bay is formed by a crescent line of hills varying from three hundred to something near a thousand feet of elevation, by guess. Beyond the middle and highest part of this line of hills, and near to the centre of the island, is an elevated valley, several hundred feet above the sea-level, which is said to have derived its name of *Flamingos*, from having been the spot selected for their home by a body of Flemish settlers! Beyond this valley, again, the ground rises rapidly till we have passed the centre of the island, and approached within three or four miles of the coast, on the contrary side to that on which the Bay of Horta is situated. Here we suddenly come to the edge of the 'Caldeira' a deep and nearly circular basin, once no doubt a boiling crater, now, as peaceful and lovely a scene as I ever beheld. It is scooped out, as it were, in the highest part of the island, near the north-west coast, is entirely surrounded by the mountain which constitutes its walls, and is consequently quite without any visible outlet for the streams which pour into it. From the edges of this basin, which I suppose to be between three and four thousand feet above the sea, the land falls in every direction towards the shore, terminating there abruptly in precipitous cliffs, against which the waves are constantly beating. In the Bay of Horta, and in a smaller bay at Port Pym, there are narrow belts of grey sand on the shoniles and the same sort of shore is seen at Praya, a couple of miles from Horta, on the other side. My botanizing lay iiti them neighbourhood of these sandy bays, and in walks fror^ded into to the mountains about the Caldeira. Twice I descj? the cliffs, the Caldeira; and once I landed from a boat *opfed* about the several miles north-east of the sands, and strot'y' rambles thus neighbouring country for a few hours. M^ere made chiefly covered about one third of the island, and 'y> with a few short in the month of June and beginning of Ji^d of May and middle walks about the town of Horta, in the e* of September.

Of maritime plants, I found only a scanty supply, chiefly on the sands about Port Pym. Here I gathered *Juncus acutus*, *Polygonum maritimum*, *Salsola Kali*, a species of *Cakile*, and a *Convolvulus*, much resembling *C. Soldanella*, but with white and larger flowers. On the other side of Horta, I saw *Euphorbia Peplis*. The rocks of the coast produced another species of *Euphorbia*, an *Arenaria*, and a profusion of *Asplenium marinum*, which indeed grew all over the islands.

In the vicinity of Horta, the land is almost all under cultivation, having been converted into gardens, orange orchards, and cultivated fields, which are fenced by stone walls, with very narrow and rugged roads winding between them, also flanked by the monotonous stone walls. Living reeds are almost the only other material used for fences; and planted in rows, they answer this purpose very well, growing ten feet high and upwards, so as to constitute an excellent protection against the violence of the Atlantic gales, before which their elastic stems bend without breaking. Against the trespasses of man they can be no defence; but by cutting down some of them to be tied as rails across those which are left growing, a sufficient fence against cattle may readily be made. There is a constant renovation of these reed hedges from the succession of suckers thrown out by their roots.

The field crops consist of *maize*, *wheat*, *beans*, *lupines*, *flax*, *Potatoes*, and various *gourds*. The gardens produce *lemons*, *oranges*, *grapes*, *figs*, *apricots*, *peaches*, and *bananas*. *Strawberries* do not succeed well, and the fruit which they do bear is with difficulty preserved from the innumerable blackbirds. *Apples* I saw in Pico and Flores, but none in Fayal. *Cherries*, *raspberries*, *gooseberries*, or *currants*, I saw neither in Fayal nor in any of the other islands. As to ornamental shrubs and flowers, anything that grows in our green-houses might or does grow in the open ground in Fayal; but the violent sea-breezes would break and destroy most kinds of trees, as they rose above the shelter of the walls, or of those robust evergreens, which are constantly planted in the gardens and orange orchards to protect the less hardy kinds. The *Pas-*

siflora ceerulea has become wild, and thrives prodigiously. *Canna Indiaea* is occasionally found wild, with flower-stalks five or six feet high. The *Amaryllis Belladonna* is abundant in various places about Horta. Yet these three should probably be regarded as introduced plants, which have passed from the gardens to the wilds.

The use of stone walls and reeds for fences is prejudicial to the pursuits of the botanist, who may look in vain for hedges or hedge-banks, meadows or pastures, about the town of Horta or elsewhere in the cultivated regions of Fayal. The pedestrian walks along very narrow paved or rocky roads, hemmed in between two stone walls from six to ten feet high, or along narrow footpaths which cross only cultivated fields. These peculiarities, of course, greatly affect the spontaneous vegetation. What may be considered the characteristic Flora of the Azores, is very sparingly scattered about the town in a few spots, whose steepness or exposure has interfered to discourage the efforts of the cultivator. The wild plants which are met with, are chiefly annual weeds of cultivated grounds, plants which thrive about inhabited places, and such as are adapted to exist on rocks, or in the crevices of stone walls. Some of these are among the commonest weeds of EnghriN, as *Sisymbrium officinale* and *Sterardia arvensis*. Others are still English, but among our most local kinds, as *Cynodon Dactylon* and *Polycarpon tetraphyllum*. Others, again, though quite unknown in the English Flora, are still plants of south Europe; as *Phytolacca decandra* and *Portulaca oleracea*. But *Sida Canariensis* (of Guthrie's collection) and *Ficia albicans* are extra-European species, derived from other islands of the Atlantic.

Passing inland from Horta towards Flamingo's, we gradually lose many of these ordinary species of cultivated countries, and find the proper vegetation of the Azores, where left more in a state of nature. *Myrica Faya* and *Myrsine retusa* grow on the low hills which encircle the bay, immediately behind the town. *Erica Azorica* (of Guthrie's collection, but in reality *E. scoparia*) and *Thymus capitatus* are plentiful on these hills, though still more abundant on the wilder moun-

tains above Flamingos. *Spartium junceum* and *Asclepias fruticosa* (growing on the banks of a ravine, where a river crosses the line of hills and forms a waterfall in its approach to the town) may be indigenous, though very local. About Flamingos, the banks of the river are covered with many species of *Ferns*, and a few of the mountain shrubs are seen, the seeds of which probably come down with the streams, as *Menziesia polifolia* and *Calluna vulgaris*; the former of which is extremely abundant on the hill-sides between Flamingos and the Caldeira, and is doubtless the *crimson-flowered heath* mentioned by Messrs. Bullar in their account of the Azores.

Though the orange and lemon ripen their fruit at Flamingos, cultivation ceases altogether within a thousand feet above the village ; the highest crops being the *potato* and "yam," as it is called, but it is apparently the *Caladium esculentum*. The proximity of the clouds probably arrests cultivation at this moderate altitude; the "yam" being better adapted to withstand moisture than the other cultivated food-crops of the Azores; indeed, it thrives best in wet or marshy places.

About the upper limits of cultivated ground, where patches of *Myrica Faya* and other indigenous shrubs intermingle with the spaces cleared for the crops, I saw *Rosmarinus officinalis* and *Lavandula Stechas*, now quite wild, yet possibly originating from the cottage-gardens of Flamingos, in which they are planted ; as I did not meet with them in other parts of Fayal, or in other islands. Above the region of cultivation, there is a broad belt of natural wood, which grows up again as it is cut down for fuel. It consists chiefly of *Erica scoparia*, *Myrica Faya*, *Myrsine retusa*, - and a species of *Juniperus*, which the natives call "Cedros;" the latter, being very abundant in the Azores, causes several places to be called by its name of *Cedros*. Intermixed with these, but chiefly in the ravines down which the mountain streams rush rapidly, the *Faccinium Maderense* displays its fine clusters of long drooping blossoms. A large-flowered *Rubus* sends long rambling shoots among the other shrubs, to the great inconvenience of a botanical pedestrian and the barefooted peasants. *Ilex*

PeradOj Viburnum Tmus, Lauras Canariensis (?), and a handsome shrubby *Euphorbia* also occur in the ravines. *Pterw aquilina* and *Blechnum boreale* are very abundant among the shrubs; and many other *ferns* may be seen growing luxuriantly in the ravines.

As we keep ascending towards the Caldeira, these shrubs become less plentiful. The large mass breaks into clumps, between which various grasses and other herbaceous plants form a pasturage for cattle, and the more humble *Menziesia polifolia* bespangles the ground. Higher still, the shrubs are reduced to single and stunted bushes; and, at last, at the rim of the Caldeira, they cease altogether; the ground being there covered with a thick elastic mass of grass and moss. *Serapias cordigera* occurs rather frequently above Flamingos, and *Erythrcea diffusa* much more so. Between Flamingos and the Caldeira, chiefly in the ravines or on banks facing from the sun, I observed species of *Be Uis, Luzula > Lysimachia, Carex* and *Cardamine*, which were unknown to me, but to which Mr. Guthrie has attached names on the labels distributed with his specimens. *Tormentilla offidnalis* and *Fragaria vesca* were among the commonest plants on the declivities of the mountains.

But I must now rest my pen here, without taking you and it into that lovely valley of the Caldeira, so interesting to the botanist, so delightful to the lover of scenery. The Caldeira of Fayal, the Peak of Pico, the waterfalls of Flores, and the precipice of Corvo, are the four most inviting localities for the botanist who visits these more westerly of the Azorean islands. Another day I shall be happy to send you some account of them, as well as a full list of the plants collected; to which, the geographical position of the islands, so far in the Atlantic, must give some interest with the readers of the *Journal of Botany*. I may here just remark that there are no indigenous trees in the islands which I visited. The characteristic features of the vegetation consist in the abundance of evergreen shrubs and ferns, with a few peculiar alpine plants. Some of the shrubs are almost arborescent; the stems of the

heath attaining a circumference of two or three feet, and those of the *Juniper* occasionally three to four feet. *Ferns* constitute about a twelfth part of the whole flora, excluding the other cryptogamic plants. Of the genera *Salix*, *Rosa*, *Sedum*, *Sempervivum*, *Saxifraga*, *Statice*, *Linum*, or *Gentiana*, I did not observe a single indigenous species.

(*To be continued.*)

Descriptions of four NEW GENERA OF PLANTS from the ORGAN MOUNTAINS, by GEORGE GARDNER, F.L.S., Professor of Botany and Natural History, in the Andersonian University, Glasgow.

BOWMANIA.

(COMPOSITE-NASSAUACEAE.)

CHAR. GEN. C. 60-70-florum. *Involucrum* pluriseriale, squamis laxis foliaceis oblongo-lanceolatis ciliatis apice subdentatis sequalibus. *Receptaculum* alveolatum piloso-fibrilliferum. *Flores* omnes hermaphroditi. *Corolla* bilabiatae, labio exteriori 3-dentato liguliformi, in floribus exterioribus longiore, interiori bipartito lobis revolutis. *Filamenta* glabra. *Anthera* basi bisetosae. *Styli* rami lineares compressi divergentes apice truncati hispiduli. *Achaenia* subteretia ovato-oblonga glanduloso-pilosa disco epigyno dilatato coronata. *Pappus* pluriserialis rufus, setis deciduis filiformibus scaber.—Herba *Brasiliana*, *elata*, *tomentosa*, *simplex*; foliis *alternis*, *denticulatis*; capitulis *magnis*, *laxe paniculatis*, *aurantiacis*.

I. *Bowmania verbascifolia*, Gard. Herb. Bras. n. 5797*

HAB. In dumetis, in summitatem montis, Serra dos Orgdos, Prov. Rio de Janeiro, Brasiliae. Aprili florebat.

Herba 4-6 pedalis. *Caulis* simplex, erectus, angulato-striatus, dense lanuginoso-tomentosus, usque ad apicem distanter foliosus. *Folia* alterna penninervia, subamplexicaulia, lanceolata, subacuminata, basi in petiolo dilatato attenuata,

crenato-denticulata, supra pilosa, subtus lanato-tomentosa, radicalia et inferiora pedalia et ultra. *Panicula* laxa multiflora, foliosa, ramis dichotomis tomentosis. *Capitula* multi-(60-70)-flora, homogama, 16 lin. lata. *Involucrum* laxe imbricatum, squamis pluriserialibus, foliaceis, dense pilosis, margine ciliatis, apice subdenticulatis, exterioribus ovato-oblongis, acutis, interioribus lineari-oblongis, acuminatis. *Receptaculum* alveolatum piloso-fibrilliferum. *Flores* omnes hermaphroditi. *Corolla* aurantiaca, extus pilosiuscula, 8 lin. longa, bilabiata, labio exteriori liguliformi 3-dentato, interiore bipartite, lobis revolutis linearibus. *Filamenta* complanata, glabra. *Anthera* concrete lineares, basi bisetosae, apice appendice lineari-lanceolata anthera vix duplo brevior terminatee. *Stylus* teres, glaber, basi bulbosus; rami breves, divaricati, lineari-compressi, truncati, hispiduli. *AcJuenium* teretiusculum, immaturum 2 lin, circiter longum, ovato-oblongum, brevirostratum, apice in disco magno dilatatum, glanduloso-pilosum, pili glanduliferi breves, ceteris longioribus. *Pappus* pluriserialis, rufus, setis deciduis filiformibus scabers.

This genus holds an intermediate station between *Trioois* and *Chabrea*, differing from the latter in having an involucre of several series, a deeply alveolate and pilose receptacle, and a pappus of more than one series; and from the former in its having a many-flowered capitulum, and a foliaceous involucre of several series. I have selected it to commemorate among Botanists the name of ray deeply lamented, kind, and excellent friend, the late J. E. Bowman Esq. of Manchester, not less known by his botanical than by his geological labours and attainments. A figure of it has been prepared, which will appear in an early part of Hooker's *Icones Plantarum**.

LEUCOPHOLIS.

(COMPOSITUM NASSAUVIACEJ.S.)

CHAR. GEN. *Capitula* 10-flora in glomerulum subglobosum aggregata, sessilia. *Invol* squamice subcoccuales laxe

imbricate lineari-lanceolatae acuminatae membranaceae albidae glabrae. *Receptaculum* angustum nudum. *Corolla* tubulosae regulariter 5-fidae. *Antherae* vix exsertae basi bisetosae, appendicula brevi-lanceolata. *Styli* rami exserti divaricati truncati hispidi. *Achcenium* oblongum villosum. *Pappus* uniserialis setaceus scaber.—Frutex *Brasiliensis Haplostephii aut Lychnophori facie*. Rami teretes, dichotomi dense lanuginoso-tomentosi. Folia conferta, sessilia, deflexa > margine revoluta, supra glabra, subtus cano-tomentosa. Glomeruli ramos terminantes. Corollae lilacinae.

1. *Leucopholis phylloides*, *Gardn. Herb. Bras. n. 5772*.

HAB. In sphagnosis versus summitatem montis, *Serra dos Orgãos*, Provinciae Rio de Janeiro, Brasiliae. Aprili florebat.

Frutex bipedalis. Rami teretes, dichotomi, dense foliosi et lanuginosotomentosi. Folia confertissima, alterna, sessilia, oblonga, obtusa, 3-4 lin. longa, 1½ lin. circiter lata, deflexa, margine revoluta, supra glabra, subtus cano-tomentosa. Capitula subdecemflora, homogama, ad apicem ramorum in glomerulum subglobosum aggregata, subsessilia. Involucrum laxè imbricatum, squamis pluriserialibus, subsequialibus, lineari-lanceolatis, acuminatis, membranaceis, glabris, albidis. *Receptaculum* angustum, nudum. *Corolla* lilacina, glabra, tubulosa, 1½ lin. longa, regulariter quinquefida, lobis brevibus lanceolatis. Filamenta complanata, glabra. *Antherae* vix exsertae, concretae, lineares, basi bisetosae, apice appendice lanceolata *antherae* multo brevior terminate. *Pollen* globosum, laeve. *Stylus* teres, glaber, basi bulbosus: rami breves, truncati, divaricati, hispidi. *Achcenium* oblongum, dense villosum. *Pappus* uniserialis, multisetosus, setis scabris corolla longioribus.

Nomen ex *XCVKOS albus*, et *(ποῖς) squama*.

This genus differs from all the allied ones which are described by De Candolle, in having a regular corolla, a structure which, along with its habit, approximates it to the subdivision of *Albertinice* of the tribe *Venwniaceae*.

HOCKINIA.

√Ord. Nat. GENTIANE;E.)

CHAR. GEN. *Calyx* valvatus exalatus 5-partitus, lobis aequalibus acuminatis planis. *Corolla* 5-partita regularis campanulato-infundibuliformis, lobis cum fauce continuis, tubo subnullo. *Filamenta* nulla. *Antherte* erectae, connectivo in apiculum lanceolatum producto. *Pollen* globosum echinulatum. *Stylus* filiformis aut subnullus. *Stigma* bilamellatum vel umbraculiforme villosum. *Discus* glandulosus n. Uus. *Capsula* bilocularis placentis margini interno valvularum insertis, intus discretis, loculis demum versus apicem dehiscen- tibus stylo persistente connexis.—Herba *Brasiliana*, annua & ramosissima, foliosa, floribus cyaneis, pedicellis bibracteatis.

1. *Hockinia montana*.

a. stylo longo, stigmatate bilamellato. *Gardn. Herb. Bras. n. 5821 1*540 ex parte.*

β) stylo subnullo, stigmatate umbraculiformi. *Gardn. Herb. Bras. n. 5822 et 540 ex parte.*

HAB. In humidis rupestribus versus summitatem montis, *Serra dos Organos* > Provinciae Rio de Janeiro, Brasilia* • Martio florebat.

Herba annua, pedalis, erecta, ramosa, foliosa. *Rami* oppositi, fastigiati, glabri, quadrangulares, angulis vix alatis : internodia folia excedentia. *Folia* opposita, patentia, breve petiolata, 8-10 lin. longa, 3 lin. circiter lata, lanceolata, acuta, basi attenuata, 3-nervia, glabra. *Cyma* triflora, pedicellis subsequialibus, 4-5 lin. longis, erectis, versus apicem bibracteatis, bracteis linearibus. • *Calyx* ovatus, 3-lin. longus, 5-partitus, lobis valvatis lanceolato-linearibus acuminatis, erectis. • *Corolla* cyanea, semiuncialis, campanulato-infundibuliformis, lobis ovatis acuminatis, tubo subnullo. *Genitalia* inclusa. *Filamenta* nulla. *Anthera* 5, in fauce sessiles, sagittate, erectae, biloculares, loculis connectivo hinc in apiculum lanceolatum producto distinctis. *Pollen* luteum, globosum, echinulatum. *Stylus* 2 lin. circiter longus (in var. *P.* subnullus) persistens. *Stigma* bilamellatum, villosum (in

var. a. umbraculaeforme). *Capsula* bilocularis, placentis margini interno valvularum insertis, intus discretis, loculis demum versus apicem dehiscentibus stylo persistente connexis. *Seminaplurima*, complanata, testa eleganterreticulata.

This genus is allied to *Irlbachia* of Martius, and *Leiant/ms* of Grisebach, but differs essentially from both in the shape of its corolla, and sessile anthers. Yar. a. has the stigma of *Irlbachia*, while /3. has that of some of the species of *Leianthus*. Both of the varieties grow together, and are equally abundant. I was at first inclined to consider them two distinct species, but with the exception of the very short style and umbraculiform stigma of var. /3, there is nothing to distinguish them. This remarkable difference in the form of the stigma is most probably caused by the depauperation of the style. I have named the genus in honour of my friend G. C* Hockin, Esq., of Rio de Janeiro, who accompanied me on my last journey to the summit of the Organ Mountains, and to whom I am deeply indebted for much kindness during my wanderings in Brazil. It will also serve to commemorate the name of his brother, John Hockin, Esq., of Dominica, who is devoting much attention to the botany of that Island.

NAPEANTHUS.

(ORD. NAT. CYRTANDRACEJE.)

CHAR. GEN. *Calyx* laxe tubulosus 5-fidus, laciniis oblongis acutis. *Cor.* hypogyna tubuloso-infundibuliformis, tubo • brevi oblique ventricoso, limbo patente profunde 5-fido subbilabiato, labio superiore 2-lobo, inferiore 3-lobo, lobis obtusis, superioribus longioribus et angustioribus. *Stamina* 4 didynama cum quinti postici rudimento, ba\$ i tubo inserta, inclusa; *antheris* ovatis non cohaerentibus. *Discus* hypogynus nullus. *Ovarium* oblongum uniloculare, placentis duabus parietalibus e lamina angusta ortis utrinque multiovulatis. *Stylus* filiformis simplex. *Stigma* depresso-capitatum, subbilobum. *Capsula* calyce inclusa ovato-oblonga, unilocularis, bivalvis, valvismedio laminam fissilem in

placentam planam bilobam utrinque seminiferam expansam gerentibus. *Semina* plurima pendula nuda elliptico-oblonga echinulata, funiculo brevi basi dilatato. *Testa* striata fibrosa. *Embryonis* exalbuminosi orthotropi, cotyledones breves, obtusae. — Suffrutex *Brasiliensis parvus*; *foliis oppositis, subiraequalibus, sessilibus, pubescentibus, apice vix crenatis, pedunculis axillaribus umbellatis, pedicellis 1-rarius 2-3 floris, corollis roseis.*

1. *Napeanthus Brasiliensis*, *Gardn. Herb. Bras. n. 581.*

HAB. In sylvis densis primaevis in montibus vulgo *Serra dos Organo* Sy Provinciae Rio de Janeiro, Brasiliæ. Februario florebat.

Suffrutex parvus. Caulis ascendens, simplex, 2-6 pollicaris, ad apicem folia gerens. *Folia* conferta, opposita, sessilia, inaequalia, majora 4-8 poll, longa 1½-2 poll, lata, obovato-oblonga, apice obtusissima, obsolete crenata, basi longe cuneata, supra viridia glabriuscula, subtus pallidiora pubescentia. *Pedunculi* 2-3, axillares, umbellati, 3 poll, circiter longi, umbellis 3-5 floris, basi bibracteatis. *Bracteae* oblongae, 2 lin. circiter longae, sessiles, subtus pubescentes. *Pedicelli* 12-35 lin. longi, 1-rariter 2-3-flori. *Calyx* liber, glaber, nervosus, late tubulosus, 5 lin. circiter longus, 5-fidus, laciniis oblongis, acutis. *Corolla* rosea, hypogyna, tubuloso-infundibuliformis, tubo brevi, oblique ventricosus, limbo patens, profunde 5-fido, subbilabiato, labio superiore 2-lobo, inferiore 3-lobo, lobis obtusis, superioribus longioribus et angustioribus. *Stamina* 4, didynama, cum quinti rudimento, basi tubo inserta, inclusa; *antheris* ovatis non cohacrentibus. *Discus* hypogynus nullus. *Ovarium* oblongum uniloculare, placentis duabus parietalibus e lamina angusta ortis, utrinque multiovulatis. *Stylus* filiformis simplex. *Stigma* depresso-capitatum, subbilobum. *Capsula* calyce inclusa, ovato-oblonga, unilocularis, bivalvis, valvis medio laminam fissilem, in placentam planam bilobam utrinque seminiferam expansam gerentibus. *Semina* plurima, pendula, nuda, elliptico-oblonga, sublente echinulata, funiculis brevis basi dilatatis. *Testa* striata, fibrosa. *Embryo* exalbuminosus, orthotropus : cotyledonibus obtusis.

Nomen ex *vairos*, *eo**, *nemus*, et *avQosflos*.

This plant is remarkable as being only the second of the tribe to which it belongs that has yet been discovered on the American Continent. The other, *Klugia azurea* Schlect., is from Mexico, and is principally distinguished from the present in habit, and by its personate corolla.

Glasgow, Aug. 16th, 1842.

Botanical Excursions in SOUTH AFRICA, by

C. J. F. BUNBURY, ESQ.

{Continued from page 570 of vol. LJ

2. *Journey from Cape Town to Albany.—Sir Lowrfs Pass, and the HouwHoek.—Bad Roads.—Zwettendam,—The Gaunitz River.—Attaquas Kloof.—Lange Kloof—Jagersbosch.—Camtoos River.—Port Elizabeth.—Uitenhage.—The Bush Country.—Arrival at Graham's Town.*

ABOUT two months after our first arrival at the Cape, I set out from Cape Town in the suite of his Excellency the Governor, who had determined to proceed with the least possible delay to the Eastern frontier, which was by no means in a tranquil or satisfactory condition. Our party amounted to six, namely—the Governor; his military secretary, Major Charters; his aid-de-camp, Lieutenant George Napier; Major Michell, surveyor-general of the colony; Mr. Clarke, of the 72d Regiment; and myself; besides servants. I must remark, before I proceed to give any account of our journey, that I found it more fatiguing, and (until we reached the Eastern province) considerably less interesting, than I had expected; for the rapid rate at which his Excellency thought it necessary to travel was very inimical, even to accurate observation of the face of the country, and still more so to the collecting of plants or other objects of natural history. I do not, therefore, myself, feel entire confidence in

the observations which I was able to make under such unfavourable circumstances.

The waggons of the party, three in number, set out from Government House at nine A.M., on the 22d of March: the leading waggon, in which were Major Michell, George Napier, and myself, being drawn by eight horses, the others each by ten. Beyond the immediate neighbourhood of the town, these waggons are the only vehicles that can travel on the horrible roads of the country, and they are among the most striking objects to the eye of a stranger. The generality of them, especially those which come from distant parts of the interior, are drawn by oxen, of which an enormous number are yoked to each; it is a curious sight to see, as one may, any day at the Cape, a team of twelve, fourteen, or even as many as twenty bullocks drawing one of these waggons; appearing from a distance, as they wind slowly over the sands, like some strange centipede; the crack of the driver's huge whip resounding like a musket shot.

March 22, 1838.—To return to our proceedings: the first day's journey, of thirty-five miles, was tolerably easy. We crossed the Flats in a direction to the Southward of E., and about 3 P.M. reached their limit at the Erst (or First) River, a stream at this time inconsiderable, but often formidable in winter. From hence onward, the loose white sand of the Flats was succeeded by a hard ironstone gravel. Presently we entered the fine vale of Hottentot Holland half enclosed by craggy and picturesque mountains, which, curving round like part of an amphitheatre, bounded the view on our left and in front. On the right was False Bay, hemmed in by a continuation of the same chain of mountains, which terminates to the S. in Cape Hangklip, the point opposite to the Cape of Good Hope.

We stopped, after eight hours' travelling, at a small inn situated just at the foot of the mountains, and after dark we were joined by the Governor and the rest of the party, who, journeying on horseback, had set out much later from Cape Town.

March 23.—The next morning we started at half-past six, and crossed the mountains by "Sir Lowry's Pass," an excellent road constructed over this formidable barrier by Major Michell, while Sir Lowry Cole was Governor of the colony. A thick mist came suddenly over the heights just as we began the ascent, so that I saw nothing of the Pass at this time, but I had a good view of it when returning to Cape Town in June. The mountains are so tremendously steep that one wonders how a road up them could ever have been formed, and still more, that it cost only £3000. The road is narrow, but good, and its inclination so gentle, that a carriage may be driven down it at full trot with perfect safety; on one side (the right-hand as you ascend,) it overlooks a sheer precipitous descent of great height, and the parapet bordering this gulf is lower than would be at all agreeable to a nervous person. Before the construction of this road, the Hottentot Holland Pass or Kloof (note A) was one of the worst mountain-defiles in the colony, which is saying a great deal. Mr. Burchell and other travellers give a formidable description of its steepness and ruggedness. And as this is the only direct way from Cape Town to all the Caledon and Zweliendam country, and indeed to the southern part of the colony generally, Sir Lowry's Pass has been of very great benefit to the inhabitants. One of the Boers (farmers) of the interior told a friend of mine that this new road saved him a waggon per year. It is said that twice as much grain as formerly is now sown in the districts adjoining Sir Lowry's Pass, and twice as many waggons cross the mountain; and the toll levied here now amounts to £365 a year, being 12 per cent on the cost* of this most useful undertaking.

The Hottentot Holland mountains, like the generality of those in the Cape colony, are huge scarped masses of stratified sandstone, with very scanty vegetation (note B), but their outlines are remarkably fine. At the top of the pass,

* See a paper by Major Michell in the Journal of the Geograph. Soc. vol. 6. part 2.

the rocks, shattered, and worn by the weather, exhibit a variety of strange fantastic forms, like ruined buildings, pillars, and colossal statues.

From Sir Lowry's Pass the descent to Palmiet River is gradual, the road sandy and bad, traversing wide and open moors. Between Palmiet and Bot Rivers, (which last is the boundary of the Stellenbosch and Zwellendam districts,) we cross another mountain range, or rather another branch of the same range, known under the name of the Houw-Hoek. The road over this mountain, which may be considered a km¹¹ of continuation of, or supplement to, Sir Lowry's Pass, was the work of the same officer and the same government, and cost no more than £600** It is hardly necessary to add that it is very well executed.

With the exception of this Houw-Hoek Pass, (and even this can hardly be called picturesque) the country that we traversed in this long day's journey, from the Hottentot Holland Mountains to the Zonder-einde (Endless River), was drearily monotonous; wide plains and low round hills, uniformly covered with stunted bushes, without trees or cultivation, offering nothing either to please the eye or excite the imagination. In truth, the same remark might be applied to a great part of the country between Cape and the eastern frontier. The want of verdure in the scenery of this colony generally, (though of course there are exceptions here and there,) is very striking; there is little grass, and most of the shrubs, which make up the great mass of the vegetation, have either leaves so minute, and of a substance so dry and juiceless, that they give no verdant or cheerful effect to the landscape, or else are covered with a whitish wool or down, which entirely hides the green. In this latter class is to be ranked the prevailing plant of all this part of the country, the *Bhenoster-bosch* or Rhinoceros-bush,t which literally covers leagues and leagues together in the districts of Zwellendam and George; it is a low, half-shrubby, grey, cottony plant, in form resembling a miniature cypress or juniper.

* See the paper already quoted.

t *Stoebe rhinocerotis*.

The soil of all this tract is a very hard ironstone gravel; the road execrably rugged, in spite of the goodness of the material, for no care whatever is bestowed on it, and as it is generally on a slope, the rain water from the higher ground cuts furrows across it, which are deepened by every succeeding winter. The jolting occasioned by travelling in a horse waggon on such roads, is beyond all description; I despair of giving an idea of it to those who have never experienced the like; suffice it to say, that at the end of this second day's journey I ached in every joint and muscle from the shaking, and felt pretty much as Don Quixote is described as feeling after his adventure with the carriers. It is in crossing the deep gullies and dry torrent-beds, which are very numerous* that the jolting is most severe: the descent into these is almost always excessively steep and rough; arriving at the brink, the drivers put their horses to their speed, thunder down headlong into the ravine, and dash up the other side at the same pace with a prodigious uproar. In spite of the excessive discomfort of this mode of travelling, it is impossible not to admire the skill with which the Dutch farmers drive eight or ten horses in a team, at a smart trot and not unfrequently at a gallop. The office of coachman, however, is divided between two: the more important personage brandishes the immense bamboo-handled whip, near twenty feet long, which is the principal instrument of guidance; the other, usually a Hottentot, holds the reins.

What I have said of the roads and the jolting will apply to many of the succeeding days' journies, although this was, perhaps, the worst of all. Having enlarged on the subject in this place, I may avoid a repetition of the same remarks, so that it must not be supposed that the road was good because the contrary is not expressly stated.

Caledon is a neat village, situated at the foot of a rugged black mountain, and near it are hot springs, of considerable celebrity in the colony, issuing out of beds of brown ironstone. This, however, was not our resting-place; the governor, who rode at a pace which astonished the farmers,

had stopped at Caledon, and after seeing whatever was to be seen there, had left it again before I reached it with the waggons. We went on to the house of the field-commandant Linde, on the Zonder-einde River, where I arrived thoroughly fatigued, having been thirteen hours in the waggon. The distance travelled this day was sixty-five miles.

March 24.—From hence we travelled for about ~~two~~ free hours along the Zonder-einde River, a pretty stream, the course of which was easy to trace through the barren plain by the fresher vegetation on its margin. It runs eastward, and joins the Breede River, which we crossed in the course of the day, a little above the junction. The valley of the former river is bounded on the N. by a black wall of mountains, ranging from W.N.W. to E.S.E.; in other directions our view extended over wide dreary plains. It was in the course of this day's journey, near a house called Ecksteen's, that I first saw the white-thorned Acacia,* called by the colonists Doornboom or Wittedoorn, which in the more eastern parts of the colony is one of the commonest of plants, but does not approach nearer to Cape Town than this.

It is remarkable that Le Vaillant, when he travelled this way, not more than sixty years ago, saw large herds of Bonteboks and Hartebeests in this part of the country, near the hot springs (Caledon,) and the Zonder-einde River. At the present day, these quadrupeds are not to be met with except on the extreme limits of the colony, or beyond it. The famous Blue Antelope, which was supposed to have been peculiar to Zwellendam district, is now believed to be merely a variety of the Roan Antelope;† but whatever it may have been, it has long since disappeared; indeed, in Le Vaillant's time it was so rare that he never saw more than three specimens.

After crossing the rugged stony bed of the Breede River, in which at this time there was but little water, we ap-

* *Acacia horrida*.

† See Dr. Smith's Illustrations of South African Zoology. No. 12.

proachsd the very picturesque range*of the Zwellendam Mountains, which, furrowed with deep ravines and serrated with crags, rose in great majesty on the north. This chain, branching off from the great cluster of mountains near Worcester, and running at first S.E., takes a more easterly direction near the village of Zwellendam, and is continued under various names through the whole length of this district and that of George. It is separated by the valley of the fireede River from the mountains mentioned in the preceding page, which terminate near the confluence of that river with the Zonder-einde.

The village of Zwellendam, which stands just at the foot of the aforesaid mountains, is remarkably neat and pretty, composed of well-built white cottages, which are not crowded into a street, but stand far apart, among trim gardens, orchards, and groves of trees; so that though the population (as I was informed) does not exceed 2,100, the village extends above a mile in length. Here we were hospitably entertained by Mr. Rivers, the Civil Commissioner of the district. From Linde's to Zwellendam, is a nine hours' journey by horse-waggon, and may thence be estimated at 45 miles.

March 25.—As the 25th was Sunday, we remained quiet at Z wellled dam, and I believe the whole party were glad of a day of rest; I am sure I was. After making up my journal, which had fallen into arrear, I walked out towards the mountain's to botanize, and though, on account of the drought, I did not find many plants in flower, I had a very enjoyable ramble. Ascending the course of a clear stream, which flowed through a quiet little green valley (really green), I presently entered one of the wooded ravines of the mountains, where the vegetation was far more luxuriant than I had yet seen it in this colony, and even partook in some degree of a tropical character. A beautiful arborescent fern (Note C) put me in mind of Brazil. The stream, which flowed through this glen, was of that bright amber brown colour which one sees in the mountain rivulets of Scotland and Ireland, and

ran sparkling among mossy rocks, under the shade of large trees. Undoubtedly the charms of the scene were heightened to me by the contrast with the two disagreeable and fatiguing days which had preceded. The weather too was delightful. Having ascended one of the underfalls or spurs of the mountains, I enjoyed an extensive view towards the south, though it could by no means be called beautiful. With the exception of the rugged mountains bordering the valley of the Zonder-einde River, which were conspicuous in the S.W., nothing was to be seen but open plains of a uniform dull brownish hue. The village, with its white houses and groves of trees, looked like an oasis in the desert.

March 26-27—For the two next days we had the Zwellendam chain of mountains on our left-hand, our route being on the whole nearly paralld to it. The 26th, came a hard day's journey of ten hours, over an ugly, dreary country, strangely cut by deep water-courses, which were very troublesome to cross. In the course of the day we forded six different rivers; the first and largest was the Buffeljagts, a tributary of the Breede River,, a rapid, clear, dark brown stream, showing by its wide bed of huge rolled stones what it must be in floods. Its banks are richly ornamented with the white-thorned *Acacia*, which, in its mode of growth and the colour of its foliage, much resembles our hawthorn as it appears in spring, when first coming into leaf. From hence eastward, this handsome shrub is very general along the banks of the streams, to which it gives a cheerful appearance that is strongly contrasted with the general character of the country; but in Zwellendam and George districts it occurs, as far as I observed, in such situations only \$ whereas, in the eastern part of the colony, and still more in Cafferland, it is universally diffused.

We afterwards crossed in succession the Slange, Duyvenhoeks, Krombeks, Vet, and Kafferkuyl rivers, and spent the night at Jan Dupr 's farm near the last-mentioned. On the hills between these rivers I saw the first Aloes; that is to say, of the true Aloe kind; for what is commonly called the Ame-

rican Aloe is of another genus, (*Agave*) and very different in its properties as well as in the structure of the flower. The next day#(March 27) I observed these plants in great abundance in the *Bush* country near the Gauritz river. This was a sort of country quite new to me, and might be considered as a foretaste of what we afterwards saw on an immensely larger scale in the eastern province. Here, in fact, a traveller proceeding eastward first meets with many of the singular forms of vegetation which characterize that province; such as the succulent, leafless, thorny *Euphorbias*, the *Spekboom*? the *Boerboontjes*,\ the *ftajeboom*,% of which I shall afterwards have occasion to speak more fully. Many of these forms do not occur again till we cross the Camtoos. The wild rough shrubbery of these plants, which forms a belt of some miles in width on both sides of the Gauritz, is much less dense than the eastern *Bush*; the soil appeared to be a crumbled shale or slaty clay. The Aloe previously mentioned* (see also Note D) is a strange uncouth looking plant, with its thick columnar stem, from five to ten feet high, crowned with a bunch of large, sharp, spear-like leaves, and clothed below with the black and rugged remains of its foliage. It is the most important medicinal plant of the colony; the people collect its leaves, and extract the juice by boiling till it is of the consistence of glue, in which state they send it down to Cape Town, and it forms a considerable article of export from thence to Europe. The estimated value of the exports of Aloes from the Cape, in one year, amounted to £2794.

The Gauritz, a considerable river, comes down from the Great Karroo, through a gaj) in the mountain chain which we had seen on our left since quitting Zwellendam, and separates the district of that name from George. It flows in a very deep, narrow, and steep-sided valley; and for some time before reaching the place where we were to cross, we could see the stream far below us, winding round the tongue of high land on which we were travelling: on our right-hand was a descent all

* *Portulacaria sffra.* + *Schottia speciosa.* J *Cussonia spicata.*
§ *A he ferox ?*

but perpendicular, sheer down from the edge of the road to the river-bed, a depth of more than 600 feet. The place where we crossed, is called Helle Drift. Here we were met by a cavalcade of many of the principal people of George, headed by the Civil Commissioner, who came to welcome and pay their respects to the Governor. There was, however, no relay of horses for the waggons, and oxen were yoked instead \ the consequence was, that we made very slow progress, and the whole day's journey, from Jan Dupré's to Hagel Kraal, occupied twelve hours.

March 28.—On the 28th we crosse'd the mountains by the Attaquas Kloof, the least formidable, though not the most frequented of the various passes which lead across it, connecting the maritime poriiion of George District with the great valley called the Long Kloof. The Attaquas Kloof is, indeed, for the most part a good mountain road, though some portions of it are (or were at the time I speak of) very steep. It had been partly executed by Major Michell, who calculates that a further outlay of £300, with the employment of a small party of convicts, would complete all that is necessary to make it a safe and easy pass.* Indeed the natural obstacles do not appear so formidable here as in the case of the Hottentot Holland Kloof. There is no such mural barrier as there: the road winds among huge green hills, above which here and there appear rocky peaks; but there is nothing striking in the way of mountain scenery. From the heights the sea was plainly visible, being not more than twenty miles distant in a straight line, and in the opposite direction we had a good view of the Great Zwarteberg, or Black Mountains, a chain which runs nearly parallel to that we were now crossing. The day's journey, from Hagel Kraal to Saffraan Kraal (Raubenheimer's) at the northern extremity of the Kloof, was about twenty-four miles, which, as we were drawn by oxen most part of the way, took eight hours.

* See the Paper previously quoted.

March 29 and 30.—On the two following days we (the waggon party) made short journeys, first to Roelof Kamper*s, about three miles north of Cradock's Kloof, and next to the house of the younger Kamper, in the Long Kloof. From the former place, the Governor and most of the party set off to ride to the village of George, over Cradock's Kloof, a pass celebrated for its steepness and difficulty. I crossed it in returning to the Cape in June, and shall have an opportunity of describing it in another chapter. Between Saffraan Kraal and Groot Doom River, (which latter flows from the mountains about the Cradock Pass, and joins the Olifants River) the country is of a *Kari'oo-like* character: it is destitute of grass, heath, large shrubs, and trees, but produces a great variety of low-growing succulent plants, of the genera *Mesembryanthemum*, *Euphorbia*, *Crassula*, and *Cotyledon*, thinly covering the hard dry ground. The soil appeared'to be nothing but the superficial detritus of the soft shaly rock. There are ostriches on this Karroo, but we had not the good fortune to see any.

I ought to have mentioned, that Major Michell informed me, the Zebra is still found among the mountains near Attaquas Kloof, and he once saw four of them so far tamed by a colonist of the neighbourhood, as to be harnessed to draw a light waggon.

In these two days I had a tolerable opportunity of botanizing, but did not find much that was new to me. The country was of an extremely arid character, except along the course of the little streams (Note E); and on the hills near the younger Kamper*s residence, the bushes have been burnt to a considerable extent, a practice general in this country, and advantageous to the[cattle, but very provoking to a botanist. Here, however, was plenty of that curious plant called by the colonists *Paarde Kapok*,* or Horse-cotton, with its stem and flowers enveloped in a dense woolly coat of singular whiteness.

Our party re-assembled on the 30th at Kamper's, but Major Michell left us to return to England, to my regret, for I

* *Lanaria plumoaa*, Linn. *Argolasia fanata*, Juss.

had found him a very agreeable travelling companion, full of knowledge relating to the country and its productions, and most obliging in communicating the information he possessed.

March 31.—A wearisome journey of eleven hours and a half brought us from hence to the house of the Field-Commandant, Rademeyer, in the middle of the Long Kloof, where we spent the next day, being Sunday. This Long Kloof, which took us two long days to travel through, is a narrow and rather elevated valley, running from W. to E., bounded on the N. by a chain of hills running parallel to the great Zwarteberg; on the S. by the range of mountains, which I have already often mentioned, and which runs eastward through the whole length of Zwellendam and George districts, and a part of Uitenhage, ending at the Kromme river. Some general and comprehensive name is very much wanted for this important chain, which is known in various parts as the Zwellendam, the Auteniqua, and the Zitzikamma mountains. In the 'Encyclopaedia of Geography' it is erroneously called the Langekloof, a name which belongs to the valley, and not to the mountains that bound it.

This long valley, although crossed by numerous streams, is on the whole of a remarkably arid and monotonous appearance. Indeed, short of actual desert, I can hardly imagine any thing more wearisome : not a tree, not a house or trace of cultivation for miles together ; scarcely a bush above three feet high ; nor a tinge of green, except along the margins of the streams, whose course is indicated by a narrow stripe of reeds and rushes. A great part of the ground is covered exclusively with the melancholy grey Rhinoceros-bush. The mountains on the south are extremely steep and rugged, rising into a number of sharp pyramidal peaks, and would be picturesque if set off by a tolerable foreground; but without this they are too barren and savage for beauty ; as their flanks exhibit nothing but naked, grey, stratified rock, like the cliffs of Table Mountain, without a tree or a blade of grass. The streams, as I have said, are numerous, and though small are never entirely dried up, so that it surprises one to see

their fertilizing influence extend so little way. An industrious and enterprising people would have turned them to good account in irrigating the land. As it is, I travelled through the Long Kloof at two different seasons, and both times it appeared equally barren. Yet, in a modern work on the British Colonies,* this is termed a delightful valley! Le Vaillant, on the other hand, seems to have been as little delighted with it as I was, for he calls it a "valley of desolation." It must be owned, however, that it possesses an advantage of which not every part of the colony can boast \ namely excellent water.

The streams of the Long Kloof flow northward, and fall either into the Kammanassie or the Kouga; with one exception, the Keurbooms River, which finds its way to the South through a narrow break in the mountain chain, and discharges its waters into Plattenbergs Bay. It divides the Long Kloof in a manner into two parts, of which the eastern is the more elevated. The Keurbooms is but a small stream where we crossed it, but the ascent from it to the higher ground is tremendously steep and rugged; it is astonishing how any horses can drag a waggon over such places, and how any combination of wood and iron can stand such jolts. The lower part of this hill was covered with beautiful Proteas, in full bloom, at the time I speak of, and higher up I saw abundance of large Aloes.

April 1.—The Sunday we spent at Rademeyer's was intensely hot, yet I employed myself some hours in botanizing, though with very poor success. A large part of the surface of the hills had been ravaged by fire, so that nothing remained but charred leafless sticks; and where this was not the case, there were very *few* plants in flower. Those which I observed were principally of the fleshy or succulent tribes, which delight in the most parched, barren, and rocky situations. Here also I saw an Antelope of that very pretty and graceful species known by the name of Steenbok, which lives among the rocks and stones on these barren hills.

* History of the British Colonies, by Mr. Montgomery Martin.

Our host, Rademeyer, had distinguished himself by a very gallant action in the late Caffer war, of which I heard the following account. He had penetrated, with about forty of his countrymen, into a very narrow ravine in the Fish-River Bush, when his little party was suddenly attacked and almost surrounded by a very superior force of Caffers, who not only assailed them with missile weapons, but, confiding in their own numbers and in the effect of the surprise, charged them with much greater resolution than usual. The Boers, excellent at long shots, but not so fond of close fighting, were giving way, and, in attempting to effect a retreat, were falling into confusion; Rademeyer suddenly threw his hat on the ground, and vowed that he would not retreat an inch farther; and rallying his men, he made them draw up in a close circle, facing the enemy on every side. In this situation, animated by his example, they kept up such a fire as to repulse the Caffers with heavy loss. Such is the account I received, in the colony, of this exploit; and it agrees in the main with that given in the *United Service Journal*; but the "Narrative of the Kafir War," published by the editor of the *Graham's Town Journal*, relates the affair differently, assigning the credit of it rather to the party of Boers in general than to Rademeyer in particular.

April 2.—From the eastern extremity of the Long Kloof, (which is not indicated by any distinct natural limit,) the ground falls considerably to the source of the Kromme River, where we enter the district of Uitenhage. We were met here by Captain (now Sir Andries) Stockenstrom, who was at that time Lieutenant Governor of the Eastern Province; and in company with him we went on to Meeding's or Jagersbosch, about forty-four miles from our last station. The narrow valley of the Kromme River, in which this place is situated, is not much superior in appearance to the Long Kloof, and is bounded, like that, by rugged, stony, and barren hills. Here we remained two days, for it rained hard all the 3rd, and though the 4th was fine, yet the swollen state of the river barred our progress. The people at

Jagersbosch said that they had had no such rain for the last two years. We were lucky to be caught by it in such good quarters, for the house was a comfortable one, and our hostess, Mrs. Meeding, a jolly, good-humoured, hospitable woman, who laughed vociferously at every thing, and at nothing.

April 4.—I spent the 4th very pleasantly in rambling over the hills near Jagersbosch, among which I found some pretty and romantic nooks, though the general aspect of the country is very uninviting. I was much struck with the appearance of one of these secluded hollows, which was as pleasingly wild and picturesque a spot as any I had yet seen in the colony; a deep, still, dark pool of water reflected with the most perfect distinctness the high and shattered walls of sandstone rock by which it was almost enclosed; these rocks, broken in some places into the likeness of rude steps, were adorned with tall Aloes, with the large palm-like leaves of the *Zamia* (Note F), or Caffer-bread, and with a variety of heath-like shrubs; the rugged hills seemed to close in upon the narrow ravine which formed the only outlet to this hollow; nowhere could be discerned a trace of the presence or operations of man. No doubt this scene which made so much impression on me, like a green spot in a desert, owed a good part of its charm to the force of contrast.

The hills near Jagersbosch abound with the small tree called *Wagenboomf** which was indeed common in many parts of the country we had traversed, but this was the first time I saw it in flower. It is one of the largest kinds of *Protect*, for though it does not attain such a height as the Silver-tree, it is fully as thick in the trunk; its flower-heads, of a delicate straw-colour, measure five inches across; its peculiarly grey foliage, and crooked and twisted mode of growth, give it a certain general resemblance to the Olive-tree. Its name is derived from the use made of its wood, for waggon-wheels and the like. A beautiful Sugar-bird,t of a golden

* *Protect, grandiflora,*

f *Le sucrier h plastron rouge,* of Le Vaillant.

green colour, with a scarlet breast, was here perching on its flowers, climbing about them and thrusting his slender beak into every floret.

The moist hollows between the hills, as well as the valley of the Kromme River, were nearly filled with the *Palmiat rush?* a common plant throughout the country we had traversed, from the Hottentot Holland mountains eastward. It is eminently a social plant (to use Humboldt's expression), growing very thick together, and forming large masses, unmixed with any thing else. In its herbage and general appearance it is quite unlike a rush, and has more the look of an Aloe, or of the crown of a Pine-apple mounted upon a thick, black, spongy stem, which varies in height from less than one foot to three or four, according to the depth of the water in which it grows.

April 5.—Leaving Jagersbosch on the 5th, we travelled for some hours along the valley of the Kromme River, which well deserves its name (signifying crooked), for it winds so much, that we had to cross it half a dozen times in the course of the day's journey; the last time the water was up to the floor of the waggon. Afterwards, quitting this river, we traversed a country more elevated, open, and comparatively level, but intersected by two or three formidable ravines. A journey of between seven and eight hours from Meeding's brought us to Leeuwenbosch, a poor miserable house in a hideous country, where, a few months afterwards, I had the misfortune to be detained a whole day by rain.

April 6.—A considerable number of *Fingoes* were hutted near this farm-house, and in the morning the Governor held a conference with them by means of an interpreter. These were the first people of Caffer race that I saw, being the remnants of several tribes which had inhabited the country near Port Natal, but had been exterminated or driven into exile by Chaka, the terrible chief of the Zooloos. Of those whom we met here some were under the middle size,

* *Juncus serratus*.

others considerably above it, slenderly but actively made; their colour not quite black, but a very dark umber-brown, totally different from the dirty yellowish-brown of the Hottentots, to whom, indeed, they have no resemblance, except in the woolly hair. They were, however, considerably inferior in personal appearance to the Caffers whom we afterwards saw; the women in particular were far from prepossessing. Some of the men wore English clothing, which had been given them as a mark of favour or distinction, but the greater part had nothing but the sheep-skin cloak or *kaross*; the women wore the same kind of cloak and a scanty petticoat. I shall treat more fully of the Fingoes in another chapter.

From Leeuwenbosch we travelled in a S.E. direction, over an open and uninteresting country, to the Camtoos River, which we crossed by a floating bridge, a little above its mouth. This is one of the largest rivers in the colony; yet it is only after receiving the waters of the Kouga from the Long Kloof, that it becomes a perennial stream. At the time of Thunberg's travels (1773) the Camtoos was the eastern limit of the colony, and the country immediately to the east of it was inhabited by the Gonaquas, a mixed race, now extinct. It is likewise mentioned with honour by Le Vaillant, who spent some time on its banks, and met with many animals which he had not previously seen. At the place where we crossed it, the Camtoos is 220 yards wide, (as I was informed by the ferryman) and its waters are beautifully clear; a chain of wooded hills runs along its left bank. As soon as we cross this stream, a remarkable change takes place in the appearance of the country, which, from thence to Van Staaden's River, is really pretty, with a pleasing variety of hill and dale, and great masses of evergreen wood, or rather shrubbery, with broad grassy lawns between. Here begins the proper region of the *Spekboom*, the *Boerboontjes*, the succulent *Euphorbias*, and many other curious shrubs, which may be considered characteristic of

the Eastern Province, though a detachment (as it were) of them is found on the banks of the Gauritz.

After a journey of forty-five miles from Leeuwenbosch, we arrived at the brow of the tremendous hill overlooking Van Staaden's River. The deep and narrow valley through which this little stream finds its way to the sea, is quite a gem compared to the general scenery of the colony, and really puts one in mind of some of the smaller valleys of Switzerland: it is beautifully verdant, partly cultivated and partly in pasture, enlivened by a cluster of uncommonly neat, white, farm buildings, and hemmed in by mountains, not indeed of great height, nor of very bold outlines, but excessively steep, and richly clothed with thick evergreen woods. The descent from either side is formidably rugged, abrupt, and difficult, beyond any thing else of the kind that I saw in this Colony, with the single exception of Cradock's Kloof.

April 7.—On emerging from this valley we left all the beauty of the country behind us, and proceeded across a naked and plain to Port Elizabeth, which has itself nothing prepossessing in its appearance. Here we found the first inn on this side of Sir Lowry's Pass, and the first military post between Cape-Town and the frontier. A detachment of soldiers was drawn out to receive his Excellency with due honour, but its appearance struck me as somewhat grotesque; the men were of the Hottentot or Cape Corps, little, wizened, monkey-faced, mean-looking fellows, like baboons in uniform, but commanded by a very tall English officer, who looked as if he would have outmeasured his whole detachment put together.

April 8, 9.—We remained two days at Port Elizabeth, where the Governor received a deputation of the inhabitants, and transacted other business. I was not much pleased with this part of the Eastern Province. It is a rugged / dirtVj stinking, 11-bmlt hamlet, resembling some of the worst fish-S. 22 T on M the En f Sh Coast: backed ^ 1. ^ ny
hulls of the most barren character, while long ranges of sand-

hills extend along the shore on both sides of it. Yet it is a place of considerable commercial importance, being the only sea-port of this prosperous and improving division of the colony. In the year I was at the Cape, the value of the exports from Port Elizabeth (of the produce of the colony) amounted to £39,768; the declared value of the goods imported into the same place in British shipping was £103,077. The anchorage of Algoa Bay is quite open to the S.E. winds, and has been generally supposed to be dangerous; but I was assured by more than one naval officer at the Cape, that it is not unsafe for well-provided vessels, if proper care be taken. The landing, however, is bad, and often impracticable, on account of the heavy surf, and a pier or jetty is much wanted. It is proposed also to erect a lighthouse on Cape Recif, which bounds the bay to the south-west.

This unpromising neighbourhood produces many curious plants, particularly of the fleshy kinds. *Aloes* of several species, *Crassulas* and *Cotyledons* with fine scarlet flowers, and *Euphorbias*, whose fluted columnar stems are beset with formidable prickles, flourish in the crevices of the sandstone rocks and among loose fragments of stone, exposed to the full glare of the sun. In company with these are some beautiful Everlastings, and various plants (Note G), of a hard, rigid, stunted character, but with handsome blossoms. The sand-hills along the coast are partially covered with dwarfish evergreen bushes, seldom more than three feet high, intermixed with succulent plants of the strangest shapes. The *Boerboontjes** with its hard, knotty, twisted branches, its scanty dark green foliage, and brilliant carmine-coloured flowers, is plentiful here, but in the form of a low scrubby bush, whereas on the banks of the Camtoos it grows to the size of an apple-tree. It is a very general plant in the Eastern province. The little stream which comes down to the sea at Port Elizabeth is covered with beautiful blue water lilies.

* *Schottia speciosa*. *

There was at this time a kraal of Fingoes near the port, and we were told that the inhabitants found them very useful as servants and labourers.

April 10.—From this place, turning from the N.W., we proceeded over dreary plains to Uitenhage, only nineteen miles distant. The little village of Bethelsdorp, where we stopped for a while on our way, is one of the oldest missionary establishments in the colony, (except those of the Moravians,) and the first that I had seen. It appeared to be thriving and in good order, and made an agreeable impression on me, though the situation is unfortunate, the soil being so barren that no gardens can be cultivated. There were at this time nearly twelve hundred coloured people, (Hottentots, Bastards, and others,) on the books of the institution, but scarcely half the number are resident. They are all taught some trade or useful employment, and go into the service either of the farmers, or of tradesmen at Port Elizabeth and Uitenhage. Those who remain at Bethelsdorp live in decent cottages of their own building. We saw the Infant School, which, as far as could be judged by a single visit, seemed a well-managed and useful institution : the children were very perfect in their lessons, looked clean and cheerful, and appeared to be as well taught as any poor children of their ages in England.

The town, or rather village, of Uitenhage, had a very pleasing appearance when we first caught sight of its bright white houses spread over a fertile valley, surrounded by wooded hills of various elevations; nor was this agreeable impression dissipated when we entered it. A large party of the inhabitants, with the Civil Commissioner and other public functionaries at their head, came out on horseback to meet the Governor, and saluted him, after the colonial fashion, with repeated discharges of their muskets.

April 11.—We spent the next day (an exceedingly hot one,) at Uitenhage, which is one of the most agreeable places in the colony. Though called a town, it has the appearance of a large rural village; its houses, which are (almost without

exception) neat and well-built, and of the most cheerful appearance, are placed at some distance apart from one another, with well-stocked gardens, orchards, and green fields intervening. There is scarcely a sign of poverty to be discerned in the whole place. It enjoys also the advantage (inestimable in this country) of a copious and never-failing supply of good water. The surrounding country, though not beautiful, is certainly pleasing. The Zwartkops, which flows near the town, is a beautiful little river, slow, still, and clear, winding gracefully through the valley, and fringed with thickets of tall reeds, fern, *Acacia* (Note H), and a pretty kind of willow. High and broken banks of red clay rise immediately behind these thickets, on the S. side, and set off their delicate verdure to advantage. The surface of the river is most beautifully decorated with a profusion of the sky-blue water-lily,* one of the loveliest plants of Southern Africa. On each side of the valley are steep but rounded clay hills, covered with the succulent and thorny bushes which characterize this part of the country.

The inn at Uitenhage is by far the best I met with in the colony.

It was proposed by the late Governor of the Cape, Sir Benjamin D'Urban, to remove the seat of government to this place from Cape Town, a measure which would certainly be attended with many advantages, now that the Eastern province is become the most important part of the colony, and that which most requires the constant and vigilant superintendence of the authorities. But the dissatisfaction which this scheme created at Cape Town, probably caused it to be laid aside. At any rate, however, Uitenhage seems to have a better claim to be the metropolis of the Eastern province than Graham's Town, which is too far from the port, and too much within the reach of the Caffers in case of a war.

April 12.—The 12th was another burning day. We tra-

* *Nyaphtea scutifolia* DeC. *N. cerrulea* of the Bot. Mag.

veiled from Uitenhage north-eastward to Addo Drift, on the Sunday river, 25 miles over a hilly country, covered for the most part with low but thick "bush;" the soil a hard clay. Though the appearance of this kind of country is in some degree monotonous, yet its varied and singular vegetation is very attractive to the eye of a naturalist. The strange, stiff, gaunt forms of the leafless Euphorbias, which suggest the idea of some monstrous Indian idols; the Aloes, with their spear-like leaves, and tall scarlet spikes; the pale green foliage of the *Spekboom*,* which is said to be the favourite food of the Elephant; the *Crassulas*, covered with milk-white blossoms; the *Cotyledon*, with its bluish leaves and bright red flowers; the scarlet Geraniums peeping from amidst the other shrubs, altogether form a combination extremely interesting to a botanical eye, and which must strike every traveller of ordinary habits of observation, by its dissimilarity to any thing that is to be seen in other countries. There cannot indeed be a vegetation more peculiar or of a more marked character.

This tract of bush is of great extent; from the Van Staaden's mountains, on the S.W. of Uitenhage, it stretches, with few breaks, by the Sunday and Bushman's rivers, and the Zuureberg, to the banks of the Fish river, along both sides of which it forms a belt of several miles in width.

We passed the night at a very small but not uncomfortable inn, kept by an Englishman, on the right bank of the Sunday river. This house was attacked during the late war on the frontier, by a party of Caffers, and the marks of the *assagais* which they threw, are still visible on the door-posts and window-sills. The innkeeper told us that he had had several horses eaten by lions quite lately, and that there were buffaloes also in the neighbouring "bush."

The Sunday river is here a strong and very muddy stream, flowing in a deep channel, with high broken cliffs, (apparently of clay and sandstone,) ranging along its right bank. It is subject to great floods, and has been known to swell above

* *Portulacaria Afra.*

these cliffs, and overflow all the surrounding country. It rises in the Sneeuwbergen, about 32° S. lat, flows by Graaff Reynet, and across the easternmost part of the Great Karroo, and falls into Algoa Bay.

April 13.—For several miles J.E. of the Sunday river, the country is hilly and rather picturesque, and entirely covered with very thick bush, of much taller growth than what I had previously seen, though of the same nature. Most of the shrubs here exceed the height of a man, and there are plenty of trees, though not of great size. Trees and shrubs alike are loaded in a strange way with a whitish thready Lichen,* hanging down in tangled bunches of extraordinary length. It is the very same which encumbers in a similar manner the scattered trees on the Cam pas of Brazil. In this day's journey I first saw the beautiful, glossy, dark-green Starling which Le Vaillant calls *nabirop* and which is abundant on the Caffer frontier. This tract of bush near the Sunday river, is called the Addo or Adow bush. From the high grassy table-land beyond it, known by the name of the Addo heights, we saw distinctly, though at a distance of more than 50 miles, the bold outline of the Wintershoek or Kuruka mountain, which is a conspicuous object from Algoa Bay, and by reason of its isolated situation and remarkable form, constitutes a good landmark for ships. The sailors call it the Coxcomb mountain, a name which gives a good idea of its outline. We saw it first from near the Camtoos, and had had it more or less in view every day since we crossed that river.

Traversing the Quagga Flats, wide, open, grassy plains which formerly abounded with various kinds of the larger game, we reached the Bushman's river, the boundary of Uitenhage and Albany, where we spent the night at a comfortable little inn. There is some bush, and (April 14) rather pretty scenery, in the neighbourhood of the river; to which succeed huge, green, treeless, round-backed hills, almost mountains in point of magnitude, but utterly unpicturesque.

• *Usntajinrida* aud *plicata*.

Such is the character of the country for many miles before we reach Graham's town. This tract is excellent for feeding sheep. We breakfasted at the house of Mr. Daniells, the greatest and most successful sheep-farmer in the colony j the land which he occupies was previously supposed to be worthless, but has been rendered extremely valuable by his skill and perseverance. All his sheep are Merinos, which are found to be not only infinitely more profitable, but at the same time more hardy than the Cape breed.

It is said that a few of the first Albany colonists, in 1820, brought fine woolled sheep with them, and that Lord Charles Somerset, when Governor, was very anxious to encourage the importation of a superior breed of these animals; but the subject was not taken up in earnest, till several years afterwards* Mr. Daniells was one of the first who devoted any attention to the growth of fine wool, an object now pursued by a great many of the colonists of Albany. The first considerable export of wool from Algoa Bay, took place in 1830,* since which time this branch of industry has made rapid progress, and it is to be hoped that the wool of the Cape may eventually vie with that of Australia.

At Mr. Daniells' I saw a tame Springbok, one of the most graceful and beautiful creatures it is possible to conceive. This species of antelope is still found on the Quagga Flats, though much less common than formerly.

We reached Graham's town in the middle of the day, and His Excellency was escorted into the town by a numerous cavalcade of the inhabitants. The distance of this place from Cape Town is about 600 miles, which we had accomplished in seventeen days, not including those during which we remained stationary.

* See « Narrative of the Kafir War," Introduction, Part 2.

NOTES TO CHAPTER III.

(A) It may be well here to explain the meaning of those local terms which occur most frequently in a narrative of any tour in the Cape colony.

Kloof, is generally applied to a mountain pass, a ravine, or narrow lateral valley among mountains ; the " Long Kloof " is the only instance that I know where it is given to a longitudinal valley.

Kraal, is properly an enclosure for cattle, answering to the Spanish and Portiigeeze word *corral*; it is commonly applied to the villages or settlements of the natives.

Hoek, a corner of land enclosed in the bend of a river, or between a river and the sea, or between two converging ranges of mountains.

Drift, a ford.

Kranz, a cliff or precipice.

Kop, a head or peak.

(B) When I returned to the Cape in June, some beautiful plants were in blossom on the mountains of Hottentot Holland and Houw-Hoek ; in particular, *Protea longifolia*, *P. Lepidocarpon*, *P. tenuifolia*, *Serruria clavata*, a short-leaved variety of *Erica Plukenetii*, with very rich coloured blossoms, *Septas Capensis* (in great profusion), and *Pulylobium involucreatum* (Ecklon and Zeyher.)

(C) This arborescent fern is *Hemilelia Capensis*, the largest and most beautiful fern that is known in the Cape colony, though inferior in size to several of the South American and Indian species, as it does not exceed the height of twelve feet. It is not peculiar to Zwellendam (though that was the first place where I saw it), but grows also in some of the ravines on the eastern side of Table Mountain, and I believe in other places.

Besides this I gathered near Zwellendam, *Weinmannia trifoliata*, *Brachylama nerifolia* De C, *Knowltonia rigida*, *Erica Caledonica* Benth., *Hydrocotyle ca Modus* De C, *Ht lie I try sum parviflorum* De C, *Ostcospermum triquetrum* De C, and a singular species of *Muraltia*, which appears to be undescribed ; but the season was nearly the most unfavourable of the whole year for botanical pursuits.

(D) I believe that this plant is the *Aloeferox* of Haworth and other authors, but the accounts which have hitherto been published of the larger species of this genus are very unsatisfactory; they have bt'en taken from cultivated plants, and accordingly importance is often attached to circumstances which are seen to be insignificant when we come to examine the plants in a state of nature. Thus, all the writers who have distinguished *Aloe ferojr* as a species, have laid much stress on the presence of prickles on *both* sides of its leaf; but this is an extremely variable character 5 in the wild plant, prickles are sometimes (not very often) found on both sides of the foliage, more frequently on the under surface only, and very often at the margin only. The edges are always prickly, but the prickles vary in direction even on the same leaf. The stem is thick, rarely branched; the outline of the leaves nearly lanceolate, their colour glaucous, their direction spreading, not recurved ; the flowers

of a very rich orange-red (different from the coral-red of *Aloe arborescent*)» are closely crowded, forming extremely thick and long spikes, with the stamens projecting considerably beyond the petals. These flowers contain much honey, and the leaves, when broken, discharge a great quantity of an excessively bitter, deep yellow, transparent juice.

It is very much to be wished that some botanist, residing for a considerable time in Southern Africa, should devote his attention particularly to the *succulent* genera of plants, such as *Aloe*, *Rlesembryanthemum* and *Euphorbia*, which have as yet been studied only in our green-houses, and which, as they cannot be preserved by drying, ought to be described and drawn in the living state.

(E) A large and beautiful species of Everlasting (*Helichrysum foetidum* De C.)» bearing a profusion of golden yellow flowers, is common on the edges of streams in the Long Kloof, in company with the graceful and pretty *Gnidia oppositifolia*, and a great variety of *Rtstiacce*. In most of these streams there is abundance of our common Reed-mace or Bull-rush (*Typha latifolia*); this well known European plant was supposed by Thunberg to be merely naturalized in the Cape colony, but it appears to me utterly improbable that it should have been introduced, either by accident or design, into the waters of these wild and thinly inhabited tracts.

On the arid and stony hills which border the Long Kloof, I met with a curious species of Heath, the *Erica Solandriana*; likewise *Helichrysum cymosujn* De C, *H. pnniculatum* De C, *H. anomalum* De C, *H. nudifolium* De C, and *Lanaria plumosn*; but by far the most abundant plants at this season were various kinds of *Restio*, which have very much the appearance of rushes. *Metalasia muricata* De C. is extremely common in the Long Kloof, and, indeed, throughout the districts of Zwellendam and George.

(F) This place, situated about six degrees east of Cape Town, seems to be pretty nearly the westernmost limit, in South Africa, of the geographical range of the curious genus *Zamia*; at least I never saw nor heard of any species farther to the west. The *Zamias* are among the forms of vegetation which characterize the eastern part of the colony, and especially the great tract of thicket, or *bush*, extending along the Caffer frontier. But the species which I saw at Jagersbosch was different from that which is most common in the Fish River Bush: the latter (*Zamia horrida*) is about three feet high, its leaves very glaucous, and every leaflet of them armed with two or three strong and sharp spines \ the other is considerably larger, its leaves dark green, the leaflets much longer and narrower than those of the *horrida*, and without spines at the edges.

The presence of these singular plants, which resemble Palms in the form and appearance of their leaves, without being really allied to them, constitutes one of the points of resemblance between the botany of Australia and that of Southern Africa. The species belonging to the two continents are indeed distinct, yet very similar in structure. But some of the Australian *Zamias* are said to grow to the height of nearly thirty feet, whereas the larger of the two kinds that I saw did not exceed five feet. The stem is very thick, and (in *Z horrida* more particularly) has a tessellated appearance from the scars of the old leaves.

Besides this I gathered on the hills near Jagersbosch the following plants :—

Leucospermum attenuatum.

Erica curviflora,

E. elongata.

Priestleya hirsuta.

Lanaria plumosa.

Pteronia acerosa De C.

Heteromorpha arborescent De C.

Pelargonium cortusifolium.

Aspalathus% *sp.*

(G) At the time when I was there, the environs of Port Elizabeth were very barren of plants, with the exception of the succulent kinds, which will bear almost any degree of heat and drought. The principal rarities which I noticed were *Helichrysum xeranthemoides* De C, (a beautiful Everlasting with bright carmine-coloured and white flowers) *Nemesia linearis*, *Barleria pungens* Spr. (which is Harvey's *Crabbea pungens*), *Aspalathus adelphia* E. and Z., *Tulbaghia violacea*.

(H) The *Acacia Caffra*, a much handsomer tree than the *horrida*, appeared for the first time on the banks of the Zwartkops, but I saw it afterwards in far greater abundance on the rivers of the Caffer frontier, (the Great Fish River, the Kat, Koonap, and others.) where it grows to a very large size, and has a beautiful appearance. Its leaves are most delicately feathered, and its flowers form long spikes of a fine sulphur colour.

A beautiful *Loranthus* (*L. glaucus*), with flowers shaped somewhat like those of a honey-suckle, but of a most vivid orange-scarlet, grows parasitically on the branches of the Acacias near Uitenhage, and in several parts of the *busk*.

The beds of loose shingle which have been left in some places by inundations of the Zwartkops, abound with the *Gomphocarpus fruticosus*, a tall half shrubby plant, with willow-like leaves, white flowers, and large, inflated, prickly pods ; it is common in similar situations about most of the rivers of the Eastern Province, and as far west as the GauriU ; and is sometimes cultivated in gardens at Cape Town, where it is called the flowering willow.

Mr. Zeyher, a most acute and indefatigable botanical collector, who resides near Uitenhage, has found a vast number of new and curious plants on the banks of the Zwartkops Rive?, and in the bush country beyond it.

(I; Besides those which I have enumerated in the text, the following may be mentioned as some of the most characteristic plants of the bush :—

Pelargonium peltatum.

Bhigozum trichotnmum, Burcb. (chiefly near the Fish River.)

Grewiajlava, De C.

Plumbago Capensis.

Senecio longifolius, De C.

Arduina bispinosa,

Tecoma Capensis (especially beyond the Fish River).

Hamiltonia Capensis, Harv.

Belonites bispinosa, E. Mey.

Crassula per/brata.

Kalanchoe *sp.*

(To be continued.)

XIV.—CONTRIBUTIONS *towards a* FLORA *of South America*,
—*Enumeration of Plants Collected by* MR. SCHOMBURGK,
in British Guiana.—By GEORGE BENTHAM, ESQ., F.L.S.,
&C, &C.

(Continued from Vol. IV. page 323, of *Hook. Journal of Botany.*

EUPHORBIACEJE.

{Determined and described by DR. KLOTZSCH.)

Tribe EUPHORBIJE.

694. *Euphorbia* (* Floribus solitariis, tProcumbentes, stipulis intrapetiolaribus) *dioica*, (Kunth Nov. Gen. et Spec. II. p. 43.) fruticulosa, diffusa, procumbens, ramis subvillosis, foliis oppositis oblique subcordato-ovatis brevi-acutis apice dentato-serratis utrinque pilosis, involucris axillaribus solitariis turbinatis pilosis brevi-pedicellatis folio duplo brevioribus, limbo quinquefido, laciniis roseis crenato-laciniatis, capsulis pilosis brevi-pedicellatis, stigmatibus tribus filiformibus apice brevissime bifidis.—*E. multiflora* *Herb. Willd. n. 9291.*—Sandy barren spots, British Guiana, *Schomburgk, n. 172.* This species is certainly monoecious, and differs only from *E. rosea* *Retz.*, an East Indian plant, by having the capsules covered with hairs.

695. *E.* (** Floribus aggregatis, f Erectee /J Stipulate) *pilulifera*, *Linn. Syst. Veg. ed. Roem. II. p. 441.* *E globulifera* *Kunth. Nov. Gen. et Sp. II. p. 45.*—Savannahs', British Guiana, *Schomburgk, n. 619.*

69 * ?* (A F!! Sat8e, Erectffi, Stipulate,) *hyperidfolia* *Linn. v&T.fawormtsKlotzsch*, glabra, ramis gracilibus dichotomis in apice flonfens' folns oppositis oblongis aut lineari-falcatis brevi-acutis obsolete serratis basi oblique cordatis evanescente sparšim pdosis, superioribus angustioribus et plerumque integerrimis, involucris cyathiformibus glabris in apice ramulorum bin,s ranissime soUtariis, limbo quadridentato extus

triglanduloso, capsulis glabris, stigmatibus tribus filiformibus bifidis.—Gracilis sesquipedalis, erecta. Folia \—\ u ic. longa, 1-3 lin. lata.—British Guiana, *Schomburgk*, n. 73. French Guiana, *Herb. Par.* n. 203, 204.

697. *Dalechampia scandens*. *Linn. fil. Mant. p.* 496—British Guiana, *Schomburgk*, n. 610.

698. *D. guianensis* (Klotzsch, sp. n.) caule villosa scandente, foliis cordatis profunde tripartitis remote serratis supra sparsim subtus prsesertim in nervis dense pilosis, lobis oblongo-lanceolatis exterioribus basi rotundato-dilatatis approximatis, stipulis lanceolatis integerrimis, bracteis involu- crantibus profunde trifidis obtuse spinuloso serratis, lacinia media longiore.—British Guiana, *Schomburgk*.

699. *D. heterophylla* Poir. *Diet. x. p.* 447*—D- serrulata *Herb. Willd. n.* 17799, calycibus fcemineis 12-partitis. French Guiana, *Leprieur, Herb. Par. n.* 201, 202.

Tribe PROSOPIDOCLINE^{^E}. *Klotzsch*.

Ovarii loculi uniovulati. Involucra subgloboso-vesicfle- formia hinc hiantia, deinde plus minus explanata, demum decidua, 3, 4-v. 6-flora, bracteis suffulta. Flores dioici, apetalii.

700. *Schismatopera distichophylla* (Klotzsch, gen. nov.)—*Spixia distichophylla* Mart, in *herb. Monac.* ad partem.—On the Rio Negro, *Schomburgk n.* 918, *Martius*.

Char. gen. SCHISMATOPERA. Flores dioici. Involucrum coriaceum subgloboso-vesicaeforme, pubescens, tri-raro quadri-florum, hinc hians, demum explanatum, subbival- vatum, ad basin bractea persistente solitaria convexa in- structum. Masc. Pedicelli antheriferi tres, cylindrici aut subulato-arcuati, basi calycibus brevibus trifidis aut tri- partitis extus villosis cincti, apice antheris 8 aut 4 oblongis brevi-filamentosis erectis coronati, antheris lateralibus ex- trorsis, loculis per rimam longitudinalem dehiscentibus* Ovarii rudimenta 3, trigona, hirsuta, vertice stigmatibus trilobis magnis applanatis sessilibus instructa, in ambitu florum masculorum posita. Foem....—Arbores America

tropicre, 8-12-pedales, ramosae. Rami teretes, cortice cinereo-fusco. Folia magna, coriacea, disticha, oblongo-elliptic[^] glabra. Flores axillares brevi-pedunculati. Pedunculi squamati aut nudi.—*S. d'tstkhophylla* (Klotzsch), pedicellis antheriferis cylindricis subbrevibus octandris, pedunculis squamatis.

701. *Peridium Ucolor* (Klotzsch sp. n.) foliis magnis ellipticis brevi-acutis supra glabris nitidis atro-viridibus subtus cum petiolis ramulisque junioribus et involucris densissime minute-lepidotis sordide flavidis, ovariis villosis, stigmatibus obtuse trilobis.—Folia coriacea, integerrima, 4 unc. longa, 2 unc. lata.—British Guiana, *Schomburgk*, n. 114.

Char, reform, gen. PERIDIUM, Flores dioici. Involucrum globoso-vesiciforme, lepidotum, antice rima apertum, caeterum undique clausum, extus bracteis duabus oppositis inaequalibus persistentibus suffultum. Masc. Stamina 12-16, receptaculo communi inserta, extus bracteis 3-4 parvis cincta: antherae terminatae, oblongae, binoctales, loculis marginalibus per rimam longitudinalem dehiscentibus; filamenta erecta, compressa, glabra; ovarii rudimenta nulla. Foem. Ovaria 4, turbinata, brevi-pedicellata, trilocularia, loculis uniovulatis, ovulis pendulis. Stylus brevissimus, tertius culus deciduus; stigmata triloba. Fructus capsularis, epicarpio corticato trivalvi, valvulis bifidis intus tricoccis, coccis spongiosis bivalvibus monospermis. Semina pendula, obovata, arillo membranaceo instructa, testa atra nitida Crustacea. Embryonis exalbuminosi orthotropi cotyledones carnosae, plano-convexae. Radicula umbilico proxima, supera.—Arbores Americae tropicae, foliis alternis coriaceis oblongis glabris aut lepidotis, involucris antice apertis pedicellatis, pedunculis abbreviatis axillaribus.

Tribe HIPPOMANEJE.

702, *Dactylostemon Schomburgkii* (Klotzsch gen. nov.); Piarra, British Guiana, *Schomburgk*, n. JIG.

Char. Gen. DACTYLOSTEMON. (Gymnorreha *Leandro do Sacram. mss.* ad part. *Actinostemonis sp. Mart. mss.*). Inflorescentia spicata, mono aut poly-stachya, Spic« ante

anthesin tegmentis magnis strobilaceo-imbricatis deinde deciduis obtectae. Flores monoici, apetalii, in utroque latere ad rhachin villosum glandula minutissima disciformi sessili instructi, floribus foemineis pedicellatis ad basin spicae masculae paucis rarissime solitariis, singuli bractea minuta suffulti. Masc. Bractes minutae, 2-3-florae, cum pedicello seu germinis rudimento truncato. Stamina 6-16 in pedicellum satis longum apice obsolete 2-3-bracteolatum connata, filamentis distinctis aut subnullis, antheris brevissimis bilocularibus ex apice filamenti pendulis. Foem. Calyx triphyllus. Ovarium triloculare, loculis uniovulatis. Stylus nullus. Stigma trifidum, lobis simplicibus revolutis intus stigmatosis. Capsula trilocularis tricocca, coccis bivalvibus monospermis, valvulis infra apicem bicornutis. Arbores Americae tropicae, foliis alternis membranaceo-coriaceis penninerviis integerrimis glabrescentibus, spicis subterminalibus.—D. *Schomburgkii*, ramulis tenuibus elongatis junioribus petiolisque villosis, foliis oblongis obtusis basi rotundatis evanescente-pubescentibus, tegmentis glaucis striatis margine pubescentibus, spicis solitariis terminalibus brevibus, filamentis longiusculis complanatis inaequilongis. Arbor. Folia 1-3 unc. longa, 4-12 lin. lata.

703. *Sapium pruni/olium* (Klotzsch sp. n.) ; ramulis fusco-purpureis glabris, foliis oblongis apice inflexis versus basin attenuatis margine remote subserratis, petiolis apice biglandulosis, spicis terminalibus aut axillaribus solitariis.—Folia membranacea, utrinque glabra, 2-2½ unc. longa, 8-11 lin. lata.—Near Savannahs, British Guiana, *Schomburgk n.* 283.

704. *Microstachys Gvianensis* (Klotzsch sp. n.) ramulis gracilibus pubescentibus erectis, foliis ovato-lanceolatis acuminatis margine setoso-serrulatis basi cordatis utrinque sparsim pubescentibus, spicis brevibus extraaxillaribus pubescentibus petiolo duplo longioribus plerumque oppositifoliis, capsulis conescenti-pilosis. — Fruticulus sesquipedalis, erectus, ramosus, superne pubescens, inferne subglaber. Folia 1-1½ unc. longa, 4-6 lin. lata. Petioli pubescentes

2-3½ lin. longi.—Fissures of rocks, British Guiana, and Barcellos on the Rio Negro, *Schomburgk*, n. 912.

Tribe ACALYPHE[^].

705. *Tragia grandifolia* (Klotzsch sp. n.) \ fruticosa, foliis magnis oblongo-obovatis basi cuneatis apice acuminatis margine grosse repando-serratis subtus in nervis evanescente pilosis, spica axillari longissima pubescente ramosa, glomerulis distantibus, bracteis lanceolatis villosis indivisis, & omnibus masculis triandris, filamentis basi bulbosis.—Folia 5-7 unc. longa, 1½-2 unc. lata, subtus pallidiora. Spica 8 unc. longa.—British Guiana, *Schomburgk*.

706. *Traganthus sidoides* (Klotzsch gen. nov.)—Rubbish at Anna-y, British Guiana, *Schomburgk* n. 134.

Char. Gen. TRAGANTHUS. Flores monoici in foliorum axillis plerumque aggregati. Masc. Calyx 4-partitus. Stamina 4. Filamenta libera, subulata, antherarum loculis globosis horizontalibus longitudinaliter dehiscentibus. Foem. Calyx parvus, 4-partitus, bracteis magnis subtrifariam imbricatis cinctus. Ovarium triloculare, hirsutum, loculis uniovulatis, Styli 6, breves, distincti, subulati, recurvi, extus setosi. Capsula hirsuta, triangularis, depressa, tricocca, coccis monospermis. Columna latealata, alis margine argute dentatis. Semina triangulata.—Herba Guianensis, annua, hirsuta, ramosa, sesquipedalis, radice fusiformi sparsim fibroso, albido, ramis erectis inferioribus suboppositis longissimis. Folia alterna, deflexa, margine serrata, minutissime pellucido-punctata, stipulis ad basin petiolorum geminis caducis. Spicis axillares, abbreviatae, bracteate, bracteis magnis sessilibus ochreatis, masculis multifloris. Flores masculi ante anthesin sessiles.

707. *Alchornea latifolia*, *Hayne Arzneigew. X. t. 42.*—Rio Branco, *Schomburgk* n. 883.

708. A. *Schomburgkii* (Klotzsch sp. n.) ; foliis ellipticis obtuse acutis remote serratis membranaceo-coriaceis deflexis supra glabris subtus minutissime stellulato-puberulis, spicis masculis ramosissimis lateralibus undique stellato-puberulis,

floribus octandris, calycibus tripartitis. Folia 5 unc. longa, 2 unc. lata. Petioli teretiusculi 4-7 lin. longi.—British Guiana, *Schomburgk, n. 591.*

Tribe CROTONEJE.

709. *Mabea Taquari* Aubl. *PL Gui.* II. p. 87 *• 334
/*• 2.—British Guiana, *Schomburgk, n. 40.*

710. *Cnidoscolus guinquelobus*, *Pohl, PL Bras.* v. I. p. 63.—*Jatropha urens*, *Linn.*—British Guiana, *Schomburgk.*

711. *Brachystachys hirta* (Klotzsch gen, nov.—*Croton hirtus* *Lher.*—*Geiseler, Crot. Monogr.* p. 62.—British Guiana, *Schomburgk, n. 101.* French Guiana, *Leprieur, Herb. Par.* n. 205.

Char. Gen. BRACHYSTACHYS. (Crotonis species herbacea *Auct.*) Flores monoici. Masc. Calyx 5-partitus sequalis. Corolla petala 5, ovalia aut lanceolata. Discus 5-radiatus, radiis calycis laciniis oppositis. Stamina 10, disco villosa inserta, filamentis liberis aestivatione inflexis demum erectis, exsertis, antheris introrsis filamenti apice adnatis.—Foem. Calyx 5-partitus, irregularis, laciniis 3 exterioribus latioribus majoribusque integerrimis, 2 interioribus linearibus. Corollae petala 5, inaequilonga, subulata, subinde rudimentaria. Discus hypogynus 5-radiatus, radiis semiliberis calycis laciniis oppositis. Ovarium sessile, 3-loculare, loculis uniovulatis. Stylus usque ad basin 6-partitus, partitionibus filiformibus apice incrassatis. Capsula tricocca, coccis bivalvibus monospermis. Semina pendula, testa crustacea, caruncula umbilicata instructa. — Herbae Americae tropicae, pilosae, foliis alternis margine serratis dentatis aut crenatis subtus ad basin glandulosis, stipulis setaceis, spicis axillaribus terminalibusque brevibus monoicis, floribus foemineis in parte inferiore spicae masculae sparsis.

712. *Geiseleria chamaedryfolia*, *Klotzsch, gen. nov.* *Croton chamaedryfolius* *Lam. Geisel Crot. Monogr.* p. 65.—British Guiana, *Schomburgk, n. 241.*

Char. gen. GEISELERIA. (Crotonis species herbacea, *Auct.*) Flores monoici. Masc. Calyx 4-partitus, sequalis, se-

tione valvata. Petala 4, ovato-lanceolata. Discus 4-radiatus, radiis calycis laciniis oppositis. Stamina 8, disco villosa inserta, filamentis liberis, aestivatione inflexa, demum erectis exsertis, antheris globosis introrsis. Fcem, Calyx 5-partitus, tequalis. Corollae petala minutissima, subulata. Discus hypogynus 5-radiatus, radiis sepalis oppositis. Ovarium sessile, triloculare, loculis uniovulatis. Stylus usque ad basin tripartitus, laciniis filiformibus profunde bifidis. Capsula tricocca, coccis bivalvibus monospermis.—Herbs⁶ Americans, facie Brachystachyos. Genus dixi in memorial cl. Ed. Fred. Geiseler, M.D,

713. Croton (Fruticosi, foliis glandulosis; *suavis*, *Runth** *Nov. Gen. et Sp. Amer.* 1L, p. 60, ramulis dichotomis demum glabrescentibus fusco-nigris junioribus stellato-pilosis, foliis^s oblongo-lanceolatis acutis obsolete crenato-serratis aut integerrimis supra scabris subtus incano-tomentosis basi rotundatis glandulis 2-4 pedicellatis instructis, floribus masculis dodecandris.—C. salicifolium *Herb. Willd. n.* 17852.—Barcellos[^] on the Rio Negro, *Schomburgk, n.* 944.

Char, reform, gen. CROTON. Flores monoici. Masc. Calyx 5-partitus aut 5-fidus, laciniis aestivatione valvatis. Corollae petala 5, distincta. Discus 5-radiatus aut 5-dentatus. Stamina 10-20, disco nudo aut villosa inserta, filamentis liberis aestivatione inflexis demum erectis exsertis, antheris introrsis filamenti apice adnatis. — Fcem. Calyx 5-partitus aut 5-fidus. Petala 5, subinde rudimentaria. Discus hypogynus 5-radiatus aut 5-dentatus. Ovarium sessile, triloculare, loculis uniovulatis. Stylus tripartitus, partitionibus semel bis aut ter bifidis, intus stigmatosis. Capsula tricocca, [^] coccis bivalvibus monospermis. Arbores, frutices aut suffrutices in America tropica copiose, rarius in America extratropica, in Asia, et in Africa australi crescentes, foliis alternis saepe stipulatis et ad basin biglandulosis integris serratis aut lobatis, pilis stellatis aut squamis lepidotis consitis, floribus laxius densiusve spicatis, spicis axillaribus terminalibusque abbreviatis aut elongatis, masculis superioribus, inferioribus foemineis.

714. Croton (Fruticosi, foliis glandulosis) *palanostigma*

(Klotzsch sp. n.) ramulis evanescente-tomentosis scabris, foliis magnis latissime-ovatis acutis cordatis margine evanescente-denticulatis supra scabriusculis subtus incano-tomentosis longe petiolatis, subtus ad basin glandulis 2 scutelliformibus magnis sessilibus gelatinosis instructis, spicis longis terminalibus, floribus masculis dodecandris glomerato-spicatis, foemineis magnis, calycibus 5-dentatis, petalis minutis squamaeformibus longe barbatis, germinibus setoso-hirtis, stylo profunde tripartito, laciniis ter bifidis stellatim radiatis.—Palanostigma crotonoides, Mart. mss.—Frutex ramosus, 9-10-pedalis. Rami atrofusci, scabri, nudiusculi. Ramuli ferrugineo-tomentosi. Folia in ambitu versus marginem glandulis sparsis sessilibus gilvis parvis scutellaeformibus conspersa, 10 unc. longa, 8 unc. lata, juniora 3| unc. longa, 2 unc. lata. Petioli teretiusculi, ferrugineo tomentoso-villosi, 2 unc. longi. Spicae tomentoso-hirsutae, 9-12 unc. longae. Flores foeminei plurimi, in spicae parte inferiore sparsi.—On the River Padawire, *Schomburgk* n. 1008. In Tapura woods, Brazil, *Martius*.

715. Croton (Fruticosi, foliis glandulosis) *cuneatus* (Mart, in Herb. Reg. Monac.) ramulis striatis petiolisque flavidolepidotis, foliis magnis oblongis utrinque attenuato-obtusis penninerviis margine remote-serratis, supra sparsim subtus dense lepidotis basi biglandulosis, spicis longis terminalibus subaggregatis, floribus masculis dodecandris glomerato-spicatis, foemineis apetalis subsolitariis, germinibus dense lepidotis, stigmatibus tribus multipartitis.—Frutex ramosus; 12-pedalis. Folia longe petiolata subcoriacea, supra atroviridia subnitentia, 5-7 unc. longa, 1½-2 unc. lata, glandulis 2 sessilibus instructa. Squamulee minutissimee, laciniato-ciliatee, e flavido albidae. Petioli 12-15 lin. longi. Spicae 6-10 unc. longae, cum floribus bracteisque dense-lepidotae. Calycis lacinae intus lanatae. Petala in floribus masculis spathulata, villosa. British Guiana (Roraima expedition) *Schomburgk*. On the Amazon river, *Pceppig*, n. 2593, *Martius*.

716. C. (foliis eglandulosis) *Essequiboensis*, (Klotzsch sp.n.)

ramulis canescente stellato-pubescentibus, foliis ovatis cordatis acutis glabris pellucido-punctatis membranaceo-subcoriaceis margine remote-serratis, petiolis compressis supra sulcatis basi dilatatis subglabris, spicis stellato-pubescentibus terminalibus axillaribusque subsolitariis, bracteis spathulatis glabris margine laciniato-glandulosis floribus masculis decandris, laciniis calycinis integris, petalis obovatis calyce longioribus, filamentis basi pilosis, floribus foemineis 5-petalis, petalis linearibus, laciniis calycinis orbiculari-ovatis obtusis fimbriato-glandulosis, germinibus stellato-pilosis, stigmatibus tribus multipartitis, lobis filiformibus puberulis conniventibus.—Frutex. Folia 15-20 lin. longa, 8-10 lin. lata. Petioli 6 lin. longi. Spicae 2-2½ unc. longae. Flores albi. Pedicelli 1-2 lin. longi.—On the Essequibo, *Schomburgk, n. 33.*

717- *C. (foliis eglandulosis) nervosus*, (Klotzsch sp. n.) ramulis petiolisque pubescenti-villosis, foliis ovatis acuminatis penninerviis integerrimis supra saturate-viridibus subglabris subtus albido-lepidotis pubescentibus, basi rotundato-emarginatis, costa media villosa, spicis terminalibus subaggregatis albidis villosis, bracteis lanceolatis pubescentibus, calycibus pubescenti-lepidotis albidis 5-fidis, floribus masculis hexadecandris, filamentis pilosis, floribus foemineis apetalis, germinibus stellato-pilosis aut pubescenti-lepidotis, stigmatibus tribus multipartitis, lobis pubescentibus subulatis conniventibus.—Frutex 10-12-pedalis. Folia 3 unc. longa, 12-14 lin. lata. Squamulae adpressae radiato-pilosae. Stipulae filiformes, hirsute, deciduae. Petioli 4-5 lin. longi. Spicae 2-3 unc. longae. Flor. masc. Petala 5, ovalia, obtusa, calycem subsuperantia, intus pubescentia. Calycis lacinae ovate, obtusae, intus glabrae.

13 *pubescens* ramulis petiolisque albido-pubescentibus, foliorum nervis densis ad paginam inferiorem prominentibus, floribus vix pubescentibus. Rio Takutu, *Schomburgk n. 802.*

13 *vittosus*, ramulis petiolisque rufescenti-villosis, foliorum nervis remotis vix prominentibus, floribus pubescente-villosis. On the Essequibo, *Schomburgk, n. 44.*

718. *Caperonia angustissima* (Klotzsch, sp. n.) caule

herbaceo tereti glabro substriato tenui erecto ratnoso ramulis foliisque sparsim hirsutis, foliis sessilibus angustelinearibus acutis margine remote-serratis, stipulis brevissimis persistentibus, spicis axillaribus monoicis subhirsutis, bracteis persistentibus brevissimis navicularibus acutis glabris, floribus masculis deciduis minutis, foemineis sessilibus. Caulis bipedalis. Folia 2-3 unc. longa f lin. lata. Spicse biunciales. British Guiana, *Schomburgk*, n. 132.

719. *C. paludosa*, (Klotzsch, sp. n.); caule herbaceo subcarnoso flexuoso subsimplici evanescente hirto, foliis petiolatis anguste lanceolatis acutis sparsim hirsutis margine remote aculeatis, spicis abbreviatis axillaribus tenuissime hirsutis, floribus foemineis pedicellatis. — Caulis pedalis, crassus. Folia 2-2½ lin lata, 2[^]-3 unc. longa. Stigmata colorata. British Guiana, *Schomburgk*.

Tribe PHYLLANTHEJE.

720. *Phyllanthus microphyllus* Kunth, *Nov. Gen. et Sp.* v. *v.p.* 87* British Guiana, *Schomburgk*, n. 420.

721. *P. Guianensis* (Klotzsch, sp. n.); fruticosus, ramis erectis gracilibus, foliis subpinnatim dispositis ellipticis brevissime acutis glabris, floribus axillaribus brevi-pedicellatis subternis, calycibus sexpartitis, flore foemineo unico, stylo nullo, stigmatibus tribus bifidis.—Frutex gracilis, bipedalis. Folia lsete viridia, 4 lin. longa, 2 lin. lata. On the Essequibo and Rupunoony, *Schomburgk*, n. 22 and 529.

722. *P. piscatorwn*, Kunth, *Nov. Gen. et Sp.* v. *ii.p.* 90. Barcellos on the Rio Negro, *Schomburgk* n. 927-

723. *P. adianthoides* (Klotzsch, sp. n.) fruticosus, ramis distichis tenuibus, foliis subpinnatim dispositis membranaceis rigidis ovatis subobtusis junioribus mucronatis utrinque glabris, floribus fasciculatis longe pedicellatis ternis quaternisve, calycibus sexpartitis, floribus masculis diandris, anthesis sessilibus bilocularibus extrorsis longitudinaliter birimosis. Frutex glaber, ramosus. Folia 1-2 unc. longa, ½-1 unc. lata. British Guiana, *Schomburgk*.

Tribe BUXE^AE,

724. *Discocarpus Essequeboensis* (Klotzsch, gen. nov.)—On the Upper Essequebo, *Schomburgk* n. 35,659 and the fruit specimens ofn. J06.

Char. Gen. DISCOCARPUS. Flores dioici, in foliorum axillis aggregati. Pedicelli breves, squamis aridis fuscis subsistentibus dense vestiti. Masc. Calyx cyathiformis inaequaliter 5-fidus, segmentis intus squama brevi instructis. Pctala nulla. Stamina 5, longe exserta, inferne in cylindruna coalita. Germinis rudimentum parvum, pedicelliforme, trifidum.—Foem. Calyx profunde 5-fidus persistens. Petala 5 calycis segmentis alterna. Staminum rudimenta 5, ad basin germinis inserta. Discus hypogynus carnosus, crenato-marginatus. Ovarium sessile, triloculare, loculis biovulatis. Stylus brevissimus, crassus; stigmata tria, petaloidea, recurva, crenato-laciniata, basi angusta, supra canaliculata. Capsula globoso-depressa obtuse sexangularis, tricocca, pubescens, coccis bivalvibus, abortu monospermio.—Arbores Americae tropicse* foliis alternis simplicibus coriaceis glaberrimis rigidis, floribus aggregato-fasciculatis.—D. *Essequeboensis*, ramulis albido-cinereis laevibus, foliis ovatis apice attenuato-obtusis supra nitidis, germinibus capsulisque velutinis levis.

725. *Podocalyx loranthoides* (Klotzsch, gen. nov.) Dry Savannahs, British Guiana, *Schomburgk*, n. 978.

Char. Gen. PODOCALYX. Flores dioici, densissime glomerulati, glomeruli distantes, in spicas axillares dispositi, unibracteati. Masc. Calyx minimus, campanulatus, quadridentatus, longe pedicellatus. Stamina 4, exserta, dentibus calycinis opposita, filamenta sub ovarii rudimento pulvinato inserta; anthers subglobosse, utrinque obtusce, biloculares, extrorsae. FoemArbor Guianensis foliis alternis exstipulatis? integerrimis glabris coriaceis.—P. *loranthoides*, folia ovalia, petiolata, pinninervia, apice acuta. Spicae masculae in apice ramorum axillaTes calycesque ferrugineo-pubescentes.

(7b be continued.)

Contributions towards a FLORA OF SOUTH AFRICA. By
 DR. C. F. MEISNER, *Professor of Botany, at the University*
*of Basil, Switzerland**

(Continued from p. 4*]\$.)

TILIACEÆ.

1. *Greivia occidentalism* L. DC. prodr. 1. p. 511, n. 35.—Ad latera montis Tafelberg (III. D. b.) Sept. 1838. Herb. Krauss.

2. *G. Caffra, nob.*—Ramulis foliisque novellis et calycibus pilosiusculis, caeterum glabra; stipulis setaceis petiolum sequantibus, foliis oblongis vix obliquis acutis 3-nerviis minute serratis; pedunculis axillaribus 2-floris pedicellis-que petiolum vix superantibus; alabastris oblongis, basi tumen-tibus, sepalis linearibus petalis genitalibusque longioribus.

In sylvis primitivis prope Port Natal (V. c.) Dec. 1839. Krauss, n. 209.

From the foregoing species, this, which resembles it in habit, is perfectly distinct by narrower and minutely] serrated (not obtusely dentate) leaves, by only half as large flowers, and by quite differently shaped alabastra, resembling those of a *Xylopi*a, whereas in *G. occidentalis* they are almost globose. Of the other Cape species hitherto described, *G. obtusifolia*, Willd. differs from ours in its pubescence; *G. glandulosa*, Vahl, in its acuminate leaves and shorter peduncles; *G. flava*, DC. in the shape of its leaves, its one-flowered peduncles, etc.

MELIACEÆ ?

Aitonia Capensis, Thunb. — In solo argillaceo regionis Karroo (II. c.) Apr. 1839. Krauss.

OxALIDEÆ.

1. *Oxalis tubiflora, Jacq.* DC. prodr. 1. p. 693, n. 39.—In arenosis planitiei Capensis, (III. E. b.) Jun. 1838. Krauss, n. 1153.

2. *O. canescens, Jacq.* DC. 1. c. n. 40.—Cum precedente legit Krauss, n. 1162.

3. *O. hirta*, *lAnn.* DC. 1. c. n. 42.—In pascuis prope Greenpoint, (III. D. b.) Maj. 1838. Krauss, n. 1151. (U^{fl}-itin. n. 594.)

4. *O. hirtetta*, *Jacq.* DC. 1. c. n. 43.—In arenosis planitie Capensis (III. E. b.), Jun. 1838. Krauss, n. 1155.

5. *O. multiflyra*, *Jacq.* DC. I. c. n. 44.—Cum pcedente. Krauss, n. 1168.

6. *O. incarnata*, *Linn.* DC. 1. c. n. 49.—In graminosis prope Constantiam (III. D. b.) Sept. 1838. Krauss n. H^{49#}

7. *O. venosa*, *Sav.* DC. 1. c. n. 51.—In arenosis plan. Cap-Jun. 1838. Hb. Krauss.

8. *O. sericea*, *Linn.fil.* DC. 1. c. n. 59.—In solo argillaceo prope Tulbagh (IV. B. b.) Maj. 1838. Krauss, n. 1154.

9. *O. phellandrioides*, *E. Meyer*, in pi. Drege.—Bulbosa, glabra, caue tenello paucifolio, apice 2-3-floro; foliis 3-foli⁰ latis, foliolis profunde bilobis, lobis divaricatis lineari-lanceo⁰ latis obtusis, sepalis lanceolatis acutiusculis, apice glandulosis* corolla brevioribus; staminibus stylisque subcequilongis, caly cem vix superantibus.

In solo argillaceo prope Paardeberg (III. E. b.) Maj. 1838< Krauss, n. 1159.

A very tender plant, 4-6 inches high, closely allied to *O* caprina*, Linn., which differs in being stemless, and in having obcordate leaflets. The leaflets are three times shorter tha^{*1} the petiole, scarcely 3-4 lines long, the lobes not quite one line in breadth, straightly diverging in nearly a right angle and separated from each other for more than half their length—Pedicels of the umbella twice or thrice as long as the (erect) flower which, in size, shape, and calyx, resembles that of *O. incarnata*. Petals violet.

10. *O. compreua*, *Jacq.* DC. 1. c. n. 63.—In arenosis prope Riet Valley (III. E. b.) Jun. 1838. Krauss, n. 1143.

11. *O. stenophylla*, *nob.*—Bulbosa, subacaulis, glabra? foliis simplicibus, linearibus, obtusiusculis, petiolatis; scapis 1-floris, folia superantibus, ebracteolatis; floribus erectis \ calyce corolla quintuplo brevior, 5-partita, laciniis lanceolatis

acutis eglandulosis, staminibus altioribus, calycem breviora stylosque subaequantem duplo superantibus.

In solo argillaceo prope Tulbagh (IV. B. b.) Maj. 1838. Krauss, n. 1160.

A remarkable species, belonging to the group of *O. monophyUa* Jacq., but quite distinct from all the species hitherto described. The whole plant is more or less covered with minute capitate hairs, which, however, may possibly be a mucor rather than a real pubescence. Bulb ovate, of the size of a middling cherry, clothed with lacerated thin membranes, beneath which appears a thick irregular netting of fibres; from its pointed, pyramidal top arises a thin stem, scarcely longer than 3-5 lines, bearing at the extremity two or three small roundish membranaceous scales, from the axils of which spring about half a dozen erect leaves and nearly as many peduncles. Leaves (including the petiole which is never longer than 4-5 lines) about 1½ inch long, their lamina not above one line broad, and connected with the filiform petiole by an almost obsolete articulation, flat, of a thin herbaceous texture, attenuated at both ends, showing one faint middle nerve, and bearing no gland at the obtuse apex. Peduncles filiform, 2-2½ inches long, erect, without any trace of bracteoles. Flowers twice the size of those of *O. acetosella*; calyx funnel-shaped ^ 2 lines long, of a dark purplish-brown, divided below the middle into 5 acute equal lobes of two-thirds of a line in breadth, without a gland at their top; tube of the corolla funnel-shaped, about twice as long as the calyx, pale yellow ? limb spreading, pale violet (lilac), lobes rounded. Styles a little longer than the calyx and the shorter stamens.

12. *O. arcuata*, Jacq. DC. prodr, 1. p. 698, n. 96.—In solo argillaceo prope urbem Capstadt (III. E. b.) Maj. 1838. Krauss, n. 1161.

13. *O. speciosa*, Willd. DC. l. c, n. 107.—In solo argillaceo prope Tulbagh (IV. B. b.) Maj. 1838. Krauss, n. 1147. (ex parte.)

14. *O. purpurea*, Willd. DC, 1. c, n. 109.—Cum preeced. 1. Krauss, n. 1147. (ex parte.)

15. *O. convexula*, Jacq. DC. I.e., n. 116.—Cum priced Herb. Krauss. propr.
16. *O. humilis*, Thunb. DC. 1. c, n. 111.—In arenosi* planitiei Capensis (III. E. b.) Jun. 1838. Krauss, n. 1166.
17. *O. punctata*, IAnn. fil. DC. 1. c., n. 113. In pascuis circa Tulbagh (IV. B. b.) Maj. 1838. Herb. Krauss. propr.
18. *O. obtusa*, Jacq. DC. 1. c, n. 117. Eckl. et Zeyh. enum. p. 93. (ex cit. specim. Un. itin. n. 587.)—Locis argillaceis circa urbem Capstadt (III. E. b.) Jul. 1838. Krauss, n. 1152.
19. *O. lanata*, Jacq. DC. 1. c, n. 118.—Cum prsecedente. Krauss, n. 1146.
20. *O. tenetta*, Jacq. DC. 1. c, n. 125.—Cum ppreced. Krauss, n. 1149.
21. *O. filicauli* Sy Jacq. DC. 1. c, n. 129.—In arenosis prope Riet Valley (IV. B. b., Jun. 1838. Herb. Krauss propr.
22. *O. cuneata*, Jacq. DC. 1. c, n. 131.—Ad latera montis Leuwenberg (III. D. b.) Jul. 1838, Krauss, n. 1150.
23. *O. cuneifolia*, Jacq. DC. 1. c, n. 132.—In pascuis prope Tulbagh (IV. B. b.) Maj. 1838. Krauss, n. 1156.
24. *O. pusilla*, Jacq. DC. 1. c, n. 133 ? (non E. Mey. i¹ plant. Dreg.)—In arenosis plan. Cap. (III. E. b.) Maj. 1838—Krauss, h. 1157.
25. *O. linearis*, Jacq. DC. 1. c, n. 134.—In pascuis prop⁶ Tulbagh (IV. B. b.) Jun. 1138. Krauss, n. 1158.—Proxima, *O. Hmbatte*, E. Mey. in pi. Dreg, quae non nisi calyis lobis brevioribus haud acuminatis differre videtur.
26. *O. minuta*, Jacq. DC. 1. c., n. 138.—In arenosis planitiei Capensis (III. E. b.) Jun. 1838. Krauss, n. 1167.
27. *O. glabra*, Thunb. DC. 1. c, n. 139.—Cum ppreced. Krauss, n. 1163 et 1164.
28. *O. tenuifolia*, Jacq. DC. 1. c, n. 142.—Ad latera montis Tafelberg, alt. 2009 (III. A, e.) Jul. 1838. Krauss, n. 1145.
29. *O. polyphylla*, Jacq. DC. 1. c, n, 143.—Cum praecedente, altit. 1000, legit Dr. Krauss, n. 1165.
30. *O. longifolia*, nob.; foliolis elongatis diyaricatissimis, caule gracillimo elatiore.

Ad latera montium prope urbem Capstadt (III. E, b.) Jul. 1838. Krauss, n. 1144.

A remarkable variety, if not a distinct species, growing up to the height of more than a foot, and bearing at the summit of the filiform stem, one single fascicle of 6-8 leaves, and one single-flowered peduncle, of about double the length; leaflets 12-16 lines long) • twice' as long as those of the common form) scarcely half a line in breadth, all of them shortly hooked at the point; petiole almost capillary, sometimes as long as the leaflets, sometimes much shorter. The flowers are exactly as in Sieber's specimens of *O. polyphylla* (Fl. Mixta, n. 34), considerably smaller than in Drège's plant and the sepals narrower than in Krauss's n. 1165.

30. *O. pectinata*, Jacq. DC. 1. c. n. 150 (ex. ic. Burm. Afr. t. 30, f. 1, a Candollo cum ? hue citata, cum planta nostra bene congrua.)—In pascuis prope Tulbagh (IV. B, b.) Maj. 1838. Herb. Krauss, propr.

ZYGOPHYLLE^E.

1. *Zygophyllum foetidum*, Schrad. et Windh DC. prodr. 1, p. 705, n. 4.—in solo argillaceo prope urbem Capstadt (III. E, b.) Aug. 1838. Hb. Krauss, propr.

2. *Z. Morgsana*, Linn. DC. 1. c. n. 10.—In solo argillaceo prope Uitenhage (IV. C, c.) Maj. 1839. Krauss, n. 1222.

3. *Z. Lichtensteinianum*, Chamisso in Linnaea 5, p. 47.—Ad litus in sinu Kampsbaay (III. D, b.) Maj. 1838. Krauss, n. 1220.

4. *Z. sessilifolium*, Linn. DC. 1. c. n. 11. E. Meyer, in pi. Drège.—In solo argillaceo prope Uitenhage (IV. C. c.) Apr. 1839. Krauss, n. 1221.

5. *Z. debUe*, Chamisso 1. c. p. 45.—Prope urbem Capstadt (III. D, b.) Jul. 1838. Krauss, n. 1219.

6. *Z. spinomm*, Linn. DC. 1. c. n. 12. E. Mey. in pi. Drège. In arenosis planitiei -Capensis (III. E, b.) Jun. 1838. Krauss, n. 1218.

7. *Tribulus terrestris*, L. —In arenosis prope Zwarteveley, distr. George (IV, C, b.) Febr 1839. Krauss, n. 847.

OCHNACEÆ.

Diporidium Natalitium, nob.—Glaberrimum; foliis oblongis acutis serratis; racemis ramulos terminantibus, brevissimis* umbelliformibus, paucifloris; sepalis ovatis acutis, stamina superantibus.

Ad sylvarum margines prope Port Natal (V, c.) Aug. 1839. Krauss n. 454.

This species differs from *D. atropurpureum* and *arborburn*, Wendl., especially in the form and size of its leaves, and from *D. Delagoense*, Eckl. et Zeyh. enurn. p. 118, in its racemose (not solitary) pedicels.—Branches numerous, semi-patent, almost straight, with a greyish bark, rough from small wrinkles and numerous minute warts. Leaves 2-2½ inches long (including the petiole, which is 1-2 l. long), 9-11 lines broad, attenuated at both ends, rather equally serrated along the whole margin; serratures about one line distant from each other, with a short, adpressed, more or less caducous point; veins faintly prominent on the upper surface, scarcely visible underneath. Inflorescence terminal on axillary branches, which rarely attain the length of one inch, and usually bear one small leaf; pedicels 4-8 lines long, originating so near one another, from a common peduncle of scarcely 2-3 lines length, that the inflorescence looks more like an umbel than a raceme; their articulation is 1-2 lines above the base, and their inferior portion persistent. Flower-buds globose, of the size of a pepper-corn. Sepals nearly equal, 3 lines long, 1 l. broad, of a livid brownish-green. Petals longer than the sepals, of a rich yellow (injured by insects in our specimens). Anthers oblong, 1 line long, obliquely truncate, with two very conspicuous oblong pores; filaments shorter than the style. Ovary 8-lobed.

RHAMNÆÆ.

Phylica (Eriophylica) gnidioides, Eckl et Zeyh. en. p. 135.—Inter rupes ad collium latera pagi Langekloof, distr. George (IV. B, c.) Mart. 1839. Krauss n. 753.

A pretty shrub, looking much more like some species of

Gnidium (among which, indeed, it has been sent to us) than like other *Phylicas*. Ecklon's diagnose is very good. The leaves are generally opposite, sometimes, however, verticillate, or, especially on the young (tomentose) branchlets, alternate, 8 lines long, with a very short, but distinct, pubescent petiole, in form and size resembling those of *Erica earner* only they are a little thicker. The flowers, coloured like those of *Soulangia rubra*, are 4 lines long, perfectly sessile, and collected in considerable number into terminal heads or clusters, of the size of a cherry. They are surrounded at the base by an irregular involucre, composed of ordinary, but smaller, leaves. The tomentum, with which the whole outside of the calyx is covered, is white, woolly rather than silky (as termed by Ecklon,) almost without lustre; tube of the calyx cylindrical, slightly funnel-shaped; limb erect, divided into five narrow scarcely acute lobes, of one line in length, smooth and reddish inside; petals minute, squamiform, cucullate, covering the anthers, dark-coloured (brown or purple?); style equal to the calycine lobes, stigma obtuse.

BRUNIACEÆ.

Brunia microphytta, *Thumb.* FL Cap. p. 207, DC. prodr. 2, p. 44, n. 15.—Inter rupes in summitate montium Baviaansk-loof, alt. 3000 (IV. B, b.) Dec. 1838. Krauss n. 778.

Our plant (which was also sent us as a *Thymel&d*) might almost as well be taken for *B. phylloides*, *Thunb.*, which differs only in villose leaves, and capitula of the size of a pea. The young leaves are slightly, but distinctly, villose on the back, and strongly ciliated on the margin. Perhaps, therefore, the two species ought to be united. We must further observe, that they belong to the genus *Brunia*, not to *Raspalia*, to which they are referred by Brongniart and Ecklon (enum. p. 100) the ovary being, according to our reiterated examination, adherent to the calyx, with its inferior portion.—*Raspalia teres*, E. Mey. in *Plant. Drèg.* is very like our plant, and perhaps not distinct.

LEGUMINOSÆ.*

1. *Calpurnia lasiogyne*, E. Meyer ! Comm. PL Afr. 1, p» 3*
In sylvis circa port Natal (V. c.) Jul. 1839, Krauss n. 325.

2. *Cyclopia latifolia*, DC. prodr. 2, p. 101, n. 3. E. Meyer
Comm. p. 3. Benth. in Annalen des Wiener Mus. 2, p. *7*
Ad latera mont. Baviaanskloof, alt. 1000' (IV. B. b.) Dec
1838. Krauss n. 934.

3. *C. genistoides*, It. Br. DC. 1. c. n. 1. Benth. 1. c. (non E-
Mey.) *C. galioides*, E. Meyer! 1. c. p. 4. (non DC.) Ad

* It has been generally and justly regretted that the numerous new ~~Legu-~~
minosa discovered by Drège, Ecklon and Zeyher, have been described ~~and~~
published, nearly at the same time, in two separate works: "*Erncsti H. F**
Meyer Commentariorwm de Plantis Africa Australioris, Vol. I., fasc. 1, Lip\$&i&»
1835," and ** *Ecklon et Zeyher Enumeratio Plant arum Africa Australis extra-*
tropica, Pars II., Jan. 1836 ;" from which circumstance unavoidably resulted
the serious inconvenience that a great number of identical species figure in each
of these works under different names. To point out those which are synonyms.
Dr. Walpers has taken the pains of comparitig Drège's plants with those of
Ecklon contained in the Royal Herbarium of Berlin (see his paper in the Lin-
naea, vol. 13, p. 449, seq.); but unfortunately he has only increased the mass of
unnecessary synonyms, having—contrary to the established rule and principle
—adjudged the priority to *EcklorCs* names, under the arbitrary pretext that,
although the first part of Meyer's Commentaries bear upon the title-page the
date of 1835, they were published *' several months" *later* than Ecklon's
Enum. pars II., which is dated January 1836. We have no means for ascer-
taining whether this be exactly true, and, if so, for what cause or reason Dr.
Meyer's work bears an earlier date; nor is this of the least importance, since,
according to the generally adopted law (see De Candolle, the*or. Ulri., ed. 2, p»
282, art. 6) with which we perfectly agree, *the right of priority must depend*
upon the date printed on the title-page: and therefore we feel ourselves bound
to retain Dr. Meyer's names, his work being dated prior to that of Eckloo.
Moreover, in a case of this nature, where two books have been published on
the same subject nearly at the same time, the intrinsic value of the works
ought to be taken into account, adjudging the preference to that in which the
subject has been most scientifically treated. We cannot conclude these remarks
without expressing our surprise at the manner in which Dr. Walpers speaks on
the matter (1. c. p. 451), tending to raise suspicion agaiost the candour of Dr.
Meyer; a behaviour, the injustice of which has already been shown by Prof.
von Schlechtendal (Linnaja, vol. 14, p. 706); but which, though offending to the
feelings of every one who is acquainted with Dr. Meyer's real character, will,
we trust, do less harm to the latter than to the credit of its own author.

latera mont. Steenberge (III. D, b.) Sept. 1838. Krauss, n. 933.

4. *C. sessiliflora*, E. Mey.! 1. c. p. 4, Benth. 1. c. (non Eckl. et Zeyh.) *C. Meyeriana*, Walpers in *Linnaea* 13, p. 454. Ad latera mont. Gnadenthalberg, alt. 2000' (IV. A.) Dec. 1838, Krauss, n. 885.

5. *Podalyria sericea*, R.Br. DC. 1. c. p. 101, n. 3, E. Mey., Comm. p. 5. Ad latera mont. Leuwenberg et Tafelberg, alt. 1000' (HI. D. b.) Jul. 1838. Krauss, n. 869 et 870. Several specimens, which differ in some degree in having the lobes of the calyx a little broader and shorter, and the sinus between them acute, instead of rounded, may perhaps belong to *P. patens*, Eckl. et Zeyh. Enum. p. 159, which, according to Dr. Walpers (1. c. p. 458) is a mere variety of *P. sericea*.

6. *P. cuneifolia*, Vent. DC. 1. c, n. 4. Mey.! 1. c. p. 5. In uliginosis planitiei Capensis (III. E. b.) Sept. 1838. Krauss, n. 871.

7. *P. biflora*, Lam. a, E. Mey. 1. c. p. 6. *P. argentea*, Salisb. DC. 1. c. n. 9. Ad latus occidentale montis Tygerberg (III. D, a.) Nov. 1838. Krauss, n. 868.

8. *P. buocifolia*, Lam. E. Mey.! 1. c. p. 7- (haud Willd., Walpers, 1. c. p. 458.) *P. glauca*, DC. (cfr. Walp. 1. c. p. 459) Ad sylvarum margines in Outeniqua (IV. C. b.) Jan. 1839. Krauss, n. 867* Like many other Cape plants, this varies in the colour of its pubescence, sometimes pale yellow or whitish, and sometimes quite brown.

9. *P. hamata*, E. Meyer in *Linnaea* 7>p- 146?—Ad latera montium in Outeniqua (IV. C. b.) Mart. 1839. Krauss, n. 866. Dr. Walpers (1. c. p. 458) considers this species as a variety of *P. sericea*, R. Br., from which our specimens, which answer well the diagnose, are widely different, having flowers double the size, quite differently shaped leaves, and, except on the young foliage, a scarcely silky pubescence. We are much more inclined towards Mr. Bentham's opinion, who unites it with *P. hirsuta* Willd., which, according to the diagnose (DC. prodr. II.. p. 101, n. 2) we cannot distinguish from our plant; but *P. argentea*, Salisb. which is considered

as identical with *P. Mrsuta Willd.* by Dr. Walpers (Linnæa 13, p. 457,) and to which Mr. Bentham refers *P. hamata* (Ann. Wien. Mus. 2, p. 68) is also quite distinct from our plant in having much longer and often two-flowered peduncles, and much smaller flowers and leaves. Among Drège's plants we have seen no species with which our plant agrees. From *P. BurcheUU, DC.* 1. c. n. 1, which it seems to approach closely, especially by its very short peduncles, it differs in the form of the leaves, which are ovate or oval, (6-8 lines long, by 4-5 lin. in breadth) with a short recurved point, tomentoso-villose, and not reticulated on the inferior surface, adpresso-villose on the upper side which at last becomes almost glabrous. Pedicels one line long; flowers as large as in *P. calyptrata*; calyx villous, or almost hirsute, with light brown silky hairs, intruso-truncate at the base, five-cleft to below the middle; lobes lanceolate acute, nearly as long as the carina and alas, the two upper less deeply divided. Corolla deep purple, the vexillum on the outside slightly pubescent towards the base. The pubescence of the young leaves is silky and golden or fulvous like that of the calyx; on the old foliage it is grey and scarcely shining.

10. *P. orbicularis*, *E. Meyer*, comment, p. 8.—Ad latera montium Baviaanskloof (IV. B. b.) Dec. 1838. Hb. Krauss, propr. Folia valde coriacea, juniora utrinque sericeo-villosa. Pedunculi et calyx pube brevioris subtomentosi. Legumina turgida, pollicaria, pilis patentibus visosissima. This species is very near the preceding, and *P. hirsuta* Willd., but differs in having longer pedicels.

11. *Pcalyptrata* ; *WiUd.* *E. Mey.*! comm. p. 30. Secus nvulos ad latus occidentale montis Tafdberg, alt. 1000' (III. D. b.) Jul. 1338. Krauss, n. 872.

12. *Rafnia cuneifolia*, *Thunb.* DC. prodr o n n« „ s
Klein

13. *R. triflora* *Thunb.* DC. l. c. n. 4. *E. Mey.*! l. c.—Inter frutices prope Constantiam (III. E. b.) Sept. 1838. Krauss, n. 931.

14. *R. angulata*, Thunb. DC. 1. c. n. 9, E. Mey. 1. c. p. 13.—
In arenosis planitie Capensis (III. E. b.) Nov. 1838. Krauss,
n. 913-

15. *R. (Vascoa) perfoliata*, DC. 1. c. p. 119, n. 2, E. Mey. 1-
c. p. 15.—Inter lapides ad latera mont. Houwhoek, Zwel-
lendam (IV., B. b.) Dec. 1838. Krauss, n. 922.

16. *Borbonia trinervia*, Linn. DC. 1. c. p. 120, n. 2, E. Mey.
1. c. p. 15.—In solo lapidoso arenoso prope Klein Rivier (A.*
B. b.) Dec. 1838. Krauss, n. 916. Our specimen has the
uppermost leaves ciliated with scarce and rather long hairs,
and approaches therein to *B. barbata* Lam.; which, however,
differs in having all the leaves lined with dense and shorter
cilia, and in its sessile flowers.

17. *B. lanceolata* Linn. DC. 1. c. n. 3, E. Mey. 1. c. 16.—
In collibus prope Knysna Rivier, distr. George (IV. b.) Jan.
1839. Krauss, n. 915. In our specimens the flowers are a
very little larger than in Drège's, which in all other points
are exactly the same.

18. *JB. cortlata*, Linn. DC. 1. c. n. 4, E. Mey. 1. c. p. 16.—
In arenosis planitie Capensis (III. E. b.) Sept. 1838.
Krauss, n. 936.

19. *Liparia spherica*, Linn. DC. prodr. 2 p. 121; E.
Meyer! comm. p. 17.—Ramis glabris, superne costato-angu-
latis; foliis erectis, lanceolato-oblongis, apice attenuatis
mucronato-acutis, basi obtusis 5-7 nerviis, nervis lateralibus
v. omnibus tenuibus; bracteis eciliatis, exterioribus ovalibus,
interioribus oblongis; calyce glabro, lobis superioribus cilia-
tis, inferiore eciliato.

In solo argillaceo ad latera montis Tafelberg (III. D. b.)
Sept. 1838, Krauss, n. 937.

20. *L. crassinervia*, nob.—Ramis puberulis (demum gla-
bratis) cicatrisato-dentatis; foliis patentibus v. deflexis,
ovatis v. ovali-oblongis, brevissime acuminato-mucronatis,
basi leviter cordatis 3-5-nerviis, nervis crassiusculis; bracteis
ciliatis, exterioribus suborbiculatis, interioribus oblongis
flores subaequantibus; calyce extus ubique pilosiusculo, lobis
omnibus ciliatis.

In turfaceis arenosis Uitershoek (III. A. e.) Sept. 1838-Herb. Krauss, propr. This is perhaps *L. parva*, Vogel (Linnaea 13, p. 468) which, however, seems to differ "caule gracili, foliis acuminatis 3-nerviis, 3 lineas latis," and especially "bracteis acuminatis;" whereas our plant has rather strong and stiff branches, broader leaves, (4-5 lin. in breadth, by 6-8 in length) which are rather mucronate than acuminate, and even sometimes quite obtuse, and not at all acuminate bracts. From *L. sphaerica*, besides the differences shown in the above diagnose, it will be at once distinguished by its capitulum and flowers, which are only half as large.

21. *Priestleya (Isothea) Ursula*, DC. prodr. 2, p. 121, ^{n*}
2. (E. Mey. comm. p. 17.—In colibus prope Knysna Rivier, distr. George (IV. b.) Jan. 1839. Krauss, n. 914.

a. *trinervia*, nob.—foliis ovali-oblongis manifeste 3-nerviis.

β. *subnervia*, nob.—foliis lanceolatis, subnerviis v. obsolete 1-3 nerviis, junioribus longe ciliatis.

Both forms were gathered promiscuously by Dr. Krauss 5 to the first a. belong Drège's specimens and De Candolle's plant; the latter (*fi.*) looks very much like *P. cephalotes*, E. Mey., which, however, essentially differs in the obtuse calycine lobes.

22. *Priestleya (Anisothea) lanceolata*, E. Mey. in Linnsca 7, p. 150.—*Xiphotheca lanceolata*, Eckl. et Zeyh. Enum. p. 1. >7.—Ad radicem montis Duyvelsberg (III. A. e.) Jun. 1838. Krauss, n. 825.

23. *P. (Anisothea) villosa*, DC. prodr. 2, p. 122, n. 11. E. Mey. comm. p. 19.—*Xiphotheca villosa*, Eckl. et Zeyh. 1. c. p. 166.—Ad latera mont. Tafelberg, alt. 1000-2000 (III. A. e.) Sept. 1838. Krauss, n. 826.—Our plant differs from Meyer's diagnose in having the lobes of the calyx longer (instead of shorter) than the tube.

24. *P. (Anisothea) axillaris*, DC. 1. c. n. 9. (non E. Meyer.)—*Xiphotheca axillaris*, Eckl. et Zeyh. 1. c.—In lapidosis ad latera mont. Duyvelsberg, alt. 1000 (III. A. e.) Jul. Sept. 1838. Krauss, n. 824. The flowers are not always solitary, as stated by De Candolle.

25. *P. {Amisothea} Meyeri, nob.*—*P. axillaris*, E. Mey. comm. p. 20 (non. DC.)—Inter lapides ad latera montis Tafelberg, alt. 2500 (III. A. e.) Mart. 1840. Krauss, n. 864.—A very elegant shrub, certainly distinct from De Candolle's *P. awillaris*, as Dr. Meyer already suspected, and therefore we are obliged to change the name.

26. *Amphithalea densa*, Eckl. et Zeyh. Enum. p. 167 (excl. syn. ?)—In montibus Outeniqua, distr. Uitenhage, alt. 1000 (IV. C. c.) Mart. 1839. Krauss, No. 865.—To this species Ecklon refers "*P. elliptica*, E. Mey. in Linnæa 7? p. 150, non DC.!" though Meyer quotes DC. mem. legura. t. 33, as belonging to his plant. Ours is certainly quite different from De Candolle's *P. elliptica*, having the flowers scattered in the axils of the superior leaves, or sometimes near the top of very short branchlets, but always solitary, never truly terminal nor collected in 5-6-flowered umbels or heads. Flowers purplish, quite of the same structure as in *A. ericifolia*, but smaller. Leaves very crowded, rather patent, silky on both sides, oval, 3 lines long, 2 lines broad. *Lathriogyna candicans*, Eckl. et Zeyh. agrees with our plant both in generic and specific characters, except in having yellow flowers and calloso-mucronate leaves. *Ingenhoussia rosea*, E. Mey. comm. p. 153, which is referred to *A. densa* by Dr. Walpers (Linnaea 13, p. 471), does not appear to us to belong to it; from our plant at least it is widely different in its inflorescence.

27. *A. ericifolia*, Eckl. et Zeyh. 1. c. p. 169, Walp. 1. c. p. 471.—*Priestleya ericifolia*, DC. prodr. 2 p. 122, n. 7—*Ingenhoussia ericifolia*, E. Mey. comm. p. 21.—Ad latera montis Paarl'sche Berg. alt. 1000 (III. A. e.) Jul. 1838. Krauss, n. 822.

28. *A. Kraussiana, nob.*—Ramis gracilibus, subsimplicibus, strictis; foliis patulis, linearibus, mucronato-acutis, margine revolutis, supra glabris nitidis, subtus adpresso sericeo-pilosis; floribus in summis axillis subfasciculatis, basi fracteolatis, fasciculis in spicam confertam approximatis.

Inter rupes ad latus occidentale montis Duyvclsberg (III. A. e.) Jun. 1838. Krauss, n. 823.

This is very near *A. ericafolia*, especially as to the inflorescence, but it is certainly and essentially distinct in its much less crowded, narrower (almost acerose) leaves and almost twice as large flowers, which at the base of the spike ⁱⁿ fascicles or very short corymbs of 6-8 blossoms borne on a peduncle of 1-2 lines in length, and in the higher axils ^{are} aggregated by 2 or 3 only and almost sessile. The calyx ^{is} 2-2½ lines long (only \ shorter than the corolla) and covered with a canescent slightly silky pubescence; its 3 inferior lobes are narrow and acute, 1 line long. The colour and structure of the flowers are quite as in *A* erictefolia*, but the pubescence of the branches longer, more pilose and silky? not minute and tomentose as in that species. Our plant might be taken for *A. incurvifolia*, Eckl. et Zeyh.; but this having been found by Dr. Walpers, who has seen authentic specimens, to be merely De Candolle's var. /3. of *A. ericafolto* with which our plant never can be united or confounded, we must still consider it as distinct. Nor can we think it identical with *A. virgata*, Eckl. et Zeyh. 1. c. p. 169 (*Indigofera aocillaris*, E. Mey. in Linnsea 7, p- 166, fide Ecklon), which seems to have quite the same foliage, but is said by Ecklon to have the flowers terminal, geminate or in fascicles of 3 to 5 (a character, perhaps, inaccurately expressed), and filiform short branches; whereas E. Meyer says, of his *Indigofera axillaris*, " floribus axillaribus solitariis,"

29. *Hallia angustifolia*, DC. prodr. 2, p. 123, E. Mey. comm. p. 82.—In arenosis planitie Capensis (III. E. b.) Nov. 1838. Krauss, n. 848.—Dr. Walpers (Linnsea 13, p. 511) unites this to *H. virgata*, Thunb., though, apparently, without having seen authentic specimens of the latter, which, according to the description (Pl. Cap. p. 593) seems to be really distinct in its shorter peduncles and in its stipules being only of the length of the petiole. Our plant, at least differs in these points from // *. virgata*, whereas it exactly coincides with ff. *angustifolia*, DC.

30. *Crotalaria Cqpenis*, Jacq. H. Vindob. 3, t. 64, E. Mey. comm. p. 23.—*C. arborescens*, Lam. DC. prodr. 2, p. ISO.—Ad latera collium prope flum. Umgeni, Port Natal (V. a), Nov. 1839. Krauss, n. 122.

C. obscura, E. Meyer, 1. c.—Ad sylvarum margines prope Knysna Rivier, distr. George (IV. b.) Febr. 1839. Krauss, No. 924.

31. *C. globifera*, E. Mey. comm. p. 24.—In radicibus montium Tafelberg, Port Natal, alt. 1000-1500 ped. (V. c.) Aug., Sept. Oct. 1839. Krauss, n. 341 et 440.—Our plant differs somewhat from Drege's in having a thicker raceme and an angulate rachis, nor are the leaves exstipulate, and the leaflets longer than the petiole, as stated in Meyer's diagnose; nevertheless we have no doubt of its belonging to the same species. It much resembles *Dichilus strictus* E. Mey. which, however, will be readily distinguished by its carina being almost straight and without a beak.

32. *Crotalaria lanceolata*, E. Mey. comm. p. 24.—In graminosis prope flum. Umlaas, Port Natal (V. a), Nov. 1839. Krauss, n. 107 et 469.

33. *C. Natalitia*, nob.—Fruticosa, ramis foliisque adpresse pilosiusculis; stipulis falcato-lanceolatis, acutis, patulis, petiolo parum brevioribus\ foliolis ternis subsessilibus petiolo subsequialibus, cuneato-oblongis, emarginatis, submucronatis, intermedio paulo longiore; racemis terminalibus paucifloris, floribus glabris; calycis dentibus subfalcatis, acutis, tubum latum requantibus; carina breviter et obtuse acuminata superne villosa; legumine glabro, stipitato, turgido, brevirostri, polyspermo.

Ad sylvarum margines prope flum. Umlaas, Port Natal, (V. c), Oct. 1839. Krauss, n. 339.

This seems to be very near *C. coluteoides*, Lam. diet. 2, p. 200. DC. prodr. 2, p. 131, n. 88, which, however, to judge from the description and from the figure quoted by De Candolle (Pluk. t. 185, f. 3), is distinguished by the leaflets being shorter than the petiole and attenuato-acute, and especially by the calyx having its upper lip subtruncato-bifid and the teeth of the inferior lip short and divaricate; whereas in

our plant the 5 lobes of the wide cup-shaped calyx are almost of equal length (1 lin.), lanceolate and acute. Raceme without bracts, 8-12 flowered, pedicels 3-5 lines long. Flowers yellow, 6 lines long, vexillum complicated, rounded when expanded, scarcely longer than the alse and carina* with two small pubescent callosities at the base; carina equal to the alse, with a short almost blunt beak, densely bearded with short whitish hairs along the upper margin*. Five longer stamens with linear anthers alternating with five shorter ones with oval anthers. Style longer than the stamens, pubescent at the top, stigma obtuse; ovary glabrous. Legumen, including its stalk (which varies from 1 to 2 lin. in length) 15-17 lines long, with a very short blunt beak, almost cylindrical, and scarcely attenuated at the ends* coriaceous, smooth, without conspicuous veins, suture sharp, though scarcely prominent, the upper one straight. Seeds numerous, oblong. Lateral folioles 4-5 lines long, terminal one about 2 lines longer, all of the same form and breadth (2-3 lines); they are rounded at the extremity and more or less, though never considerably, emarginate, generally with a minute, blunt and recurved mucro, the inferior surface is thinly pilose, the superior (except in the youngest state) quite smooth. Almost every axilla bears two similar but smaller leaves. Stipules 3 lin. long, 1-f 1. broad. Pubescence of the branches and petioles like that of the leaved but more conspicuous.

34. *Stiza psilolobdy* E. Mey. comm. p. 32 ?—Inter frutices prope Uitenhage (IV. C. c), Maj. 1839, Krauss, n. 925. ^ We have not seen either of Meyer's two species of this genus, to which, however, our specimens, though only in fruit, seem to belong, especially as to the peculiar habit, in which they perfectly agree with the description. Dr. Meyer does not mention the narrow wing at the superior margin of the fruit, which our specimens distinctly show, and by which they approach the genus *Lebeckia*. The latter, however, as well as *Rafnia* and *Pelecynthis*, which have a similar fruit, are quite different in habit.

35. *Sarcophyllum carnosum*, Thunb. DC. prodr. 2, p. *37>

E. Mey. comm. p. 32.—Ad radices montium prope Gnaden*
thai (IV. A.) Dec. 1838. Krauss, n. 921.—Inter frutices
in arenosis planitie Capensis, Ecklon. Un. itin. No. 676
(which Ecklon quite wrongly refers to *Lebeckia contarninata*,
Enum.p. 192.)

36. *Aspalathus Kraussiana*, nob.; foliis 3-foliolatis, petiolo
ad tuberculum reducto, foliolis subfalcato-lanceolatis, acutis,
planis, coriaceis, nervosis, glabris, summis conformibus dorso
margineque pilosis; capitulis terminalibus, sessilibus, involu-
cro proprio nullo; calycis villosi dentibus subsequialibus,
linearibus, acutis, tubo sublongioribus, dimidiani corollam
superantibus; vexillo, alarum apice carinaque extus pubes-
centibus.

In solo lapidoso-arenoso prope Klein Rivier, distr. Zwellendam (IV. B. b.), Dec. 1838. Krauss, n. 821.

This species, at first sight, resembles very much *A. involu-
crata*, E. Meyer, comm. p. 38, which, however, differs in its
broad bracts forming an involucre around the flower-head.
A. venosa, E. Mey. 1. c. p. 39, is also nearly related, but has
quite different leaves. *A. rugosa*, Thunb. Pl. Cap. p. 574,
seems to differ by "foliis vix unguicularibus ellipticis, flori-
bus terminalibus umbellatis subternis albicantibus," but it may
be inaccurately described, and still, perhaps, belong to either
of the species just mentioned. Our plant has rather straggling,
black and pubescent branches, dividing at the top into a few
short umbellate twigs of a pale brownish colour. The leaves
might almost be called simple and fasciated, from the nearly
total absence of a petiole, which, indeed, is reduced to a mere
tubercle (pulvinus), but they are truly and constantly 3-folio-
late; leaflets 6-7 lines long, 1-2 line broad, obliquely lanceolate
or cultriform (one margin being straight, or falcate), of equal
length, marked with one conspicuous middle nerve and two
lateral often indistinct and nearly marginal nerves. The
uppermost (likewise 3-foliate) leaves, which immediately sur-
round the capitulum, differ in nothing from those just de-
scribed, except in being not quite so cartilaginous, in their

ciliated margins and slightly pilose back. At the base of the flowers, which are yellow and 5-6 lines long, there are small narrow lanceolate foliaceous bracteees.

37. *A. cytisoides*, Lam. (1753) > DC. prodr. 2, p. 143, n. 75-E. Mey.! comra, p. 39.—*A. cinerea*, Thunb. (1794.) Ecklon et Zeyh.! enum. p. 198, (Walpers in Linnsea 13, p. 483.)—In graminosis ad latera mont. Gnadenthalberg, Zwellendam. (IV, A.) Dec. 1838. Krauss, n.884.

38. *A. anthyttoides*, Linn. DC. 1. c. p. 142, n. 67. E. Mey.! comm. p. 39. Walp. 1. c. p. 483.—In solo lapidoso-arenoso prope Klein Rivier, Zwelleiidam (IV, B, b.) Dec. 1838. Krauss, n. 878.

39. *A. heterophylla*, Linn. fil. DC. 1. c. n. 58. E. Mey.! comm. p. 40. Walp. 1. c. p. 481.—In arenosis planitiei Capensis (III,E. b.) Nov. 1838. Krauss, n. 923,

40. *A. argentea*, Linn, (non Thunb. nee DC, nee Eckl. et Zeyh. Cfr. Walpers in Linnsea 13, p. 485.)

43. *glabriuscula*, E. Mey.! comm. p. 43.—In solo lapidoso-arenoso montium prope Klein Rivier, Zwellendam (IV, B. b.) Dec. 1838. Krauss, n. 879.

41. *Am callosa*, Linn. DC. 1. c. n. 70. E. Mey.! comm. p. 45.—Cum pnedente (altit.] 000-2000*!), legit Dr. Krauss, n. 882.

42. *A. laricifolia*, Lam. DC. 1. c. p, 138j Hi 5i (non Berg.) —Inter lapides ad radices montium Winterhoek, Outeniqua (IV, C. c), Apr. Maj. 1839. Krauss, n. 876.—*A. hystrix* L. Lam. 111. t. 620, f. 1, has quite the appearance of our plant, but with silky leaves. *A. verrucosa*, Thunb, also approaches it closely, but, according to Drège's specimens, differs in its elongated racemes and shorter lobes of the calyx.

43. *A. laricina*, DC. 1. c. p. 141, n. 44.- ^ . *laricifolia*, Berg., Thunb., E. Mey. comm. p. 49. (non Lam.) - I n solo argillaceo prope Gauritz Rivier, Zwellendam (IV, C. a.) Jan. 1839. Krauss, n. 892.—Our specimens differ from Bergius's very good description only in having glabrous flowers.- *A. galioides*, Berg. E. Mey. p. 48, is a very nearly allied spe-

cies, but distinct, according to Drège's specimens, in the sub-terminal flowers, and linear-lanceolate divisions of the calyx, etc.

44. *A. galeata*, *E. Mey.* comm. p. 49.—In solo lapidoso-arenoso montium prope Klein Rivier, Zwellendam (IV, B. b.) Dec. 1838. Krauss, n. 877. From *A. triquetra*, Thunb. which has very much the same general appearance, this species is widely different in the calyx.

45. *A. Jilifolia*, *E. Mey.* comm. p. 50. (excl. syn. Cfr. Walp. 1. c. p. 487-)—In arenosis planitiei Capensis (III, E. b.) Nov. 1838. Krauss, n. 891.

46. *A. araneosa*, *Linn. Lamarck I* DC. 1. c. p. 141, n. 48. *E. Mey.!* comm. p. 50.—Ad ripas flum. Baviaanskloof Rivier (IV, R. b.) Dec. 1838. Krauss, n. 883. (also Sieber, Fl. mixt. n. 21) A specimen collected by Baron Ludwig and communicated to us by Dr. Steudel, which we have compared, and found perfectly identical with those in Lamarck's Herbarium, agrees with those gathered by Dr. Krauss.

47. *A. chenopoda** *Linn.* (Breyn. cent. t. 11. bona!) DC. 1. c. p. 138, n. 9. *E. Mey.* comm. p. 50.—Ad latera montis Constantiaberg (III, D. b.) Sept. 1838. Krauss, n. 893.

48. *A. cinerascens*, *E. Mey.!* comm. p. 54.—*A. intermedia* et *chortophila*, Eckl. et Zeyh., fide Walp. in *Linnaea* 13, p. 500.—In summitate montium Winterhoek, Uitenhage (IV, C. c.) Maj. 1839. Krauss, n. 873.

49. *A. spicata*, *Thunb.* DC. 1. c. n. 14. *E. Mey.!* comm. p. 55.—In lapidosis mont. Hottentotts-hollandsberge, alt. 1000'-2000' (III, D. a.) Nov. 1838. Krauss, n. 888. In Leuwenberg, Dec. 1826. Ecklon, Un. itin. n. 3!

50. *A. ericafolia*, *Linn.* DC. 1. c. n. 17. *E. Mey.!* comm. p. 56. Walp. 1. c. p. 495. (non Berg.)—In arenosis planitiei Capensis (III, E. b.) Nov. 1838. Krauss, n. 886 et 1263. In alt. II, mont. Leuwenkop, Ecklon, Un. itin. *J2b!—I have examined the *A. mollis* in Lamarck's herbarium, and could hardly find any difference between it and Ecklon's specimens of *A. ericafolia*, except in its having the lobes of the calyx a

little shorter and the pubescence of the branches somewhat longer.

51. *A. vermiculata*, Lam. I diet. 1, p. 288. DC. 1. c. p-1⁴¹> n. 53. Walp. 1. c. p. 496.—*A. thymifolia*, var. *fi.* E. Mey-comm. p. 57.—*A. microphylla*, Steudel! mss. in Hb. nostro (non DC.)—In solo calcareo-arenoso planitiei Zoetendal's Valey, Caledon (IV, C. a.) Dec. 1838, Krauss, n. 831. Dr. Steudel's plant (from Baron Ludwig), which I have compared with Lamarck's own specimens, is perfectly the same as Dr. Krauss's. The species is quite distinct.

52. *A. spinosa*, Linn. Lam. ill. 620, f. 3! DC. 1. c. p. 136, n. I.E.MeyJ. comm. p. 59. Walp. 1. c. p. 502.—Ad sylvarum margines prope Umlaas Rivier, Port Natal (V, c.) Dec. 1839. Krauss n. 166. In solo argillaceo collium prope Knysna Rivier, George (IV, b.), Febr. 1839, idem, n. 890.

53. *A. corrudatfolia*, Berg. pi. Cap. p. 207. DC. 1. c. 11. 24.—In arenosis circa Kampsbaay (III, D. b.) Aug. 1838. Krauss, Hb. propr.—Our plant agrees in every respect with Bergius's excellent description, except in having the leaves minutely mucronate. The flowers are generally terminal, not axillary as stated by De Candolle, but sometimes they become at last lateral from the prolongation of a branchlet beyond the inflorescence.

54. *A. carnosa*, Linn. Lam. diet. 1. p. 289. (descr. bona!) DC. 1. c. n. 30. E. Mey. comm. p. 60. Walp. 1. c. p. 490.—In arenoso-lapidoso ad latera montium prope Simon's Bay (III, E. b.) Sept. 1838. Krauss, n. 894.

55. *A. elongata*, E. Mey. comm. p. 63 (haud Eckl. et Zeyh.) *A. Dregeana*, Walp. in Linnaea 13, p. 486—In solo argillaceo-arenoso, Langekloof, distr. George (IV, B. c) Krauss n. 889.

56. *A. comosa*, Thunb. DC. 1. c. n. 50. E. Mey. comm. p. 63.—In colibus prope George (IV, C. b.) Jan. 1839. Krauss n. 895.

57. *A. cephalotes*, Thunb. DC. 1. c. n. 50. E. Mey. 1. c.—Ad latera montium Hottentotshollandsberge (III, D. a.) Nov. 1838. Krauss, n. 887.

58. *A. dliaris*, Linn. DC. 1. c. n. 55. E. Mey. 1. c. Walp. [†] c. p. 489.—In arenosis planitie Capensis (III, E. b.) Jan. '839. Krauss, n. 809. Forma foliis glabris, summis tantum ciliatis.

59. *A. nivea*, Thunb. DC. p. 144, n. 83. E. Mey. comm. p. 64—Ad latera collium prope Zwartkopsrivier, Uitenhage (IV, C. c.) Apr. 1839. Krauss, n. 880.—The legumen, which I think has not yet been described, is strongly compressed and like the leaves, silky, of a peculiar oblique ovato-lanceolate form, the inferior suture being almost straight or slightly curved, the superior strongly gibbous (protruded into a round angle) near the base, and then running out straight into the acute apex, sometimes crowned with the persistent falciform compressed acute and white style. It measures 6-7 lines in length, and (near the base) ½½ lines in breadth.

60. *Sphingium spicatum*, E. Meyer! comm. p. 66. a. *hirsutiusculum*, E. Mey.! *Melolohium spicatum*, Eckl. et Zeyh. enum. p. 190. Walp. 1. c. p. 506.—*Dichilus spicatus*, E. Mey. in Linnsea 7* p. 154, fide Eckl. 1. c.—In planitie Capensi (III, E. b.) Jul. 1838. Krauss, n. 853.

61. *Telina heterophylla*, E. Mey. ! comm. p. 69.—*Ononis heterophylla*, Thunb. Fl. Cap. p. 586. *Lotononis heterophylla*, Eckl. et Zeyh. 1. c. p. 177.—In arenis litoralibus in Zitzikamma (IV, C.b.) Mart. 1839. Krauss, n. 840.

62. *T. prostrata*, E. Mey.! comm. p. 69.—*Ononis prostrata*, Linn. Thunb.—*Lotononis veanillata*, Eckl. et Zeyh. enum. p. 176.—Ad latera montis Duyvelsberg (III, A. e.) Jul. 1838. Krauss, n. 854. (Ecklon Un. itin. n. 424 !)

63. *Chasmone baptisioides*, E. Meyer f comm. p. 71.—^{^r}~*gyrololnium baptisioides*, Walp. in Linnsea 13, p. 506.—Ad latera montium Tafelberge, Port Natal (V. c.) Aug. 1839. Krauss, Hb. propr.

64. *Ch. tuberosa*, nob.—*Argyrolobium tuberosum*, Eckl. et Zeyh. enum. p. p. 188.—Herb. Krauss, propr., absque indicatione loci natalis.—A very distinct species, approaching the foregoing and likewise easily turning black in drying, but of a slender habit, with few-flowered racemes and solitary

1-flowered pedicels. The legumen becomes, at last, almost glabrous, \ inch long, 1 line broad. The tubercles of the root are of the size of a small pea, ovoid, acute at both extremities, brown, sessile, solitary, or perhaps fasciculate.

65. *Chasmone longifolia*, nob.—Suffruticosa, divaricato-ramosa; stipulis setaceis petiolo brevi paulo longioribus; foliolis elongato-linearibus, acutis, subsequialibus, utrinque canescenti-pilosis; racemis axillaribus et terminalibus elongatis, nudis, laxis; floribus subsecundis; calycis pilosi labio superiore indiviso v. demum 2-dentato, inferiore 3-dentato, dentibus brevibus; legumine lineari, fusco-villoso.

In summitate montium Tafelberge, Port Natal (V. c.) alt. 1000' Dec. 1839. Krauss, n. 214.

This seems to be nearly akin to *Argyrolobium anffustifolium* Ecklon et Zeyh. 1. c. p. 188, which, however, differs in the form of the stipules, folioles and in the inflorescence. *A. pom'ciflvrum*, Ecklon et Zeyh. 1. c. p. 186, which comes nearer to it, as to the leaves and stipules, is quite distinct in "pedunculis sub 2-floris folio brevioribus." The plant seems to reach the height of several feet, and shoots out slender branches from almost every axilla; they are cylindrical, slightly striated, and covered with the same short adpressed greyish hairs as the leaves, but become almost glabrous at their inferior part. Stipules 3 lines long, erect. Petiole scarcely exceeding 2 lines, leaflets 2-2 $\frac{1}{2}$ inches long, 2-2 $\frac{1}{2}$ lines broad, generally folded along the midrib. Racemes 3-8 inches long? the inferior (axillary) ones gradually longer, semipatent, without leaves or bracts, many-flowered; pedicels rather remote, all turned to the same side, 2-3 lines long, with two short linear bracteoles about the middle. Flowers 5 lines long. Calyx a little shorter than the corolla, deeply bilabiate, lower lip shortly and equally 3-toothed, upper lip at first undivided, ovate, acute, but visibly composed of two cohering lobes which afterwards separate at the top into two short teeth, so that the same flower, when young, will belong to Walpers's genus *Gamochilum*, and when fully developed, to his *Argyrolobium*! Petals black from exsiccation. Vexillum ~~compti~~

cate, obcordato-oblong, pubescent on the back, with a short broad unguis and a minute transverse fold at the base of the lamina; alee little shorter than the vexillum and scarcely longer than the carina, straight, oblong, obtuse, with a short auricula and unguis, bearing a few hairs near the end; carina semi-ovate, blunt; its petals quite distinct at the base, cohering at the extremity not only by the inferior but even by their superior margin. Sheath of the monadelphous stamens split upwards; at their free extremity the filaments are alternately filiform and linear, compressed (almost liguliform); anthers all equal, oblongo-linear, cordate at the base. Ovary shortly stalked, slightly falcate, attenuated into a thin glabrous falcate style with a minute capitate stigma. The legume seems to become rather long, those of our specimens, though far from maturity, being already 1 inch long and scarcely 1 line in breadth.

66. *Chasmona Goodioides*, nob.—Fruticosa, ramis gracilibus, adscendentibus, glabris, apice parce pubescentibus; stipulis setaceis, petiolo brevioribus, patulis; foliolis subcoriaceis, obovatis, acutis v. breviter mucronatis, subsequialibus, petiolo longioribus, glabris, I-nerviis, subaveniis; racemis terminalibus, brevibus, paucifloris, pedicellis setaceo-bibracteolatis; calyce corolla dimidio brevior, labio superiore 2-, inferiore 3-dentato; legumine lanceolato-lineari, stipitato, sericeo-puberulo.

Inter lapides ad latera montium Winterhoeksberge, alt. 2000', Uitenhage (IV. C. c.) Apr. 1839. Krauss, n. 929.

This comes close to *C. cuneifolia*, E. Mey. comm. p. 7J> but is certainly distinct, especially in the form of the folioles which, besides, are of a peculiar, half fleshy texture, and show, when held against the light, numberless transparent points (which, however, are by no means produced by glands, but merely owing to the peculiar parenchyma); they are 5-6 lines long and 3-4 lines broad; and when quite young, are covered with a minute and scattered pubescence. The stipules attain scarcely one line in length, while the petiole varies from 2 to almost 5 lines. Flowers 3-6, in short, often

corymbiform, racemes, yellow; pedicels about as long as the calyx (2-3 lines.) Calyx pubescent, the upper lip shorter than the lower; petals glabrous. Legumen (young) about 1 inch long, 2 lines broad, with a stalk of the length of the calyx-tube, the style strongly falcate, often almost geniculate.

67. *Ch. holosericea*, E. Mey. ! comm. p. ^.—*Argyrolobium sericeum*, Eckl. et Zeyh. enum. p. 184.—*Gamochilum sericeum*, Walpers in Linnsea 13, p. 510.—In solo argillaceo-arenoso, Langekloof (IV, B. b.) Febr. 1839. Krauss, n. 920.

/3. *incana*, nob.—Foliis laxiuscule cano-pilosis, novellis tantum sericeis, racemis laxiusculis, calyce cano-tomentoso.—In lateribus montium Baviaanskloof (IV, B. b.) Dec. 1838. Herb. Krauss, propr.

Our plant, which is exactly the same as Dr. Meyer's, and most probably also as Ecklon's, does not at all agree with the essential character of Dr. Walpers's genus *Gamochilum*, the upper lip of the calyx being distinctly bifid, and even more deeply so than in the preceding species; but, indeed, sometimes the two lobes, though plainly distinguishable, remain a long time coherent, or perhaps do not separate at all, which may be the case in several species, as it certainly is in our *Ch. longifolia*. We cannot, therefore, consider the genus *Gamochilum* as sufficiently distinct. Our var. /3. is intermediate between *Ch. holosericea* and *obcordata*; the latter, which we have not seen, may be, perhaps, rather a variety or mere form of the same species, as in *Ch. liolosericea* the form of the leaflets and inflorescence is almost the same.—Flowers yellow, 6 lines long,

68. *Ch. sessiliflora*, E. Mey. comm- p. 72 (probably y.) In solo argillaceo-arenoso per totum distr. Langekloof, George (IV, B. c.) Febr. 1839. Krauss, n. 919—*Argyrolobium candidans*, Eckl. et Zeyh. en. p. 186, to which Dr. Walpers refers Meyer's plant (without having seen it), seems to differ by longer petioles, and especially by " stipulis ovato-acuminatis basi subconnatis folio vix brevioribus."—A. *stipulacewn*,

Eckl. et Zeyh. 1. c., which, too, appears nearly related, differs also in the stipules and in the 1-3-flowered peduncles.

69. *Ch. barbata, nob.*—*Pumila*, ramis stipulis foliis calycibus et leguminibus pilis longiusculis patentibus hispidulis; stipulis ovato-lanceolatis, inter se et cum petiolo semiconnatis, persistentibus; foliolis obovato-oblongis, acutis v. subtruncatis, submucronulatis, petiolo longioribus; pedunculis subterminalibus, brevibus, 1-2-floris, apice 2-bracteolatis; calycis labio superiore semibifido, inferiore 3-fido; leguminibus lineari-lanceolatis.

Ad ripas flum. Koega, Uitenhage (IV, C. c.) Apr. 1839. Krauss, n. 928.

A very distinct species, of which we have seen only small specimens in fruit, but which, as to the habit and calyx, undoubtedly belong to this genus. Folioles 4-5 lines long, 2½-3 lines broad near the extremity, cuneate, commonly complicated, smooth on the upper face, with a few scattered hairs (like those on the margin) on the inferior surface; petiole 2-3 lines long. Peduncles 2-4 lines long; calyx 5 lines long, lobes acute, lanceolate. Legumen nearly twice the length of the calyx, almost 2 lines broad, valves slightly convex, at last spirally convolute; seeds numerous, globose.

70. *Ch. pumila, nob.*—*Argyrolobium pumilum*, Eckl. et Zeyh. enum. p. 185. Walp. 1. c. p. 508.—Herb. Krauss, propr. (without indication of the locality.) The petioles vary, in length from 1 to nearly 4 lines, but are usually shorter than the folioles. Flowers pale yellow. Calyx 3 lines long, little shorter than the corolla; upper lip deeply bifid, almost bipartite, inferior 3-toothed. Legumen 15-17 lines long, 2 l. broad, rather flat, shortly pubescent (scarcely silky.)

71. *Chasmona Andrewsiana*, E. Mey.f comm. p. 74.—*Cytisus tomentosus*, Andr. Bot. Repos. t. 237.—*Dichilus ciliatus*, Spreng. syst. suppl. p. 20. Eckl. et Zeyh. enum. p. 183.—*Goodia? polysperma*, DC.! prodr. 2, p. 118.—*Trichasma ciliatum*, Walpers in Linnaea 13, p. 511.

75. *umbellata*, E. Mey. 1. c.—In sylvis primitivis regionis Zitzikamma, (IV, C. b.) Mart. 1839. Krauss, n.917-

72. *Ch. splendens, nob.*—Ramis sericeo-incanis; foliis stipulisque coriaceis, supra demum glabris, subtus dense sericeo-pilosis; stipulis obliquis, ovatis, subacutis; foliolis oblongis v. obovatis, petiolo triplo longioribus; pedunculis terminalibus, elongatis, apice umbellatim 2-4-floris; calycis sericeo-pilosi corolla parum brevioris labio superiore 2-partita inferiore longiore 3-fido; leguminibus lanceolatis, sericeis.

Ad latera montium prope Klein Rivier, Zwellendanx (IV, B. b.) Dec. 1838. Krauss, n. 1)27.

A most distinct species, of very elegant foliage, closely related to *Ch. lanceolata*, E. Mey. comm. p. 75, but easily distinguishable, at first sight, by its much shorter petioles and not acuminate stipules. These are generally of the length of the petioles (3-4 lines), sometimes a little longer or much shorter; at their broadest part they measure 2-3 lines, they are inserted above the inferior extremity of their inner and straight margin, their outer margin being strongly curved. Like the folioles of the leaves, they have the margins recurved, their inferior (dorsal) surface covered with a splendid satin-like white or pale yellow pubescence, the upper surface smooth and somewhat shining, but when quite young it is also more or less silky. The folioles vary in form and size, being now oblong-lanceolate, 1 inch long and 3-4 lines broad, and now obovate, 10-12 lines long and 4-7 lines broad, but often, especially at the lower part of the branches, they are scarcely half that size. Peduncles 1-2 inches long; pedicels 2-3 lines long, erect, bearing two linear short bracteoles. Calyx 5-6 lines long, upper lip split below the middle in two lanceolate lobes, lower lip a little longer, its 3 lobes about 1 line long. Corolla pale yellow, the vexillum puberulous outside. Legumen (not ripe) 1 inch long, 2 lines broad, much compressed, with thick blunt margins, not torulose.

73. *Lipozygis umbellata*, E. Mey.! comm. p. 'JG.—*Ononis umbellata*, Linn. DC. prodr. 2, p. 167, n. 92.—*Polylobintn truncatum* et (?) *sparsiflomm*, Eckl. et Zeyh. enum. p. 1B1.— In radicibus montis Tafelberg (III, E. b.) Sept. 1838-

Krauss, n. 856.—We are inclined with Mr. Bentham (Annal. des Wiener Mus. 2, p. 142) to divide this genus into three, by referring some of the species (among which are the present and the following) to Ecklon's *Polylobium*, and others to *Leptis* of the same author, while only a few would remain under Meyer's generic appellation.

74. *L. corymbosa* > *E. Mey.*! comra. p. 79. — *Polylobium corymbosum*, Steudel Nomencl. ed. 2.—In summitate mont. Tafelberge, Port Natal, alt. 2000-2500* (V, c.) Aug. 1839. Krauss, n. 436.

75. *L. {Leptis} Kraussiana, nob.*—Herbacea, humifusa, multicaulis, subdichotome ramosa, ubique (excepta foliorum pagina superiore et corolla) adpresse hirsuto-pilosa; stipulis (solitariis) linearibus, acutis, erectis, petiolum aequantibus; foliolis parum longioribus, spathulato-linearibus, acutiusculis; pedunculis oppositifoliis, petiolum sequantibus, apice 1-2-floris, pedicellis brevibus basi minute 2-bracteolatis; leguminibus turgidis, polyspermis, ad suturas kevis.

In solo argillaceo ad radices mont. Winterhoeksberge, distr. Uitenhage, alt. 1000⁵ (IV, C. c.) Jun. 1839. Krauss, n.875.

A little plant, agreeing with none of the species we have seen in Dræge's collection, approaching *L. humifusa*, *Radula tenella* and *falcata*, but distinct from all, either in the foliage or in the inflorescence and fruit. Folioles 3-4 or rarely 6 lines long, 1 line broad; stipules and petiole rarely exceeding 3 lines, sometimes shorter; peduncles varying in length between 2 and 6 lines, usually equalling the petiole; pedicels as long as the calyx (2| lines) or a little shorter; calyx deeply 5-cleft, lobes nearly as long as broad, narrow-lanceolate, acute, one third shorter than the pale yellow corolla; vexillum subcordato-orbiculate, shortly pointed, with a short unguis, and a few hairs outside towards the top; alae shorter than the blunt carina, rounded at the end; tube of the stamens split; legumen 5-6 lines long, almost 2 lines broad, scarcely falcate, the sutures slightly prominent, without asperities; valves convex, not torose; style persistent, falcate, distinctly geniculate at the base; seeds (not yet ripe) numerous, at least 20.

76. *P. (Leptis) argeniea*, nok-Herbacea, procumbens? multicaulis, tota (exceptis corolla et leguminibus) argenteo-sensca; foliis linearibus, acutis, stipula (unilateral!) conformibus, petiolo vix longioribus; pedunculis oppositifolius, 1-floris, petiololum subaxillantibus; legumi-

ery
 stems in our specimens not exceeding three inches, with very crowded leaves and a fine whitish satin-like pubescence. Leaflets a little smaller, distinctly narrower than in the preceding species. Structure of the flower and legumen the same. Corolla pale yellow as long as the calyx, vexillum ovate, pubescent at the apex. Xiamen not exceeding 4 lines in length. Perhaps our plant may be *P. tenella* β *sericea*, E. Mey. comm. p. 10. which we W not seen, it differs from *P. tenella* in having erect stems, nor cuneate foliis, nor a quit. pubescent corolla. *Leptis filicifera*, Eckl. et Zeyh. enum. p. 10. f. 10. which Steudel (O. mend. ed. 2) refers to Meyer's plant does not agree with ours.

77. *Trifolium angustifolium*, Linn. E. Mey. ! «un. p. 9a —In arenosis planitie Capensis (III, E. b.) Nov. 1838. Krauss „ 852 (Un. itin. n. 806)

78. *parviflora*, Desf. E. Mey. ! comm. p. 91. — Ad via mont. Tygerberg (III, D. a.) Maj. 1838. Hb. Krauss

79. *Medicago denticulata*, WiUd. E. Mey. 1. c. p. 92. — Cum praced. Krauss, Hb. propr!

80. *Psoralea arborea*. Sims n. E. Mey. comm. p. 11. f. 11. T. J. Rodr. 2, p. 216, n. 2. qua (IV, C. b.) Jan. 1839. Krauss, ^ terre Outeni-

81. *P. pinnata*, Linn. Lam. ! DC. 1. c. n. H. T. ? vr - In arenosis planitie Capensis (HI R. M. i. J. ^ ! l. c. Krauss, n. 901. (Ecklon, Un. itin. „ L f. bo. Nov. 1838*)

82. *P. ^ c. o. a. mu* DC. L. c. n. 5. E. Mey. ! l. c. p. 83. — Ad sylvarum mareine* n. 5. E. Mey. ! l. c. (IV, C. b.) Jan. 1839. Krauss, n. 899. Knysna Rivier » Geor S e

83. *P. fascicularis*, DC. 1. c. n. m. V. A. * I " " 10. ^ . Mey. 1. c. — Inter

frutices mont. Tygerberg (III, D. a.) Maj. 1838. Hb. Krauss, propr.

84. *P. Kraussiana*, nob.—Glabra, ramis strictis, erectis, lineatis, dense foliosis; stipulis lanceolato-setaceis, petiolum foliolis triplo brevioribus, foliolis rigidulis, spathulato-linearibus, subtrigonis, cum mucrone rectis, 1-raro 2-jugis cum impari; floribus in apice ramulorum spicato-capitatis, breve pedicellatis, bracteolis 2 semi-connatis flori approximatis, calyce glabro subsequenter 2-labiato.

In solo argillaceo ad latus australe montis Tafelberg (III, A. e.) Sept. 1838. Hb. Krauss, propr.

This seems to be related to *P. triflora*, Poir. DC. 1. c. n. 6', and to *P. affinis* Sy Eckl. et Zeyh. en. p. 774, both which, however, differ in having axillary flowers, and, besides, in the form and number of the folioles, etc. In our plant the leaves are 3-foliolate (except a very few of the lower ones which are pinnately 5-foliolate) and the leaflets are but 3-6 lines long, and \ line broad; they are acuminate into a straight sharp mucro, and their common petiole and stipules vary from one to two lines in length. Flowers in very short capituliform terminal spikes (never axillary!) fine blue, quite of the form and size of those of *P. verrucosa*. Calyx brownish, like the leaves and branches densely punctate with glands, its lobes, especially of the upper lip, ciliated with short black hairs.

To this we refer *P. tenuifolia*, Ecklon et Zeyh. enum. p. 225. (Un. itin. n. 658!) which differs from Dr. Krauss's specimens only in having the top of the branches and the calyx slightly pubescent, the uppermost leaves sometimes unifoliolate, the folioles a little longer, and the flowers more remote and forming a very short terminal raceme. We must doubt whether it be really Linn's *P. tenuifolia*, which is described as having "rami laeves, foliola lineari-lanceolata" and "pedicelli axillares."—*P. filiformis* Poir.! (according to Poiret's autograph specimen in Lamarck's Herbarium, which we have compared with Ecklon's, and to which is ascribed as a synonym "*P. angustifolia* Hort. Kew.") is, indeed, very like

our plant, but certainly distinct in its axillary flowers and its folioles of almost double the length.

85. *P. Harveyana*, nob.—Fruticosa, glabra, ramis adscendentibus; foliis 3-foliolatis, patentibus, rigidulis, folioh⁸ spathulato-linearibus complicatis recurvo-mucronatis, stipule brevissimis petioloque longioribus; racemis terminalibus, brevissimis, bracteolis 7 semi-connatis, flori approximate 5 calyce glabro, labio inferiore productione.

Ad latus orientale montis Tafelberg, alt. 1000¹ (III, A. e.) Sept. 1838. Krauss, n. 898.

A very pretty shrub, perfectly distinct from all other species T have hitherto seen. From *P. Kraussiana*, with which it has some resemblance, it differs by more diverging branches* shorter stipules (scarcely 1 line long) and folioles rarely attaining, and never exceeding, 3 lines in length; the latter differ also in form, being not trigonous, but folded on their middle nerve, truly cuneate, broadest at the top, (2-3 lines) which is not attenuated but rounded, truncate or almost emarginate, and abruptly pointed with a recurved mucro. The flowers, moreover, are a little larger, more numerous, and they form true, though very short, corymbiform racemes, the inferior pedicels growing gradually longer and attaining the length of 4-5 lines, whereas in *P. Kraussiana* they are^{re} scarcely half so long and the uppermost flowers are almost sessile. Finally, the calyx has broader lobes, the lowest of which is manifestly longer than the others. Lateral and inferior lobes of the calyx broad, ovate, acuminate, the latter comp[^]cated, upper lip shortly bifid. The colour of the corolla and calyx, and the glandular punctuation of the plant are the same as in the species above mentioned.

86. *P. aphylla*, Linn. Lam.! DC. 1. c. p. 217, n. I*-E. Mey.! comm. p. 84. Eckl. et Zeyh. en. p. 226.—*P. Ja&F⁰niana*, Eckl. et Zeyh. 1. c. (fide specim. Un. itin. n. 47!)—^{In}arenosis et turfaceis planitieis Capensis (III, E. b.) Sept-¹¹Nov. 1838. Krauss, n. 902 et 003.

87. *P. dectombens*. Ait. DC. 1. n. 14. E. Mey. ! comm- P-

86.—Ad latera mont. Tygerberg (HI, A, e.) Nov. 1838—Krauss, n. 850 (Un. itin. n. 666! Krebs, n. 84.)

88. *P. densa*, E. Mey ! 1. c. *P. stachyera*, Eckl. et Zeyh. en. p. 230? ex Walpers in Linnsea 13, p. 514. In arenosis planitie Capensis (III, E. b.) Nov. 1838. Krauss, n. 896.

89. *P. capitata* Linn. *fil* DC. 1. c. n. 27, E. Mey! 1. c. p. 88.—In solo argillaceo arenoso prope flum. Knysna, George (IV. C. b.) Jan. 1839. Krauss, n. 900. Un. itin. n. 661! Krebs n. 86!

90. *Indigofera Kraussiana*, nob.—Fruticosa, glabra, ramis adscendentibus, haud spinescentibus; foliis 1-foliolatis, petiolatis, coriaceis, spathulato-v.obovato-oblongis, ex apice rotundato minute mucronulatis; stipulis minutis, acutis; racemis axillaribus, panicifloris, folio vix longioribus; calycis canescentis lobis obtusiusculis.

In solo argillaceo prope montes Winterhoek, Uitenhage (IV. C. c.) Mart. 1839. Dr. Krauss, n. 845.

Easily distinguishable, by the above diagnose, from Dr. Meyer's *I. nudicaulis* and *dumosa*, as well as from Thunberg's *I. filifolia*, *depressa* and *ovata*, which are, to our knowledge, the only hitherto described Cape species with unifoliolate leaves: *I. axillaris* E. Mey. (Linncea 7, p. 166) being, according to Ecklon, the same as *Imphithalea virgata*. (See our obs. under *Amphitlialea Kraussiana*) Except the calyx and the scarce and minute pubescence of the extremity of the branches, and on the back of the vexillum, our plant is entirely glabrous. Branches slender, rather divaricate, but bending upwards at their extremity, the cicatrices of the leaves tuberculiform. Stipules scarcely one line long, triangular, acute, deciduous. Petiole 1-2i lines long, articulating with the foliole which is flat, 4-6 lines long, 2-3 lines broad, generally broader towards the summit, and frequently cuneate; besides the middle nerve, they show but rarely and very indistinctly a few lateral veins. The colour of the foliage is a pale, livid, greyish or glaucous green. Flowers scarcely more than 2 lines long, pale pink? pedicels but half as long, bracts minute and deciduous.

91. *I. rigescens*, *P. inermis*, *E. Mey.*! comm. p. 94. *I. denudata*, Eckl. et Zeyh. enum. p. 233 (non Jacq.) fide Walpers in *Linnaea* 13, p. 519 (an Linn, fil.?) In solo argillaceo-arenoso prope Kromme Rivier, distr. Uitenhage (IV. C. c.) Febr. 1839. Krauss, n. 828. From this, *I. spinescens* *E. Mey.* comm. p. 93, differs but slightly in its (constantly?) spinescent branches, smaller folioles (1-1 ½ lines long, but half the length of those of our plant) and "racetnis folio parum longioribus hirtis" (in our plant they are more than twice as long as the leaves, and scarcely pubescent)."

92. *I. incana*, *Thunb.* DC. prod. 2. p. 232, n. 109. *E. Mey.*! comm. p. 96. Eckl. et Zeyh. en. p. 237 (ex cit. XJn itin. n. 425!) *I. procumbent*, Hort. \ (non Linn.) Prope Constantiam (III. D. b.) Sept 1838. Krauss, n. 833,

93. *I. discolor*, *E. Mey.* comm. p. 97.—In arenosis planitiei Capensis (III. E. b.) Sept. 1838. Krauss, n. 835. Our plant differs from Drège's (which we have not seen), only in having folioles generally more than twice as long as the petiole (4-5 lines long) and the racemes usually quite straight. *I. porrecta* Eckl. et Zeyh. en. p. 234, to which Dr. Walpers refers Drège's plant, though without having seen it, (*Linnaea* 13, p. 521) also differs somewhat from ours by "stipulis setaceis reflexis," and "petiolo folium sequante." But these differences are of very little, if any, value.

94. *I. digitata*, *Thunb.* DC. 1. c. p. 231, n. 100. *E. Mey.* comm. p. 98. Cum praeced. Nov. 1838. Krauss, n. 840.

95. *I. filiformis*, *Thunb.* DC. 1. c. n. 96. (*I. planifolia*, *E. Mey.*! comm. p. 98.—Ad latus orientale montis Constantiaberg (III. D. b.) Sept. 1838. Krauss, n. 834.

96. *I. sulcata*, DC. 1. c. n. 94, *E. Mey.*! 1. c. Eckl. et Zeyh.! enum. p. 240.—In collibus prope Port Natal (V. c.) Krauss, n. 310.

97. *I. brachystachya*, *E. Mey.*! in *Linnaea* 7, p. 168; comm. p. 98. - *I. angustifolia*, *Thunb.* (non Linn.) *J. brachystachya* DC, 1. c. n. 93.—In summitate mont. Outeniquaberge, distr. Uitenhage, (IV. C. b.) Mart. 1839. Krauss, n. 829.

98. *l. sarmentosa*, Linn. fil. E. Mey. comm. p. 99* /3. w&i
crophylla, Lam. DC. 1. c. n. 99. In planitie Capensi (III. E.
b.) Nov. 1838. Krauss, n. 1264.

99. *l. coriacea*, Ait. DC. 1. c. n. 98. E. Mey.! comm. p.
100.—" *Ononis Mauritanica*, LP Herb. Lamarck! *Indigofera*
Mauritanica, Thunb. Eckl. et Zeyh.! en. p. 238, Walpers in
Linnaea 13, p. 523. Ad latus occid. mont. Duyvelsberg (III.
A. e.) Jan. 1838. Krauss, n. 837. (Un. itin. n. 429! Sieber
Fl. Afr. mixt. n. 18!)

100. *l. alopecuroides*, DC. 1. c. n. 97. E. Mey.! comm. p.
100. In solo argillaceo prope Caledon (IV. B. b.) Dec.
1838. Krauss, n. 827.

101. *l. Candolleana*, nob.—Fruticosa, ramis patentibus
dense foliosis foliisque junioribus utrinque incanis, adultis
minute strigillosis: foliis sessilibus 4-5-foljolatatis patentibus,
foliolis obcordatis recurvato-mucronulatis; racemis axillari-
bus paucifloris, folio triplo longioribus; leguminibus subcy-
lindricis, glabris.

Locis arenosis prope Berg Rivier (III. D. a.) Jul. 1838.
"Krauss, n. 838. This we should have taken for *l. Burchellii*,
DC, with which it seems to agree in every point, except that
the latter is said to have petiolate leaves, of which our plant
shows no trace, wherefore we must consider it a distinct,
though nearly allied, species. *l. Burchellii*, of E. Meyer
(comm. p. 106), is most probably also different from De Can-
dolle's, its folioles being constantly alternating, and conse-
quently not digitate." Should our conjecture prove founded,
we would propose to name Dr. Meyer's species *l. Hooker-
iana*. As to the inflorescence (which is unknown in De
Candolle's species), it is widely different from our plant, the
flowers^forming a capitato-spicate raceme, shorter than the
petiole. Our plant has the habit and folioles of *l. coriacea*,
but much smaller flowers and a shorter fruit.

102. *I. secunda*, E. Mey.! comm. p. 102.—In solo argil-
laceo prope Knysna Rivier, distr. George (IV. C. b.) Jan.
1839. Krauss, n. 832.

103. *l. eriocarpa*, E. Mey.! 1. c. p. 103.—In solo argillaceo

Prope Pieter Mauritzburg, Port Natal (V. c.) Sept. 1838. Krauss, n. 373.—Dr. Walpers (Linnaea 13, p. 524) refers this, though without having seen it, to *I. pauciflora*, Eckl. et Zeyher, p. 244, which, however, differs considerably "foliis subsessilibus, stipulis foliolum subaequantibus, racemis folio vix longioribus," etc. To us it seems more nearly related to *I. nana* E. et Z. 1. c. p. 242, and *I. tristis* E. Mey. 1. c. p. 1839 both of which, however, differ materially from it.

104. *I. cytisoides*, Thunb. DC. 1. c. n. 89. E. Mey. ! comm. p. 105.—Ad latera montis Duyvelsberg, alt. 2000' (III. A > e.) Jul. 1838. Krauss, n. 836.

105. *Tephrosia (Brissonia) oblongifolia*, E. Mey. ! comm. p. 108.—In summitate mont. Tafelberge, Port Natal (V. c.) Dec. 1839. Krauss, n. 174.

106. *T. (Brissonia) glomeruliflora*, R. & S.—Suffruticosa, erecta, canescens; stipulis lanceolatis, petiolo brevioribus; foliolis 8-10-jugis, lanceolatis, mucronato-acutis, lineato-venosis; pedunculis terminalibus et axillaribus folio longioribus; floribus in glomerulos interrupte spicatos dispositis, glomerulis 2-3-floris bractea ovata acuta demum decidua fultis, vexillo extus sericeo; legumine margine pubescente. Prope Port Natal (V. c.) Nov. 1839. Hb. Krauss, propr.

The pubescence of the whole plant is greyish, slightly silky on the back of the vexillum, and on the under surface of the leaves, shorter and nearly tomentose on the upper surface, branches and calyx. Stipules 4-5 lines long, lanceolate, acuminate, membranaceous, lineately veined, like the bracteae which are much shorter and broader, ovate, acute or acuminate. The whole petiole is about 2-2½ inches long bearing 8-10 pairs of generally opposite folioles from about 4-6 lines above its base. Folioles all nearly equal, about 1 inch long and 2-2½ lines broad, with a very short part of petiole, attenuated at both extremities with a short mucro; venation as usual in this genus. Peduncles more or less distinctly angular, generally leafless and simple, the terminal one longer, and divided into a few simple diverging branches. Glomeruli at first approximate, enveloped in their bracts, a "

with almost sessile flowers, which are afterwards more or less remote, and borne on pedicels of several lines in length. Flower 8-10 lines long, pale pink; calyx wide, scarcely two lines long, almost equally 5-fid, teeth triangular, acute, the lowest a little longer, the two upper ones less deeply divided than the rest. Fruit unknown. There is no species of the genus with which I am acquainted to which this bears any particular resemblance.

107- *Tephrosia (Brissonia) longipes, nob.*—Suffruticosa, erecta, subcanescens, ramis angulatis; stipulis setaceis, petiolo brevioribus; foliolis 8-10-jugis, linearibus, complicatis, mucronulato-acutis, supra glabris; racemo terminali folia superante longe pedunculato, floribus intra bracteas angustas paucis fasciculatis, fasciculis remotis, calyce, vexilli dorso et legumine lineari recto fulvo-pilosis.

In graminosis ad latera montium Tafelberge, Port Natal, alt. 2500' (V. c.) Jan. 1839. Krauss, n. 20.

A most distinct species, somewhat akin to *T. Hnearis*, Pers. and *T. discolor*, E. Mey., which, however, differ in having but 4-6 pairs of much shorter and obtuse folioles, and in their bracts, pubescence, etc. In our plant the leaves are about 6 inches long, and the folioles 1|-2 inches in length by 1-1½ line in breadth. Stipules 4-5 lines long, scarcely \ line broad at the base. Flowers a little smaller than in *T. glomeruliflora*, pink; calyx nearly the same as in the latter, the lower lobe a little longer. Legumen above 2 inches long, 2 lines broad, strongly compressed, with blunt sutures and a short beak, slightly torose.

108. *Tephrosia (Reineria) Kraussiana, nob.* — Fruticosa, erecta, corymboso-ramosa, piloso-canescens; stipulis lineari-setaceis, petiolo brevissimo longioribus; foliolis 7-10-jugis, linearibus, complicatis, recurvo-submucronatis; racemis terminalibus, pedunculatis, laxiusculis, folio duplo longioribus, floribus in bractearum setacearum axillis 2-3 fascicuiatis. In graminosis ad latera mont. Tafelberge, Port Natal (V. c.) Nov. 1839. Krauss, n. 40.

Branches straight, erect, sulcate or angular, especially at the extremity. Stipules 3-4 lines long. The whole petiole

U inch long, bearing opposite folioles from about 1 top above its base; folioles 8-10 lines long, scarce 1 line broad, complicated, the point always more or less recurved and only soletely mucronate. Racemes about 3 inches long, all reaching the same height; pedicels filiform 1-2 lines long; flowers scarcely longer, white? calyx campanulate, almost equally 5-fid, lobes lanceolate acuminate; vexillum pubescent outside. The pubescence of the whole plant is greyish and not silky* This species approaches in some points to *T. angulata*, *amœna* and *polystachya*, E. Mey. comm. p. 190, but differs in the form and proportions of its folioles, inflorescence, pubescence, etc.

109. *T. (Reineria) canescens*, E. Mey.! comm. p. 109.—In littore arenoso prope Port Natal (V.c.) Feb. 1840. Krauss, propr.—Pubescentia pulchre argenteo-sericea.

110. *T. (R.) Capensis*, Per*. DC. prodr. 2, p. 252, n.37- « et i3. E. Mey.! comm. p. 110. In umbrosis ad latera montis Duyvelsberg (III. A. e.) Jul. 1838. Krauss, n. 849.

111. *Apodynomene grandiflora*, E. Mey.! comm. p. 111-'''''' *Tephr. grandifl.* Pers, DC. 1. c. n. 20.—Ad sylvarum margines in Zitzikamma (IV. C. b.) Mart. 1839. Krauss, n. 918.

112. *A. macropoda*, E. Mey.! comm. p. 112. a.—In solo argillaceo inter flumina Umslutie et Umgani, et prope Pieter Mauritzburg, Port Natal (V. c.) Jun.-Sept. 1839. Krauss, n. 244 et 451.

113. *Lessertia astragalina*, nob.—Suffruticosa? caulibus subsimplicibus, angulato-sulcatis, glabris; stipulis membranaceis* ovato-lanceolatis, petiolo brevi longioribus; foliolis 10-14-jugis, oblongis v. obovatis, truncatis v. emarginatis, macronulatis, ciliolatis; racemis terminalibus et axillaribus longe petiolatis, oblongis, laxiusculis; calyce pilosiusculo, basi bibracteolato, dentibus obtusiusculis.

In arenosis planitiei Capensis (III. E. b.) Sept. 1838 & Krauss, n. 857- This looks very much like *L. pulchra*, DC. which, nevertheless, according to Drège's specimens, certainly differs, being smaller in every part, and having only 6*7 pairs of folioles, shorter pedicels, etc. *L. sulcata* E. Mey. >

macrostachya DC, and *venusta* Eckl. et Zeyh., which also approach our plant, differ from it, as all other species hitherto described, in the number and form of the folioles, etc. Our plant seems to be scarcely suffrutescent, and the stem is ascendant, but not flexuose. Stipules 3-4 lines long, nearly 2 l. broad at the base, erect. Leaves 2-2½ inches long; leaflets opposite or alternate, 3 lines long, 1½-2 l. broad, with a distinct but very short partial petiole and minute mucro; the terminal leaflet generally equal to the lateral ones. Racemes many-flowered; bracts membranaceous, white, as long as the pedicels (2 lines.) Flowers 4-5 lines long, pale purple or pink? calyx not quite half as long as the corolla, its lobes of equal length, the two upper ones less deeply separated. Vexillum broadly obcordate, reflexed at the sides: alæ and carina of equal length, the latter tipped with deep purple. Ovary stalked, linear, with 6-8 ovules.

114. *L. annua*, DC. prodr. 2, p. 271, n. 1. E. Mey. comm. p. 117.—Locus natal, propr. ignotus. Hb. Krauss, propr.

115. *L. falciformis*, DC. 1. c. n. 7.—*L. minuta*, E. Mey. comm. p. 119.—In solo argillaceo prope Winterhoek, Uitenhage (IV. C. c.) Maj. 1839. Krauss, n. 841.

116. *Sutherlandia frutescens*, R. Br. DC. 1. c. p. 273. E. Mey.! comm. p. 121.—Forma inter a et b media. In solo argillaceo mont. Tygerberg (III. D. a.) Sept. 1838. Krauss, n. 859.

117. *Zornia Capensis*, Pers. DC. J[^] p. 317, n. 11. E. Mey.! comm. p. 122.—Ad sylvarum margines prope Port Natal (V. c.) Oct. 1839. Krauss, n. 409.

118. *Nicolsonia Caffra*, E. Mey.! p. 123.—In planitie prope Umlaas Rivier, Port Natal (V. c.) Jan/1840. Krauss, n. 143. Planta procumbens, fide Krauss (erecta, ex Meyer.)

119. *Nicolsonia setigera*, E. Mey./ comm. p. 124.—Inter arundines ad ripas flum. Umlaas, Port Natal (V. c.) Jan. 1840. Krauss, n. 72.

120. *Vicia sativa* Linn. E. Mey.! comm. p. 126. In incultis circa urbem Capstadt (III. E. b.) Jul. 1838. Krauss, n. 858..

121. *Eriosema cordatum*, *E. Mey.*! comm, p. 128. In colibus prope Pieter Mauritzburg, Port Natal (V.c.) Aug. 1839-Krauss, n. 471 (ex parte.)

122. *E. reticulatum*, *E. Mey.* comm. p. 129. /3. *canescens*, nob. foliolis subtus incanis, racemis folium cequantibus v. paulo longioribus. *E. ambiguum*, nob. olim MSS. in Hb. Krauss. In solo argillaceo in Zitzikamma (IV. C. b.) Febr. 1839. Krauss, n. 926. From Meyer's plant, which we have not seen, ours seems only to vary in the points we have just indicated. With his *E. Zeykeri!* it agrees entirely in the leaves, differing only in its shorter racemes and fewer flowers; and *E. Dregei*, which we have not seen, seems scarcely more distinct, except in having all the petals yellow, and perhaps in its pubescence. We suspect, therefore, that these species, at least the two former, ought to be united and merely distinguished as varieties.

123. *E. salignum*, *E. Mey.* comm. p. 129. In graminosis ad rad. mont. Tafelberge, Port Natal (V. a)*'Aug. 1839. Krauss, n. 474 (ex parte.)

124. *E. capitatum*, *E. Mey!* comm. p. 130. Ad sylvarum margines in Outeniqua (IV. C. b.) Jan. 1839. Krauss, n. 831. In the herbarium of our friend D. Miuhlenbeck, of Mulhouse, we have seen a specimen of this plant, cultivated in the Royal Botanical Garden of Berlin, under the name of "*Psoralea pedunculate*, Ker,» which synonym De Candolle refers to *P^{ra}Zea^mcea*, Poir. (Prodr. 2, p. 219, n. 36) The said specimen perfectly agrees', both with the diagnoses of the latter, and with Meyer's plant; whence we conclude that this species must be eliminated from the genus *Psoralea*, to which at least the specimens we have seen most certainly do not belong. To avoid an unnecessary augmentation of synonyms, we think it more advisable, instead of strictly adhering to the law of priority, to retain the specific name given by Meyer *m* preference to Poiret's, the more so as the latter is much less significant.

125. *E. parviflorum*, *B. Mey.* comm. p. 130—In colibus prope Pieter Mauritzburg, P_{ort} Natal (V. c.) Aug. 1839 Krauss, n. 471 (ex parte.)

126. *E. Kraussianum*, nob.—Caule erecto, antrorsum cano-piloso i foliolis oblongis, obtusiusculis, novellis sericeo-argentatis, adultis utrinque parce pilosiusculis j pedunculis axillaribus folio duplo longioribus; floribus subsessilibus, retrorsum imbricatis, helvolo-pilosis; calycis dentibus triangularibus, brevibus.

la graminosis ad rad, mont. Tafelberge, Port Natal (V. c.) Aug. 1839. Krauss, n. 474 (ex parte.)

Intermediate between *E. salignum* (with which it was confounded by Dr. Krauss) and *E. polystachyum*; but differing from both in the pubescence; from the first, moreover, in the folioles being scarcely half as long, though equally broad, and blunt or even rounded at the end, and in the shorter lobes of the calyx; and from the latter, with which it agrees in its yellow flowers, in the leaves being much smaller in every direction, and in the less dilated lobes of the calyx, which, besides, is hirsuto-pilose, instead of tomentose.

127. *E. polystachyum*, *E. Mey.* comra. p. 130.—Inter arundines prope Umlaas Rivier, Port Natal (V. c.) Jan. 1840. Krauss, n. 6*4.

Corolla yellow, quite glabrous. Legumes 2, or rarely 3-seeded, broad and obliquely ovate, (6 lines long, 4-5 lines broad) rounded at both ends, with a short beak, densely bearded all over with long soft yellowish (scarcely silky) hairs.

128. *Orthodanum sordidum*, *E. Mey.* comm. p. 131.—In solo argillaceo prope Pieter Mauritzburg, Port Natal (V. c.) Sept. 1839. Krauss, n. 374. Corolla flava, calyce brevior v. vix eum sequans. Vexillum basi 2-auriculatum, ecallosum. Stamen decimum liberum, basi vix geniculatum. Ovarium niargine superiore barbatum.

129. *O. glabratum*, nob.—Fruticulosum, ramis apice puberulis; foliis (omnibus?) 3-foliolatis, foliolis oblongis, mucronulato-acutis, reticulato-nervosis, demum glabris, nitidulis, novellis pilosiusculis; floribus subsolitariis, brevissime pedunculatis.

In collibus prope Kromme Rivier, Uitenhage (IV. C. c.) Mart, 1830. Krauss, n. 844.

Differing from *O. sordidum* in its low, ascending stems, not more than 6-8 inches high, three times smaller leaves, which soon become quite glabrous, and smaller solitary flowers. The leaflets are almost of equal length, the lateral ones somewhat oblique (inequilateral), prominently reticulated, especially on the upper face.

130. *O. Mühlenbeckii*, nob.—Fruticulosum, foliis (omnibus?) 3-foliolatis, foliolis ovalibus, utrinque subrotundatis, recurvo-mucronulatis, reticulato-venosis, subtus ramulisque pilosiusculis; pedunculis axillaribus geminis brevissimis, leguminibus turgidis puberulis. In summitate montium Outeniqua (IV. C. b.) Mart. 1839. Krauss, n. 830. (*O. dubium*, nob. olim in Hb. Krauss.)

Very near the preceding species, but distinct, we believe, in its still lower growth, smaller leaves, and pubescence. The foholes are broader with respect to their length, barely half as long as those of *O. glabratum*, and much more obtuse; their reticulation is stronger, and their pubescence permanent, at least on the inferior surface.

131. *Copima paniculatum*, E. Mey.! comm. p.]34.-Locus natal, propr. ignot. Hb. Krauss, propr.

132. *C. viscidulum*, E. Mey. l. c.-Forma inter a et ft media, pu escentia accedens. IV. C. b.) Jan. 1839.
 STITT I hhu 00008 AA Ct b
 K s, n. 851.

133. *C. effusum* E Mey.! comm. p. i 35.-In collibus inter flumina Umslutie et Umgani, Port Natal (V. c.) Jw.. 1839. Krauss, n. 301.

134. *C. t* gines in Zit ^' ^ fSt TTM' P, 136 Ad ^ arum mar-
 U l l S n ^ MCyerS Plant, but the d «g«ose agrees
 JL T? Vr TM come so very near C. aib-
 bum, E. Mey., scarcely differing but J« « u
 c, i « n p n f w l f w « n pubescence, that we
 suspect these two species ought to be united.

135. *C. nitidum*, E. Metf. I. c.~Prope Uitenhage (IV. C. c.) Apr. 1839. Krauss, n. 860 (ex parte.)

136. *C. gibbum*, E. Mey. comm. p. 137—Cum praeced. legit Dr. Krauss, n. 860 (ex parte.) Without the fruit, which we have not seen, this species is hardly distinguishable from *C. tenue* and *pictum*, E. Mey.

137. *Fagelia flexuosa*, nob.—Fruticosa, volubilis, tota (exceptâ corollâ) hispido-pilosa et glandulis minutis conspersa, ramis flexuosis 5 foliolo terminali late ovato, rotundato-obtusissimo basi subtruncato, lateralibus valde gibbis; racemis axillaribus, longe pedunculatis, bracteis ovalibus obtusis diu persistentibus, calycis lobis superioribus corollâ dimidio brevioribus.

In planitie Capensi (HI. E. b.) Sept. 1838. Krauss, n. 863. Though very much resembling the common *F. bituminosa*, we must consider our plant a distinct species, especially on account of its twice as large and differently shaped folioles (which are more than 1 inch in length and breadth) and its considerably shorter calyx, which, in *F. bituminosa* is almost as long as the corolla. Our plant, moreover, has a much shorter pubescence; in this and some other points it approaches *F. pubescens*, E. and Z. enum. p. 257, which, however, differs in much smaller leaves, "foliolis lateralibus subsessilibus, stipulis ovato-lanceolatis, racemis 2-3 floris," etc. *F. viscida*, E. et Z. 1. c. seems also to differ, especially in the shape of its leaflets. Our plant has its lateral folioles terminated with a short straight visible mucro (or rather acumen), which, in the terminal leaflet, is also present, but scarcely distinguishable from its being recurved and closely adpressed to the inferior surface.

138. *Sigmodostyles*, nov. gen.—Calyx ebracteolatus, profunde subbilabiato-4-partitus, lobis lanceolatis acutis, superiore brevissime bifido. Vexillum complicatum, subrotundum, basi minute bicallosum et utrinque processu breviter deorsum auriculatum, ungue brevi. Ate basi superne breviter auriculatae et carince paulo longiori adglutinatae. Carina angulo fere recto rotundato sursum flexa, obtuse subrostrata.

Stamina diadelpa (9 et 1 liberum basi geniculatum.) Stylus sigmoideo-flexus, glaber, a medio inde subito incrassatus et in processum falciformem teretiusculum productus. Ovarium et legumen *Eriosematis*.

Herba? scandens? stipulis membranaceis, foliis pinnato-3-foliolatis exstipellatis, foliolis 3-5 nerviis, racemis spiciformibus axillaribus longe pedunculatis, floribus singulis bractea fultis.

Genus e tribu *Phaseolearum*, facie quodammodo *Fageluy* sed characteribus indicatis, stylo imprimis, ab omnibus bene distinctum. Pluribus notis propius accedunt *Copisma*, *Scytalis* et *Chrysoscias*, sed facile distinguuntur sive calycis, cariniss stylique forma, sive bracteolarum presentia, sive aliis prseterea characteribus. Nomen (ex *triy^taBrjg*, falciformis) styli in sign em formam exprimens, *JValpersia* nomini olim in Herb. Krauss adhibito substituimus, quum jam aliud genus nuper ita vocatum sit.

Sigmodostyles villosa, nobis. Tota (preter corollam) molli-ter villosaj caule herbaceo, volubili? 4-gono; stipulis ovato-oblongis, acutis; foliis brevissime petiolatis, foliolis late ovalibus v. obovatis acutis, terminali longe petiolulato majore, lateralibus brevissime petiolulatis, pedunculis folio longioribus, spica ovata densiflora. Ad latera montis Bosjesmansrand, alt. 2500', prope Pieter Mauritzburg, Port Natal (V. c.) Aug. 1839. Krauss, n. 246.

Stem herbaceous, somewhat lax and flexuose, most likely twining, with the leaves and peduncles all turned to the same side. Stipules patent, free, sessile, 4-6 lines long, 3 l. broad, more or less acuminate, upper side thinly veined and almost glabrous. Main petiole and partial ones of the lateral folioles 1-2 lines long, terminal leaflet supported by a petiolule of 1'' 13 lines in length, broadly obovate or nearly orbiculate with a short acumen, 2-3 inches long, lateral ones smaller, especially narrower, more or less oblique at the base, one margin more curved than the other, sometimes gibbous. Peduncles 4-5 inches long, roundish, quite simple and leafless; spike ovate or conic, scarcely one inch long; flowers patent, 5-6 lines

long; calyx about half the length of the corolla, its inferior lobe a little shorter than the rest. Petals yellow, unguiculate; vexillum obsoletely pointed, slightly veined, reddish or purplish outside. Anthers all equal and uniformly oval. Style longer than the villose (2-seeded) ovary, filiform to about the middle, and then swelling into a falcate white and shining process attenuated upwards; stigma terminal, punctiform. Legumen 1 inch long, 4 lines broad, much compressed, pilose, 2-seeded, upper margin straight, lower curved. (Seeds not yet ripe.)

139. *Chrysozias grandiflora*, E. Mey. I comm. p. 139. Ad sylvarum margines in Outeniqua (IV. c. b.) Jan. 1839. Entwining *Eriosema capitatum*. An imperfect specimen.

140. *Dolichos gibbosus*, Thunb. DC. prodr. 2, p. 400, n. 46, E. Mey. comm. p. 141. Prope Uitenhage (IV. C. c.) Apr. 1839. Krauss, n. 860 (ex parte.)

141. *D. Benthamite nob.*—Volubilis, glabriusculus; foliis 3-foliolatis petiolulatis late ovato-triangularibus ciliatis, terminali basi subtruncato 3-nervio, lateralibus insequilateris; racemis axillaribus folio longioribus, pedunculis rigidis apice puberulis; calycis glabri dentibus brevissimis ciliolatis, superioribus 2 alte connatis rotundatis, infimo angusto acuto; stylo apice superne barbato; legumine acinaciformi, substipitato, glabro.

In planitie Capensi (III. E. b.) Sept. 1838. Krauss, n. 861. *D. hastafolius*, E. Mey. comm. p. 142, the only species with which our plant may be compared, abundantly differs from it in the hispid stem and quite differently shaped folioles. Our plant has the leaves glabrous, except a few thin scattered hairs on both surfaces, especially along the nerves. Pedicels filiform, one or two in the axil of the small bracts, twice as long as the calyx. Flowers white or pale pink, the end of the bifid carina purple. Legumen marked with oblique slender veins.

142. *D. decumbens*, Thunb. DC. 1. c. n. 47, E. Mey. comm. p. 143.

0. *hngipedunculatus*, woi.—Caule glabro, foliolis ciliolatis,

pedunculo folio duplo longiore apice paucifloro, pedicelhs subumbellatis v. brevissime race mo sis.

Ad latera montis Tygerberg (III., D. a.), Jul. 1838. Krauss, n. 839. Our plant has the leaflets twice as large as they are indicated by Dr. Meyer, and the peduncles 2-2| inches long. Flowers yellow, the top of the carina violet or purple.

143. *Scytalis helicopus*, E. Mey. comm. p. 146, a.—*Vigna helicopus*, Walpers in *Linnaea* 13, p. 534.—Inter arundines ad ripas flum. Umgani, Port Natal (V. c), Jun. 1839. Krauss, n. 233.

144. *Strophostyles Capensis*, E. Mey. I comm. p. 147.—" *Phaseols Capensis*, Thunb. DC. 1. c. p. -396, n. 55.

a. *ovata*, E. Mey.! 1. c. In solo argillaceo in Zitzikamma (IV. C. c), Mart. 1839. Krauss, n. 843.

y. *longifolia*, E. Mey. 1. c. Cum prseced. Krauss, n. 842.

145. *Canavalia emarginata*, E. Mey.! comm. p. 148.—R *obtusifolia*, j3. *emarginata*, DC. prodr. 2, p. 404, n. 1.—Hb. Krauss, propr., absque loci natalis indicatione.

146. *C. cryptodon*, woi.—Glaberrima, caule suffruticoso, volubili; foliolis oblongis, subacuminatis, obtusius-culis, basi rotundatis, glabris; calycis labio inferiore 3-dentato, dentibus lateralibus minutis sub labio superiore maximo reconditis.

In sylvis primitivis circa Port Natal (V. c); Jul. 1839. Krauss, n. 296.

Very near, as it seems, to *C. monodon*, E. Mey. compro. p. 149, which differs "foliolis ovato-oblongis," and principally "calycis labio inferiore unidentato." Can Dr. Meyer have overlooked the two very small and hidden lateral teeth? The flowers are one inch long, the calyx something longer than half the corolla, its upper lip very large and broad, longer than the tube. Foliolles of the leaves about 2 inches long, 1 inch broad, almost insensibly attenuated into a short rounded acumen, with a minute, often obsolete mucro.

U7. *Erythrina Raja, nob.*—Glaberrima. fruticosa, petiolo angulato foliorumque nervis aculeatisj foliolis triangularibus,

attenuato-acuminatis, basi subtruncatis, angulis lateralibus rotundatis; racemis longe pedunculatis spicaeformibus; calycis campanulati dentibus 5 brevibus, subrequalibus, e basi .lata recurvato-apiculatis; vexillo oblongo, alis carinaeque calyce vix longioribus; genitalibus exsertis, staminibus monadelphis, legumine moniliformi.

In collibus prope flum. Umlaas, Port Natal (V. c), Nov. 1839. Herb. Krauss.

It agrees entirely with the figure of "*E. Caffra*" Reichenbach, Plor. Exot. 5, t. 312, which we must distinguish as a peculiar species, or at least as a remarkable variety, differing from *E. Caffira*, Thunb. and *E. Mey.* (comm. p. 149), in the aculeate petiole and folioles, and in the long raceme, form of the calyx, vexillum, etc. In this point our plant agrees with *E. Humei*, *E. Mey.* to which is referred *E. Caffra*, Ker in Bot. Reg. t. 736, Bot. Mag. t. 2431, DC. prodr. 2, p. 412 but this, as well as *E. acanthocarpa* *E. Mey.*, both which we have seen, differ in the form of the calyx, folioles, etc; The name we have chosen, alludes at once to the aculeate leaves and to the form of the folioles which resembles that of some of the well known genus *Raja* among fishes. The aculei are whitish at the broad base, and brown at the recurved end; on the petiole they are numerous, while on the folioles only 4-6 occur on the middle nerve and still fewer on the lower secondary and tertiary nerves or veins, the upper surface has but one or two short aculei, or is sometimes entirely unarmed.

148. *Chirocalyx*, gen. nov.—Calyx 2-bracteolatus, tubo oblongo utrinque angustato, per anthesin antice (subtus) profunde fisso, demum unilabiato, labio (postico) lato margine subtruncato dentes 5 lineari-filiformes exserente. Petala omnia libera, subsessilia, glabra; vexillum ovatum, plicato-concavum, ecallosum, carina alas subaequante vix duplo longius. Stamina basi monadelpa (vagina clausa) superne diadelpia. Stylus basi rectus pilosus, apice uncinatus glaber, stigmatate obtuso. Ovarium stipitatum? dense longue an-

trorsumlanato-villosum. Legura. . . . Suffrutices ? habitu
Erythrina, inermis (semper?)

This genus, sufficiently established on the above character* will, perhaps, include several of those species *oi. Erythrina* which are distinguished by a "spathaceous" calyx, and which, therefore, notwithstanding their similarity of habit* cannot well, we think, be left in the same genus with those having a bilabiate or almost regularly 5-toothed calyx.

Ckilocalyx mollissimus, w66.—Foliis inermibus, utrinque petioloque longo densissime lanato-tomentosis; foliolis lateralibus oblique lateque ovatis obtusissimis; terminali longissime petiolulato, suborbiculari, palmato-5-nervio, petiolulo apice utrinque glandulifero; pedunculo rigido, floribus dense spicatis, calycibus villosissimis.

In summitate montium Tafelberge, Port Natal (V. c) > Aug. 1839. Herb. Krauss, propr.

Having seen but separate leaves and raceme of this most distinguished species, we cannot judge of its habit, but the peduncle being quite as strong and woody as in the frutescent species of the genus, we scarcely doubt of this being also either a shrub or even a tree. The pubescence is exceedingly thick and soft, giving the leaves a velvety appearance, though without lustre. The entire petiole is about one foot in length, and bears the lateral folioles about its middle, the terminal one being, therefore, separated from them by a petiolule of about 5 inches; the former are upwards 2 inches long, and near the base quite as broad, the terminal one, of the same length, has a breadth of nearly 3 inches; they are all more or less undulated at the margin. At the point of insertion of all the folioles there is on each side rather large flat or concave blackish gland, half concealed and the surrounding thick pubescence. The peduncle is about 7 inches long, its inferior part at last glabrous. The spike is scarcely 2 inches long. The flower, when fully developed measures 2 inches from the base of the calyx to the top of the stamens, which then are considerably exerted beyond

the corolla. Tube of the calyx 9-11 inches long, the appendages of the upper margin or lip but little shorter, reaching to the top of the vexillum. Before expansion the calyx is quite closed, its mouth being then contracted and the appendages twisted around each other; afterwards the tube splits all along the inferior side nearly to the base, and the appendages are bent backwards, still remaining flexuose. Petals all perfectly glabrous and free, most likely red; vexillum somewhat pointed, attenuated into a short broad unguis; alae and carinal petals oblong or semi-obovate, rounded at the end. Five of the stamens longer; anthers all linear-oblong and fertile; 9 filaments free for about *i* of their length, the tenth for about *f*.

149. *Millettia Caffira, nob.*—Arborea; ramulis, petiolis foliorumque nervis pilosiusculis \ foliis pari-pinnatis, 5-6 jugis, petiolo supra canaliculate*, stipellis setaccis; foliolis oppositis, petiolulatis, lanceolato-oblongis, nervo excurrente apiculatis, ciliatis, praeter nervos glabris, inferioribus minoribus; racemis terminalibus, paniculatis, calyce subbilabiato pedunculisque rufo-pubescentibus, labio superiore emarginato, inferiore 3-lobo, lobis obtusis; vexillo extus sericeo; legumine lanceolato, acuto, 2-spermo, dense fusco-velutino.

In sylvis prope flum. Umlaas, Port Natal (V. c), Jan. 1840. Krauss, n. 194.

Arbor 25-30 pedalis (fide sched. Krauss), ramulis teretibus, fuscis, lineatis, parce minuteque pilosiusculis, gemmis axillaribus crassis ovatis fuscis lineatis. Folia circ. semipedalia, foliolis patentibus, 2-2 | pollicaribus 8-10 lin. latis, infimis dimidio brevioribus, petiolulis 2 lin. longis, jugis intervallo 8 linearum separatis, summis et infimis magis approximatis, stipellis petiolulum aequantibus v. parum brevioribus, petiolo usque ad infimum jugum 1-1½ poll.-longo. Foliolorum nervi subtus prominuli, medio ultra limbum in mucronem mollem filiformem lineam longum excurrente, feteralibus copiosis rectiusculis sequidistantibus parallelis. Panicula folii circiter longitudine, ramis simplicibus a basi

florigeris, pedicellis solitariis ebracteatis 1-2 lin. longis. Calyx ebracteolatus, late campanulatus, purpurascens, fusco-pilosus, lobis tubum subsequantibus, infimo paulo pro-
 ductiore complicato-concavo, reliquis rotundato-obtusissimis planis. Corolla purpurea, calyce triplo longior; vexillum dorso helvolo-sericeo, demum rejecto, subrotundo, emarginato, carina alisque subaequalibus obtusis vix longiore basi minute 2-callosa, alis basi superne longiuscule calcaratis, petalis carinalibus vix medio-cohaerentibus. Stamina diadelphica, 9 et 1, decimo toto libero, filamentis capillaribus subsequiiongis glabris, antheris parvis ovalibus. Ovarium villosum, stylus glaber, filiformis, stigmatibus obtusis. Legumen 1-loculare, sessile, inferne attenuatum, coriaceum, crassiusculum, 3℥ poll, longum, 8 lin. latum, totum densissimè fusco-velutinum, suturis crassiusculis obtusis, valvis planis*. Semina remotiuscula, oblonga (nondum matura*)

From this description it will be seen that our plant has all the characters of the genus *Millettia*, as established by WigW and Arnott in their excellent Prodr. F.-1. Penins. Ind. Or. h p. 263 \ to which I have only to add that the leaves, at least in the present species and in *M. rubiginosa*, of which our friend Arnott has kindly sent us a specimen, are by no means "unequally pinnated," (if this term be meant to say as much as abruptly pinnated) as they are called by the authors. Thus a fine genus, of which two Indian species only were as yet known, is now also represented in the South East of Africa, and thus we have another instance of the evident affinity which the Flora of the tropical and subtropical parts of Africa, on the East as well as on the West coast, bears with that of the East Indies.

150. *Dalbergia myriantha*, nob.—Fruticosa, scandens, inermis; foliis impari-pinnatis, 1(M2-jugis; foliolis oblongif* utrinque rotundatis, muticis, supra glabris subtus petiolis pedunculis ramulisque pilosiusculis; paniculis axillaribus et terminalibus, corymboso-ramosis, folio brevioribus, floribus confertissimis (parvulis) 2-bracteolatis; staminibus 9 mon»-

delphis (decimo prorsus deficiente), leguminibus tenue membranaceis, stipitatis, obtusis, 2-1-spermis, parce venosis, glabris.

Ad sylvarum margines prope Port Natal (V. c.)> Nov. 1839. Krauss, n. 220.

A pretty species, quite distinct from all those described by E. Meyer, remarkable for its short corymbiform panicles with innumerable small white flowers, not larger than those of *Ervum hirsutum*, and especially in the total absence of the tenth stamen, of which we have been unable to discover any trace, even by repeated careful examination of perfect flowers as well as buds. Staminal tube split above. Vexillum obovato-oblong, emarginate, a little longer than the other petals which are quite free, equal in size and form, narrow and obtuse. Calyx semi-5-fid, the lowest segment a little longer and narrower than the others. Stigma subsessile, ovary slightly pilose. Legume 1-1½ inch long, 4 lines broad. Seeds oblong, disposed longitudinally. Leaves 1½-2 inches long, folioles opposite or frequently alternate, not exceeding 3 lines in length and 1 in breadth, flat, minutely reticulated, and bearing on the inferior surface a rare pubescence of scattered adpressed hairs almost invisible to the naked eye.

151. *Cassia (Ckamacrista) Capensis*, Thunb. DC. prodr. 2, p. 504, n. 167, E. Mey.! comm. p. 158.—In solo arenoso in Zitzikamma (IV. C. a), Mart. 1839. Krauss, n. 910.

152. *Schottia tamarindifolia*, Afz. DC. 1. c. p. 508, n. 2, E. Mey.! comm. p. 161.—In solo argillaceo prope Gauritz Bivier, distr. Zwellendam (IV. C. a.), Jan. 1839. Dr. Krauss, n. 930.

153. *Arachis hypogaea*, L. DC. 1. c. p. 474, Eckl. et Zeyh. en. p. 260.—"Nomine *Tamangas* colitur in Delagoa Bay!" Herb. Krauss, propr.

154. *Mimosa spicata*, E. Mey I comm. p. 164. *Entada? Natalensis*, Benth. in Hook. Journ. of Bot. 4, p. 333.—Ad sylvarum margines prope Port Natal (V. c), Dec. 1839. Krauss, n. 199.—Frutex scandens, ex Krauss in sched.

155. *Zygia fastigiata*, E. Mey ! comm. p. 165.—In sylvis

primitivis circa Port Natal (V. a), Krauss, n. 300.—Arbor 20-30-pedalis, corona depressa, ex Krauss sched.—Leg^{u*}men 4-5-pollicare, 10 lin. latum, stipitatum, obtusum^{Dj} coriaceo-membranaceum, reticulato-nervosum, puberulum^{ity} 8-10-spernum, suturis crassiusculis obtusis.

156. *Inga?* *Caffra*, »0*.—Spinis stipularibus brevibus; foliis breviter petiolatis, 18-22-jugis, petiolo inerme, puberulo, inter omnia pinnarum paria glandulam sessilem gerente^{f*} foliolis 16-22-jugis, lanceolatis, obtusis, glabris, ciliolatis 5 capitulis axillaribus, solitariis? pedunculo demum lignes^{te*} cente; legumine subsessili, oblongo-lanceolato, obtusiusculo^{o*} oligospermo, valvis coriaceis convexis keviusculis enerviis.

Circa Port Natal (V. c), Oct. 1839. Herb. Krauss, prop^{*}

Rami stricti, sulcato-striati, glabri, sordide fusci, demum rimosi, ligno albedo; internodia pollicaria v. plerumq^{^e} breviora. Spinae stipulares geminse, 2-3 lin. longae, rectiffj divergentes, semi-erectae, acutae, albae, apice fuscescentes[^] basi puberulae. Folia 15-2-pollicaria, petiolo 2 lin. long⁰ rachique recta sub-marginato-4-gona supra minute puberulis, seta terminali brevi; glandulae pinnis cujusque jug¹ interjects, depress[®], reniformes vJ orbiculares, centro atrofiisciB, margine tenui pallidae, infima c&teris majore diametro vix semilineari; jugorum interstitia 1-1i lin. longa; pinn^{^J} patentibus, saepe angulo fere recto a petiolo com muni (rachij divergentibus, 7-10 lin. longse, inter foliolorum paria glandul^s vix conspicuas pallidas gerentes; foliola I-15 lin. lata, vi^{*} |-J lin. lata, plana, utrinque enervia glabra pallide viridia? margine minutissime ciliolata. Pedunculus (fructifer) teres, lignosus, glaber, semipoUicaris, receptaculo fructifero globoso scrobiculato glabro magnitudine seminis *Vicice*. Flores. Legumen intra calycis basin laceram subsessile, glaberrimum* 2i-3-poU. longum, 9 lin. latum, 3 lin. crassum, ntrinque obtusum v. obsolete acuminatum, sordide fuscum, uniloculare* suturis tenuibus nerviformibus rectis v. inter semina bine inde leviter inflexis interdum rugulosis demum fissis. Semina circiter 8, subglobosa, subcompressa, magnitudine pisib laevia, medium loculum occupantia, singula pellicula fungosa

lacera valvis adheerente circumcincta, funiculis liberis tenuibus 2-3 lin. longis appensa.—Habitus *Acacia*, sed legumen et semina potius *Inga*. Species e contubernio *Ingce leptophylla*, Lag. (DC. prodr. 2, p. 441) sed descriptorum nulli conveniens. *

157. *Acacia horrida*, Willd. DC. prodr. 2, p. 460, n. 130. E. Mey.! comm. p. 166.—Per totum distr. Zwellendam (IV. C. a.), Dec, Jan. Krauss, n. 912.

158. *A. Natalitia*, E. Mey. 1. c. p. 167.—Circa montes Tafelberge, Port Natal (V. c), Jan. 1840. Krauss, n. 66. Arbuscula 6-8-pedalis, ex sched. Krauss.

159. *A. Arabica*, E. Mey. comm. p. 168 (an Willd. ?)—In collibus prtpe Umslutie Rivier, Port Natal (V. c), Dec. 1839. Krauss, n. 69.—Arbuscula 10-12-pedalis, ex sched. Krauss.—Our Indian, Arabian, and Egyptian specimens differ from those from Natal in their branches being long and slender, covered with a shorter and early disappearing tomentum, and much weaker spines. We, therefore, suspect that Dr. Meyer's plant, to which ours undoubtedly belongs, is either a peculiar species, or perhaps should be referred to *A. kebeclada*, DC.]. c. n. 136, which, indeed, seems scarcely to differ, except in the lesser number (3-5) of pinnae.

160. *A. Kraussiana*, nob.—Glabra, ramis costatis petiolisque aculeatis, spinis aculeisve stipularibus nullis; pinnis 3-4-jugis, foliolis 8-10-jugis oblongis mucronulatis, petiolo ima basi glandulam oblongam sessilem gerente partialibusque seta brevi terminatis, capitulis in racemum terminalem dispositis, floribus glabris.

Ad sylvarum margines prope Onder Umlaas Rivier, Port Natal (V. a), Dec. 1839. Krauss, n. 198.

From *A. pennata*, Willd. this differs in the much less numerous pinnae and folioles, in the form of the latter, etc. The length of the general petiole scarcely exceeds 1½ inches, that of the partial ones is about 1 inch, and the folioles are 4-5 lines long, and nearly 2 lines broad. The prickles on the branches are slightly recurved, 1 line long, black at the

point; on the petiole they are much smaller (on the partial petioles often totally wanting) and disposed on either side between the pinnae of each jugum, or between the jugums themselves, or in both ways at once. Capitules small, flowers white?

161. *Acacia callicoma*, nob.—Inermis? foliis petiolatis* bipinnatis, 8-jugis; foliolis 12-14-jugis, semihastato-oblongis, acutis, basi rotundato-truncatis, margine costaque marginibus antico approximata ciliatis, rachi eglandulosa, ramulisque apice tomentoso-puberulis, petiolo communi supra medium glandulam sessilem gerente; panicula terminalis, ramis patentibus ebracteatis, pedunculis racemosis subsolitaris, capitulis globosis multifloris.

Vidi specim. absque fructu in Herb. Krauss, loco natali incerto, aut in ortu Natali, aut Ins. S. Yago Promontorii viridibus.

Arbor? ramulis inermibus, laseviusculis, cortice fusco, femore glabro, lenticellis pallidis parce punctato. Stipularum vestigia nulla. Petioli cum rachi 4-pollicares, teretes; glandulae superne tomentoso-pilosiusculi, glandulam oblongam atram (fere 1 lin. longam) 7-8 lineas a basi et 3-4 lin. ab infimo jugo distantem gerentes; pinnae 1-1½ poll., longae, foliolis 3 lin. longis, ½ 1. latis. Paniculae rami fere foliorum longitudine, angulo subrecto patentes, pedunculis numerosis 2-4 lin. distantibus solitariis (rarius geminis) bractea nulla fultis, horizontaliter patentibus, demum deflexis, persistentibus. Capitula nondum expansa pisi majoris magnitudine 5 fibres sessiles, hermaphroditi, calyce corollaque infundibuliformibus virescentibus extus puberulis; calyce corolla dimidio brevior, 5-dentato, dentibus brevibus obtusiusculis; corolla 2½ lin. longa, 5-fida, lobis oblongis acutis. Stamina circiter 20, basi monadelphica, corolla multoties longiora (rubella?), filamentis styloque capillaribus, ovario parvo (scepto abortiente?) Legumen. . . . ?—Species pulchra, fere foliolorum forma, floribusque valde accedens ad *A. Julibrissia* quam tamen differt glabritie, pinnis foliolisque multo longioribus, etc.

162. *Acacia leucocephala*, Link. DC. prodr. 2, p. 467, n. 193—Prope Porto Praya, ins. S. Yago Promontor. v. n. is, Apr. 1838, florentem et fructigeram legit Dr. Krauss.

163. *Acacia Caffra*, WUld. DC. L c p. 459, n. III, E. Mey. comm. p. 169.—In arenosis ad n. pas num. uufants Rivier, distr. George (IV. B. c), Jan. 1839. Krauss, n. 911.

164. *A. muUijuga*, »06.-Ramis petiolisque inermibus, stipulis spinosis rectdusculis brevibus, pinnis 25-30-jugis; foliolis 30-35-jugis, linearibus, obtusis, ciliolatis, glabris? petiolo generali infra infimum jugum et inter 3 v. plura juga extimaglandulam sessilem gerente, cum partialibus eglandulosis pilosiusculo; spicis axillaribus solitariis, pedunculo lignescente; leguminibus coriaceis, continuis, glabns, 5-8-spermis, suturis crassiusculis subcarinato-acutis.

In graminosis inter Port Natal et Tugala Rivier (V a), Jun. 1839. Krauss, n. 112.

Closely allied to the following, which, however, according to the authentic specimens we have compared, differs essentially in the pinna being less numerous (only 9-12 pairs), in the longer and pubescent (not only ciliated) folioles, geminate spikes and longer peduncles. We have not seen the flowers.

165. *A. fallax*, E. Mey. comm. p. 169.—In collibus prope flum. Umlaas, Port Natal (V. c), Nov. 1839. Krauss, n. 63 (without fruit.)

166. *Dichrostachys nutans*, Benth. in Hook. Journ. 4, p. 353, *D. Caffra*, nob. dim. in Hb. Krauss.—Ad sylvarum margines prope flum. Umlaas, Port Natal (V. c), Dec. 1839. Krauss, n. 148.—We formerly considered this distinct from the Senegal plant, on account of the latter having (at least in our individuals from Sieber) spinescent branches, of which the Natal specimens, otherwise quite the same, show no trace; but since Mr. Bentham, who has examined plants from different parts of Africa, refers those of Dr. Krauss to *D. nutans*, we willingly submit to his decision.

(To be continued.)

Biographical Sketch of FERDINAND BAUER, Natural History Painter to the Expedition of Captain Flinders ^ R.N., to Terra Australis.

BY DR. JOHN LIHOTSKY.

Having of late searched in vain through a series of works, such as the *Biographie Universette*, for the slightest notice concerning the above named artist, than whom none ever portrayed botanical subjects more admirably, I have considered it incumbent on myself to make use of the original family documents in my possession, and so to plant, as it were, a cypress on the grave of a man with whom I may almost claim kindred, as my countryman and fellow-traveller in Australia.

Ferdinand Bauer was born in 1760, at Feldsperg in Austria, where his father held the appointment of Painter to the court of the reigning Prince of Lichtenstein, but died, when his son Ferdinand was only a year old. However, the elder Bauer must have possessed decided talents as an artist, all his three sons having become eminent in his profession, viz : Francis Bauer, F.R.S., botanical painter to the King at Kew, and Joseph, director of the picture gallery to the above named prince at Vienna. In his earliest youth, Ferdinand copied plants and birds from the designs of his late parent, but soon took to painting from nature, and followed her as his chief guide throughout life. In the year 1775 we find him connected with the Rev. N. Boccus, Superior of the convent and hospital *Fratrum Misericordia* at Feldsperg ; who, being very fond of botanical studies, employed F. Bauer to make miniature delineations of plants from nature. He executed the greater part of a collection, which, consisting of 16 volumes in folio, may yet be seen in the Prince's library at Vienna. Occasionally Ferdinand resided in that city, painting landscapes in the studio of the celebrated Artist, Professor Brand.

But the events which preceded and followed the decease of the Emperor Joseph II. of Austria, would probably have doomed the talents of our subject to cramped inactivity, had

not favourable circumstances occurred which opened to him a sphere in which he might show all that he could do. It was in 1784 that Dr. John Sibthorp of Oxford arrived in Vienna, with the view of examining the unique manuscripts of Dioscorides in the Imperial Library. Having been introduced by Nicholas Jacquin to Pater Boccius, Dr. Sibthorp first met Bauer at Feldsperg, and the former was so much pleased with the young artist's performances, that he engaged him as a Natural History painter, to accompany him on a voyage which he then was about to undertake in Greece. -They accordingly started the same year, proceeding through Italy to Constantinople where they spent the winter, and devoted the time to 1787* to visiting Athens, Corinth, the Greek Islands, and Cyprus; Bauer delineating both plants and landscapes. On their return to England, it was highly gratifying to Bauer to find his brother Francis settled as botanical painter to His Britannic Majesty, King George III., at Kew; and he now devoted the chief part of his time to finishing the drawings made for Dr. Sibthorp's *Flora Græca*; both brothers being also patronized by the late Sir Joseph Banks, Bart., who always remained their steady and kind friend. Dr. Sibthorp having died, Sir James Edward Smith published, in the year 1806, the first volume of the *Flora Græca*^ mentioning in his preface the merits of our friend in a most honourable manner.* But Bauer possessed too discerning and unprejudiced a mind, not to perceive that he could never attain any eminence by merely copying plants even with the most mechanical accuracy; and it was, most probably, during his travels with Dr. Sibthorp, that he had devoted himself to the true study of Botany as a science, since several of the plants, for instance *Veronica glauca*, *Ziziphora capitata*, and *Salvia crassifolia*, are mentioned as discoveries of his; and especially in the Isle of Cyprus he appears to have been eminently diligent and successful. Knowing as I do also, on the other hand, that, even in an advanced period of life, Bauer made

* " Fictorem egregii nominis, Ferdinandin Bauer, cujus virtutem icones noslrae exhibent, secum duxit."

numerous sketches after the celebrated flower-pieces of Van Huysum, merely for his own improvement mechanical in the part of the art; it is easy to perceive how he attained such inimitable truth in his performances, for he sought not to idealize nature, but to seize the ideal features of nature. And we think we may venture to point to the *Salvia pomifera*, *Morina Persica*, and *Saccharum Ravenna*, as patterns of botanical iconography, which, though executed long ago, in an early part of the work, remain unsurpassed to the present day.

But even before the *Flora Græca* was published, so early as year 1801, we find the merits of our friend fully acknowledged, and himself appointed Natural History Draughtsman to the expedition to Terra Australis, commanded by Captain Flinders, of "H. M. S. Investigator." I am enabled, from letters in my possession, to state what were the liberal terms granted to Bauer. His salary was £800 a year, with rations for himself and servant. The E. I. Company having contributed £1200 towards the expenses of this expedition, the share which Bauer received, enabled him to make his outfit as an artist, very complete. It was farther granted, by the Lords of the Admiralty, that all drawings executed, which were not required for publication in any work connected with the expedition, should be the artistes own property, as well as the specimens collected by him, except those that should go to the British Museum. It is not, for a moment, my intention to follow our enterprising traveller through the different stages of this famous expedition, recorded as its events are by the ablest pens, and well known to all our readers who feel an interest in such subjects; but from Bauer's own letters I glean the following particulars.

During his excursions from False Bay to Table Mountain, and those at King George's Sound, until the first arrival of the "*Investigator*" at Port Jackson, Bauer had completed, up to the 22d. of May, 1802, 350 sketches of plants, and 100 of animals, &c. On quitting the latter place for Torres' Straits, he writes on the 20th of July that his collection then comprized seven hundred drawings, which he had left for safety

in the house of the Governor, This astonishingly rapid increase might seem almost incredible in any artist of less ability than our friend; but such were the skill and facility to which he had attained, that he had only (so to speak) to transcribe nature, and his transcripts were ever alike faithful and elegant.

I possess, moreover, two letters of his, one written from the east coast of New Holland, when the "*Lady Nelson*" left the "*Investigator*" and the other, at the period when the latter vessel had been condemned, and Captain Flinders "was on his way to England. In the latter communication, which is not dated, but probably written in the middle of the year 1803, Bauer states, that between the period of his starting from and his return to Sydney, he had executed designs of 500 species of plants, and 90 of animals; the latter chiefly birds. He complains, in this and former communications, that the wet state of the cabins in the "*Investigator*," by injuring all his paper, had hindered the perfect execution of his drawings. Captain Flinders having decided to go back to England, Mr. Robert Brown and Mr. Bauer awaited his return in Australia; and during this period, Ferdinand visited Norfolk Island/and spent eight months there, collecting those materials from which Endlicher has been subsequently enabled to compile his *Flora Nwrfolkica*.*

And here I shall conclude my notice of the part which Ferdinand Bauer bore in the expedition of the "*Investigator*,"* and proceed to that period when Flinders published the *Narrative* of his voyage. The high opinion which the Commander entertained of the subject of our memoir, appears from many passages of this work. In several instances, where Brown was otherwise engaged, Bauer went to investigate portions of the coast, and in different cases, Captain Flinders speaks of them conjointly, as "Botanists;" a juxtaposition, than which nothing can be more flattering to Bauer. But on the 5th of

* "Baucri in colligendis stirpibus industriae, in desiccando dexteritati et ~~stivino~~ plane in pingentio ingenio debetur."—Endlicher. *Preface*.

Feb. 1802, an honour was conferred upon him that ^{was} promised to perpetuate his memory. " To the south-east of Franklin's island, at the distance of eleven miles, there is a low projection of the main land, to which the name of Point Brown was given, in compliment to the naturalist; and four leagues farther, in the same line, a cliffy head received the appellation of Cape Bauer, after the painter of Natural History.*.*^h ^d Surnames are frequently changed by subsequent navigators, and it was with the view to obviate this possibility, that Governor Franklin, during his stay at Tasman's peninsula, issued orders that, in all official surveys, the original appellation, as bestowed by the earliest authentic discoverers, should always be preserved.

Although considerable delay took place ere Flinders' voyage was published, still its intrinsic and geographical value was duly appreciated. Bauer bore his full share in contributing to the production of this work, and I incline to think that he assisted Mr. Westall in executing the landscapes, for I know of no book, (the *Vues des Cordillères* even not excepted) where plants and groups of foreign trees, *Seaforthia*, *Xanthorrhiza*^a and *Camarina*, are portrayed with such surpassing beauty and truth. In the appendix, the description of ten species of plants are from Mr. Brown; these had been selected out of the invaluable collection of drawings made by Bauer." ^{is} It is easy to perceive by a glance at these plates, that they were never executed at home, and from dried specimens. Figures of *Flindersia australis*, *Endemia tetragona*, and *FranUand^ fucifolia*, are acknowledged by botanists to surpass every thing of the same kind. &

In the year 1813, Bauer began his *Illustrationes Flora no^ Hollandice*; a work which did not meet with the encouragement it deserved. The cause of failure lay wholly with our author himself; but the error which he committed was of the most honourable kind for it may be truly said that this publication

• *Voyage to Terra Australis, &c.* By Capt. Flinders, 1818, vol. 1. V' 110.

outstripped, by at least a score of years, the capacities and attainments of the time at which it appeared. There is something very *naïve* in the remark made on the subject in a letter written by Bauer's brother. He says, "Ferdinand could not find people capable either of engraving or colouring the plates properly, and he was consequently obliged to execute every part of the work with his own hands, thus occupying far too much time. Very few, indeed, coloured copies has he been able to prepare and sell." Thus a botanical book which would have been appreciated and supported in the year 1834, or even during the magnificent and art-encouraging reign of Napoleon in France, fell to the ground in 1814. It appears, from documents in my possession, that Ferdinand was excessively and unduly disheartened by this failure; so much so, that, fearing he should never be able to do any thing else; he gathered up his papers, and closing, as it were, his accounts and transactions with the literary and scientific world, determined to withdraw to his native land, taking with him his most extensive collections, drawings of more than 2000 species of plants, several hundred sketches of animals, a very valuable herbarium and collection of skins, the whole occupying fourteen large cases, with which he set sail from England in August 1814.

The liberality with which Ferdinand Bauer had been treated by the English government, in whose service he had remained, finishing the plates illustrative of the expedition, up to the year 1813, enabled him, on his return to Austria, to purchase a small house at Hitzing, near Vienna, adjacent to the large Botanic Garden of Schcenbrunn. Here he worked very hard in executing and completing his drawings of New Holland plants and animals, as well as some plates of his *Illustrations*, filling two large volumes with the former. He enjoyed the friendship of the different Naturalists in Vienna; but the greatest compliment ever paid to his merits, proceeded from those enterprising and liberal-minded travellers, Drs. Spix and Martius, when they say in their *Voyage*, (vol. 1., p 9.) "that

what chiefly animated their courage and enthusiasm, was their personal acquaintance of Mr. F. Bauer, who had accompanied Capt. Flinders in his expedition to New Holland, and whom they had seen actually engaged in delineating the extraordinary productions of those distant regions/

In 1819, Bauer again visited England, in order to see his brother, and the other valued friends, with whom a companionship of nearly 30 years had quite assimilated his ideas and feelings. He soon afterwards returned to Vienna, and continued to devote himself closely to painting, most of his productions being destined to go to England, where, besides the works above mentioned, were published his plates for late Mr. A. B. Lambert's work on *Pinus*, Lindley's *DW tails*, &c.

Thus continually engaged in the furtherance of his cherished science, and undertaking, even at this advanced period of life, botanical excursions into the Alps of Austria and Styria, and making collections of the plants which he there found, Bauer was seized, in the year 1825, by illness, which terminated his existence on the 17th of March, 1826, in the 66th year of his age. The bulk of his collections was bequeathed to his legal heirs; but the two volumes of miniature paintings of Australian plants and animals, he left to his brother Francis, by whom they have been recently sold to Mr Robert Brown. His herbarium and skins of animals and birds* with the sketches illustrative of them, were purchased for the Imperial Museum of Vienna, and a great many drawings, & well as copies of the Illustrationes, were still, in the year 1829 in the possession of his brother Francis at Vienna.

Ferdinand Bauer, as his conduct through life proved him and his private letters attest, was a plain straightforward man, full of application and energy. His temper was most kind, and hardly had he obtained his appointment in the "Investigator," than he hastened to aid most liberally some of his indigent relations. He ever preserved a deep sense of gratitude towards those friends and patrons, who had done him service?

and among them the names of Sir Joseph Banks, Lambert, and Walker, were frequently mentioned in the letters which he wrote while at sea. His own name, recorded as it is by his superior botanical designs, commemorated by the genus *Bauera* in the annals of botany, and, as we before stated, in those also of geography, will long live in the recollection of posterity.

Notes of a Botanical Excursion to the Mountains of South Carolina; unth some Remarks on the Botany of the higher Alleghany Mountains; in a letter to Sir W. J. Hooker, by ASA GRAY, M.D.

{Continued from p. 217 of vol. 1^}

On the 7th of July, we started for the high mountains farther south; having hired a cumbrous and unsightly, but convenient, tilted waggon, with a pair of horses and a driver, (who rode one of the beasts according to the usual custom of this region), for the conveyance of our luggage, and which afforded us, at intervals, the luxury of reposing on straw, at the bottom, while we were dragged along at the rate of two or three miles an hour.

Our first day's journey, extending to about twenty-four miles, was somewhat tedious, for we found no new plants of any interest. We saw, however, a variety of *Lonicera parviflora?* with larger leaves and flowers than ordinary, the latter dull-purplish; probably it is the *Caprifolium bracteosum*, \ar.floribus violaceo-purpureis, of Michaux. The following morning we reached the Watauga River (a tributary of the Holston), and leaving our driver to follow up the banfff of the stream to the termination of the road at the foot of the *Grandfather*, we ascended an adjacent mountain, called *Hanging-rock*, and reached our quarters for the night by a different route. The fine and near view of the rugged *Grandfather*, amply rewarded the toil of ascending this beetling cliff, where we also obtained the *Geum* {*Sieversia*) *radiatum*,

probably the most showy species of the genus. Its brilliant golden flowers evince a disposition to become double, even in the wild state, and we often found as many as eight or nine petals. This tendency would doubtless be fully developed by cultivation. Around the base of these mountains we saw *Blephilia nepetoides*, and another labiate plant not yet in flower, which we took for *Pycnanthemum montanum* (Michaux).

The next day (July 9th) we ascended the *Grandfather's* * the highest as well as the most rugged and savage mountain we had yet attempted, although by no means the most elevated in North Carolina, as has generally been supposed. It is a sharp and craggy ridge, lying within Ashe and Burke counties, very near the north-east corner of Yancey, and cutting across the chain to which it belongs (the *Blue Ridge*)* nearly at right angles. It is entirely covered with trees, except where the rocks are absolutely perpendicular; and towards the summit, the *Balsam Fir* of these mountains, *Abies balsamifera*, partly, of Michaux's *Flora* (but not of the younger Michaux's *Sylva*) the *A. Fraseri* (Pursh), prevails, accompanied by the *Abies nigra* or *Black Spruce*. The earth, rocks, and prostrate decaying trunks, in the shade of these trees, are carpeted with *mosses* and *lichens*; the whole presenting the most perfect resemblance to the dark and sombre forests of the northern parts of New York and Vermont; except that the trees are here much smaller. This similarity extends to the entire vegetation; and a list of the shrubs and herbaceous plants of this mountain would be found to include a large portion of the common productions of the extreme Northern States and Canada. f Indeed the

* According to Professor Mitchell's barometrical measurements, the *Grandfather* attains the altitude of 5,556 feet above the sea; the *Jto** 6,038 feet; and the loftiest peak of the *Black Mountain*, 6,476 feet; the latter thus exceeds Mount Washington in New Hampshire (hitherto accounted the highest mountain in the United States) by more than two hundred feet.—See *American Journal of Science and Arts*, vol. xxxv, p. 377.

f Among those northern species which we had not previously observed

vegetation is essentially Canadian, intermixed with a considerable number of peculiar species. Under the guidance of Mr. Levi Moody, we followed the *Watauga*, here a mere creek, for four or five miles along the base of the *Grandfather*, until we reached a ridge which promised a comparatively easy ascent. In the rich soil of this ridge, at an elevation of about 400 feet above the *Watauga*, we found one of those plants which, of all others, we were desirous of obtaining, viz. *Carex Fraseriana*. Mr. Curtis had made diligent but ineffectual search for this most singular and rarest of *Carices*, along the "Catawba near Morganton," and "near Table Mountain/" where Fraser is said to have discovered it; and we believe that no subsequent botanist has ever met with it, except Mr. Kin, whose specimen, in Muhlenberg's herbarium, is merely ticketed, "*Deigher walli in der Wilternus.*" Muhlenberg assigns the habitat, "Tyger Valley, Pennsylvania;" but Kin probably obtained his plant in *Tygarfs Valley*, Virginia, a secluded spot among the western ranges of the Alleghanies (in Randolph county), not far from Greenbrier Mountains, and other localities visited by this collector, as his labels prove. Kin cultivated the plant for some time at Philadelphia, where it was seen by several botanists, and among them by Pursh, who took it for the *Mapania sylvatica* of Aublet;—a mistake which he did not discover whilst writing his *Flora*, in Europe, although he had the cultivated *Garex Fraseriana* before him. We were too late for good specimens, but succeeded in obtaining a considerable number with the fruit still adherent. The plant grows in tufts, after the manner of *C. plantaginea*; its evergreen leaves are a foot or more long, and often an inch and a half in width, with singularly undulate margins; the slender scapes are naked, except towards the root, where they are sheathed by

in this region, we may mention *Carex flexuosa*, *C. plantaginea*, *C. scabrata*, *C. intumescens*, *Oxalis Acetosella*, *Streptopus roseus*, *Viburnum lantanoides*, and *Platanthera orbiculata* in the finest condition and in greater profusion than we ever before met with this, the most striking of North American *Orchidee*.

the convolute bases of the leaves. To the description of the spike, fruit, &c. we have nothing of any consequence to add.

Long ere reaching the summit, we again met with the new *Saxifraga*,* which we had previously gathered on the mountains near Jefferson, but we now found it in great abundance, both in flower and with mature fruit. It grew in the utmost profusion, on the dripping face of a rocky precipice, near our encampment for the night, on the north-western side of the mountain, five or six hundred feet beneath the highest summit. The vegetation is here so backward, that the *Saxifraga leucanthemifolia*, growing on the brow of this precipice, was not yet in blossom, and the *Saxifraga erosa*, (Pursh) in the wet soil at its base, was scarcely out of flower, while at the foot of the mountain it had long since shed its seeds. We were therefore enabled to satisfy ourselves that the *S. erosa* belongs to the section *Hydatica*, and that the *S. Wolleana*, (Torr. & Gray), from a mountain near Bethlehem in Pennsylvania, is only a variety of this species. Pursh gathered his plant in Virginia, " out of a run near the

* *Saxifraga Careyana* (Spec, nov.) foliis radicalibus longe petiolatis g^{a*} bris (tenuibus) ovato-rotundis grosse crenato-dentatis basi truncatis ve subcordatis, scapo gracili nudo apice paniculato-cymoso, floribus eflusis* pedicellis filiformibus, petalis lanceolato-oblongis sessilibus sepala recurva plus duplo superantibus, carpellis discretis turgidis demum divaricatis ca.~ lyce liberis.—Variat 1, scapo petiolisque glabriusculis; 2, scapo, pedicellis* necnon pagina foliorum pilis viscosis pubescentibus; 3, scapo foliis a^{u*} bracteis foliaceis 1-2 instnicto; 4, foliis ovalibus oblongisve, nunc argute dentatis, in petiolum plus minus attenuatis.

Crescit in rupibus humidis opacis altissimorum montium comita¹¹⁸ Ashe, praesertim ad montem *Grandfather* dictum, alt. 3,500—5,000 pedes—Junio floret.—Herba spithamaea, rarius pedalis. Flores parvi. Pe^{fcala} consimilia, sessilia, subtriplinervia, alba, irnmaculata. Filamenta subulato-filiformia. Carpella ovoidea, stylis brevibus apiculata (stigmat^{ibu9} subincrassatis), basi vix aut ne y\\ coalita, ad maturitatem p^r tota¹¹¹ suturam ventralem dehiscentia, ut in pleris Saxifragis plus minus ap^{o'} carpeis. Semina ovalia, striis elevatis denticulatis (per lentem augentew longitudinaliter notata.—Species distinctissima, habitu ad sect. H^{jt} a⁴ cam, sed characteribus *Micranthem* accidens.

road from the Sweet Springs to the Union Springs, five miles from the former." But if this species be the *Robertsonia micranthifolia* of Haworth's Succulent Plants, as is most probable, and consequently the *Aulaxis micranthifolia* of this author's subsequent enumeration of Saxifragaceous Plants, it must have been introduced into the English gardens by Praser, so early as 1810.* We know not how such a common plant could have escaped the notice of Michaux. Under the name of Lettuce, its leaves are eaten by the inhabitants as a salad. At this place we also saw an umbelliferous plant, not yet in flower, which we believe to be *Conioselinum Canadense*, Torr. §• Gray (*Selinum Canadense*, Michaux), which is very rare in the extreme Northern States and Canada, to which we had supposed it exclusively confined. We found plenty of *Cimidfuga Americana* (Michaux), but were obliged to content ourselves with specimens not yet in bloom, and with vestiges of the last year's fruit. It should be collected in September.

We were also too early in the season for *Chelone Lyoni*, Pursh, which we found growing plentifully between the precipice mentioned above and the summit of the mountain, with its flower-buds just beginning to appear. Mr. Curtis remarks that Mr. Nuttall could not have met with this exclusively mountain plant near Wilmington; and also that the *C. Lyoni* of Pursh, and the *C. latifolia* of Muhlenberg and Elliott, are doubtless founded on one and the same species. Both, indeed, are said to have been collected by Lyon, and the leaves vary from ovato-lanceolate, or oval with an acute base, to ovate with a rounded but scarcely

* The only important discrepancy respects Haworth's character, "*p^orolla irregularis, petalis 2 inferioribus elongatis divaricantibus gracilibus,*" and "*Flores albi, rubro minute punctati;*" while the petals in our plant are very nearly equal and similar, and pure white, except the yellow spot at the base. *Aulaxia nuda* (Haworth, l. c. of unknown origin), appears to be the more ordinary and nearly glabrous form of this species. Mr. Don's description of *S. erosa*, probably drawn from cultivated specimens, also differs from our plant in several minor points.

cordate base. Pursh's character is drawn up from a cultivated specimen. Here we again met with the *Aconitum*, previously observed in similar situations on the *Negro Mountain*, and which being then only in bud, we took for the *A. uncinatum* a species collected in this region by Michaux, and recently by Mr. Curtis and other botanists. We were greatly surprised, therefore, to find that our plant, here just coming into blossom, had cream-coloured flowers, very different from those of *A. Lycoctonum*.* On our return to Jefferson, we obtained good specimens at our original locality, where it is very abundant. The weak stems, ascending at first, become prostrate when the plant is in bloom, and frequently attain the length of seven or eight feet. As the stem does not climb, and its flowers are so different from those of *A. uncinatum*, it can hardly be the plant mentioned by Pursh under that species, which he saw at the foot of the Peaks of Otter, and about the Sweet Springs in Virginia. It may be remarked that the ovaries of *A. uncinatum* are often nearly glabrous, and the claws of its petals entirely so; the seeds are strongly plicato-rugose, with a wing-like margin on one side.

Near the summit of the mountain, we saw immense quan-

* *Aconitum reclinatum* (spec. nov. § *Lycoctonum*), caule elongato decumbente folisque palmatifidis glabris, lobis divaricatis cuneatis apiceff* versus incis, racemis paniculisve divergentibus laxifloris (floribus albidia), bracteolis minimis, galea horizontali conico-cylindracea ore obliquo, labi^o cucullorum obcordato ab ungue distante, calcare adunco, filamentis edentulis, carpellis glabris 2-4spermis, seminibus (immaturis) squamoso-rugosis.

Hab. in sylvis opacissimis ad montes *Negro Mountain* et *Grandfather* dictos, alt. 4,000-5,000 pedes. Julio-Augusto floret.—Caulis flaccidus, adscendens vel declinatus, denique procurabens, 3-8 pedalis, rarois gracilibus, seu paniculis laxifloris, divaricatis. Folia flaccida; inferiora longe petiolata, (circumscriptione suborbiculari), profunde 5-7 fida; segmentis interdum 2-3 lobatis, apice inciso-dentatis, dentibus mucronatis; summa subsessilia, 3-5 partita; venis et pagina quandoque superiori tenuissimepubescentibus. Pedicelli sparsi (pedunculique puberuli), florelongiores, bracteolis 2-3 minimis stipati. Flores minores quam in *A. Lycoctono*, albi vix flavi distincti (in siccis leviter purpurascentes); sepalis intus

tities of a low but very large-leaved *Solidago*, not yet in flower, which I take to be the *S. glomerata* of Michaux, who could not have failed to observe such a conspicuous and abundant plant, especially as it must have been in full blossom at the time he ascended this mountain. It does not, however, altogether accord with Michaux's description, nor does that author notice the size of the heads, which in our plant are among the largest of the genus. Specimens in flower were procured by Mr. Curtis, who visited this mountain at a more favourable season. Growing with the latter, we found a *Geum*, which Mr. Curtis had formerly observed on the *Roan Mountain* (where we afterwards met with it in great abundance), and referred, I think correctly, to *G. geniculatum* (Michaux), although that species is said to have been collected in Canada. The lower portion of the style is less hairy in our specimens than in Michaux's plant; a difference which, if constant, is perhaps not of specific importance. In the subjoined character, I have supplied an inadvertent omission in the *Flora of North America*, where the sessile head of carpels, which so readily distinguishes this species from *G. rivale*, is not noticed.* Here we again

'pilis aureis barbatis. Galea primum adscendens, mox horizontalis, rostello brevi rectiusculo. Unguispetalorum medium cucullifidius; saccus angustus, ore valde obliquo in labium obcordatum expansum. Ovaria tria, 4-6-ovulata.

* *Geum geniculatum* (Michaux), capitulo carpellorum sessili, articulo styli superiore plumoso inferiorem pubescentem excedente, achenio hirsuto, petalis cuneato-obovatis (nunc emarginatis aut leviter obcordatis) exunguiculatis calycem aequantibus; floribus mox erectis.

P. Macreanum j articulo styli inferiore sursum glabrescente.—G. Macreanum, M. A. Curtis, in *Hit.*

Crescit in Canada ex Michaux; an recte? var. j3. in umbrosis ad montes *Grandfather* et *Roan*, Carolina Septentrionalis, alt. 5,500—6,000 pedes, ubi imprimis detexit cl. Curtis. Julio floret.—Caulis 2-3-pedalis, gracilis, foliosus, inferne pilis rigidiusculis retrorsis, superne pilis mollibus patentibus crebrioribus villosus. Folia membranacea; radicalia nunc palmatim 3-secta, nunc interrupte pinnatisecta, haud rariusque indivisa vel sublobata in eodem stirpe; caulinia trisecta trilobata, lobis acutis; superiora sessilia. Flores minores et numerosiores quam in *G. rivali*; petala albida, venis purpurascens. Styli pars inferior portione plumosa primum

gathered *Vaccinium erythrocarpum*, AS already mentioned, and beautiful flowering specimens of *Menziesia globularis*, a straggling shrub, which in this place attains the height of five or six feet.

The only unwooded portion of the ridge which we ascended, an exposed rock a few yards in extent, presents a truly alpine aspect, being clothed with *lichens* and *mosses*, and with a dense mat of the mountain *Leiophyllum*, a stunted and much branched shrub (6ve to ten inches high), with small coriaceous leaves, greatly resembling *Azalea procumbent** The far denser growth, and the broader, more petiolate, perhaps uniformly opposite leaves, as well as the very different habitat, would seem to distinguish the mountain species from the *L. buzifolium* of the Pine Barrens of New Jersey, etc.; but, although I think the learned De CandoUe has correctly separated the former, under the head of *L. serpyllifolium* (*Ledum serpyllifolium*, *V Her. ined.*), it is not easy to find sufficient and entirely constant distinctive characters; since the sparse scabrous puberulence of the capsule may also be observed upon the ovary of the low-country plant, in which the leaves are not unfrequently opposite; and no reliance can be placed on the length of the pedicels. The synonymy requires some correction; the *Ledum buxifolium* of Michau* (in *summis montibus excelsis Carolina*), and of Nuttall (so far as respects the plant which is "extremely abundant on the highest summits of the Catawba Ridge," that is, on *Table Mountain*), as well as the *Leiophyllum buxifolium* of Elliott (from the mountains of Greenville district, South Carolina), multo, postremum modice brevior, in exemplo *Mchaux* manifeste, atjuxta ⁴em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ⁵* TM» of « " * • ⁶em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ⁷em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ⁸em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ⁹em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ¹⁰em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ¹¹em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ¹²em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ¹³em P T ^Oso -P nbe* ens» *» var. 0. superne glabrata. ¹⁴em P T ^Oso -P nbe* ens» *» 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• We are confident that the Utter do^e9 not grow on the *Grandfather Mount*TM, as... stated by Pursh, on the authority of a specimen collected by Lyon, and we feel little doubt that he mistook for it this species of *Leiophyllum*, vide *Pursh, Flora Amer. Syst. I, p. 30, and p. 30, 2*.

must be referred to *L. serpyllifolium*, DC. We were too late to obtain the plant in blossom, excepting one or two straggling specimens; but we happily gathered flowering plants of *Rhododendron Catawbiense*.

I should have remarked, that so much time was occupied in the ascent of this mountain, as nearly to prevent us from herborizing around the summit for that day; since we had to descend some distance to the nearest spring of water, and to prepare our encampment for the night. The branches of the *Balsam* afforded excellent materials for the construction of our lodge; the smaller twigs, with large mats of moss stripped from the rocks, furnished our bed, and the dead trees supplied us with fuel for cooking our supper, and for feeding the large fire which we were obliged to keep up during the night. We returned to the top next morning, and devoted several hours to its examination, but the threatening state of the weather hindered us from visiting the adjacent ridges, or the southern and eastern faces of the mountain, and we were constrained to descend, towards evening, to the humble dwelling of our guide, which we hardly reached before the impending storm commenced.

Our next excursion was to the *Roan Mountain*, a portion of that elevated range which forms the boundary between North Carolina and Tennessee, distant about thirty miles south-west from our quarters at the foot of the *Grandfather*, by the directest path; but at least sixty by the nearest carriage road. We travelled, for the most part, on foot, loading the horses with our portfolios, papers, and some necessary *^uggage, crossed the *Hanging-Rock* Mountain to Elk Creek, and thence over a steep ridge to Cranberry Forge, on the sources of Doe River, where we passed the night. On our way, we cut down a *Service-tree* (as the *Amelanchier Canadensis* is here called), and feasted upon its ripe fruit, which throughout this region is highly and, indeed, justly prized, being sweet, with a very agreeable flavour; while, in the Northern States, so far as our experience goes, this fruit, even if it may be said to be edible, is not worth taking. As *Services* are here greedily sought after, and generally procured

by cutting down the trees, the latter are becoming scarce in the vicinity of the "plantations," as the mountain settlements are universally called. Along the streams, we met with the mountain species of *Andromeda* (*Leucothoe*), doubtless Pursh's *A. axillaris*; but whether the original *A. axilla*^{rtS} of the *Hortus Kewensis* pertains to this, or to the species of the low country, I cannot at this moment ascertain. A portion of Pursh's character seems also to belong ^{to} the low country rather than the mountain species, and the two are by no means clearly distinguished in subsequent works. The leaves, in our specimens, are oblong-lanceolate, finely acuminate, their margins closely beset throughout with spinulose-setaceous teeth; and the rather loose spicate racemes (the corolla having fallen away), are nearly half the length of the leaves.

Hitherto we had searched in vain for the *Astilbe decandra*; but we first met with this highly interesting plant in the rich and moist mountain woods between Elk Creek and Cranberry Forge, and subsequently in similar situations, particularly along the steep banks of streams, quite to the base of the *Roan*. Mr. Curtis found it abundantly near the sources o^{*t} the Linville River, and at the North Cove, where it could not have escaped the notice of *Michaux*, and it is doubtless the *Spiraea Aruncus* var. *hermaphrodita* of that author. F[>] indeed, greatly resembles *Spiraea Aruncus*, and at a distance of a few yards they are not easily distinguishable; but, on a closer approach, the resemblance is much less striking* *Michaux* appears to have been the original discoverer of th^s plant, and from him the specimens, cultivated in the Malmaison Garden, and described by *Ventenat*, under the name of *Tiarella biternata*, were probably derived. It was afterwards collected by *Lyon*,* and described by *Pursh* from ^a specimen grown in Mr. *Lambert's* garden at *Boyton*. ^{we} noticed a peculiarity in this plant, which explains the dis-

* *Muhlenberg's* specimen was also received from *Lyon*. The only habitat cited in this author's Catalogue, is Tennessee, and we ourselves ^{col-}lected it within the limits, as well as on the borders of that state. ^{The} late *Dr. Macbride* found it in South Carolina, near the sources of ^{the} *Saluda*.

crepancy between Ventenat and Pursh, (the former having figured it with linear-spatulate petals, while the latter found it apetalous), and which, perhaps, throws some additional light upon the genus. The flowers are *dioecio-polygamous*, the two forms differing from each other in aspect, much as the staminal and pistillate plants of *Spiraea Aruncus*. In one form, the filaments are exerted to twice or thrice the length of the calyx; and the spatulate-linear petals, inconspicuous only on account of their narrowness, are nearly as long as the stamens; the ovaries are well formed and filled with ovules, which, however, so far as I have observed, are never fertilized; and the stigmas are smaller than in the fertile plant and not papillose. In the other or fertile form, both the stamens and the petals are in an abortive or rudimentary state, and being shorter than the sepals, and concealed by them in dried specimens, are readily overlooked; the stigmas are large, truncate, and papillose; and a portion of the ovules become fertile. The Japanese species (*Hoteia Japonica*, Morr. *fy* Decaisne, the *Spirtea Aruncus* of Thunberg), appears to have uniform and perfect flowers;* but the species from Nepal (*Astilbe rivularis*, Don, the *Spiraea barbata* of Wallich, but not of Lindley), is probably polygamodicecious, like our own; at least the flowers are apetalous, in a fragment given me by Prof. Royle, and the stamens mostly equal in number to the sepals. I have no doubt that these three species belong to a single and highly natural genus, for which the name of *Astilbe* must be retained; for I see neither justice nor reason in superseding the prior appellation (as suggested by Endlicher,t on account of the incompleteness of the character, which correctly describes one state, at least, of the plant intended), by the subsequent *Hoteia*, the charac-

* " Flores in meo Japonico specimine oranes inveni hermaphrodites, nee ullos polygaroos." Thunberg, *Flora Japonica*, p. 212, sub *Spiraea Arunco*,

t Si quod nunc asserunt auctores, *Hoteia et Astilbe*, Don : revera turn plantae congeneres, posterius incomplete ab auctore suo descriptum supprimendum, et prius egregie stabilitum servandum erit." Endl., *Gen. Suppl.* p. 1416

ter of which is equally deficient, when applied to the whole genus.* The number of genera which are either divided between North America, Japan, and the mountain-regions of central Asia, or have nearly allied species in these countries or in the two former, is very considerable; in other cases, a North American genus is replaced by a nearly allied

* Since the above remarks were written, I have seen, in the *Annales des Sciences Naturelles*, Jan. 1841, M. Decaisne's additional *Note sur les genres Astilbe et Hoteia*, in which the two genera are still held to be distinct, the latter including the North American plant, as originally proposed by this author. The characters of his two genera (excluding such as are common to both) are merely these:

Astilbe. Flores hermaphroditi, vel saepe stam. abortu feminei. Petala nulla. Stamina 5.

Hoteia. Flores hermaphroditi. Petala 5, angusta. Stamina 10, quae petalis opposita breviora.

Since, then, it appears that the *Astilbe rivularis* is more or less dioecio-polygamous, the view I had already taken is certainly confirmed; and when this acute and justly distinguished botanist becomes acquainted with the two states of the American species, and considers that the stamens of the original *Astilbe* are probably sometimes double the number of sepals, as described by Don, he will doubtless come to the same conclusion. The diagnostic characters of the 3 species may be thus expressed.

ASTILBE. Ham., ex Don, Torr. et Gray. (*Hoteia*, Aforr. et Decaisne).

1. *A. rivularis* (Hamilton, Don): floribus saepe dioecio-polygamis, calyce 4-5 partito imo ovario tantum adnato, petalis (an semper?) nullis; staminibus 4-5 nunc 8 (ex Don).—*Spiraea barbata*, Wall. *Cat.*; *Camb.* Jacquem. bot. p. 48, l. 58. ex Decaisne.

Hab. in montibus Nepaliae.

2. *A. decandra* (Don); floribus dicecio-polygamis, calyce 5-partito uno ovario tantum adnato, petalis anguste hinc spathulatis (in pi. fert. subnullis) staminibus 10 (in pi. fert. abortivis).—*Spiraea Aruncus* var. hermaphrodite Michaux. *Tiarella biternata*, Vent. hort. Mulmais. U 34, *Astilbe decandra*, Don; Torr. et Gray. fl. N. Amer. 1. p. 589. *Hoteia biternata*, Decaisne, in Ann. Sc. Nat. (ser. 2.) t. 11. l. 11. et 12. et 7. p. 36.

Hab. in montibus Carolina et Tennessee.

3. *A. Japonica*, floribus hermaphroditis, calycis profunde quinquepartito basi ovarii adnato, petalis oblongo-spathulatis, staminibus 10. *Spiraea Aruncus*, Thunb. fl. Japon. p. 211, non Linn. *S. barbata*, Linn. Bot. Reg. t. 2011, non Wall. *Hoteia Japonica*, Aforr. et Decaisne, in Sci. Nat. (ser. 2.) et l. 11. et 7. p. 36,

Hab. in Japonica.

one in Japan, &c, as *Decumaria* by *Schizopkragma*, *Schizandra* by *Spharostemma*, *Hamamelis* by *Corylopsis*, &c. I have elsewhere alluded to this subject, and shall probably consider it more particularly on some future occasion.

{*To be continued*}.

Notes of a BOTANICAL TOUR in the WESTERN AZORES. By HEWETT C. WATSON, ESQ. {Continued from page 9 of the present volume.}

IN a former communication, I gave a hasty sketch of my passages to and from the Azores, and first impressions of Azorean botany. Since that letter was written, my collection of specimens has reached England. The species of *Flowering Plants* and *Ferns* amount to three hundred and fifty; and notwithstanding this limited number of species, for Islands in the latitude of Portugal and Greece, I am disposed to believe that the collection will afford a fair approximation towards a Flora, not only of the more westerly isles on which the plants were gathered, but even of the entire group. This opinion is founded in part on the similarity of species seen in the different islands visited by myself; in part, also, on the resemblance between the species gathered by myself and a set of Azorean plants in the possession of Sir W. J. Hooker, who received them from Mr. Guthnic* The latter collection was formed in the islands of St. Michael, Terceira, Fayal and Pico; mine, in the islands of Flores, Corvo, Fayal and Pico : the two, united, represent the botany of six islands, out of a group of nine islands in the whole; and the number of distinct species in both collections together amounts to about three hundred and seventy. It is highly probable, however, that Sir W. J. Hooker's set of specimens does not include all the species collected by Guthnic and his companion Hochstetter. Terceira, apparently, has supplied most of the twenty kinds of plants in

* This name was erroneously printed Guthrie in the early portion of this article.

their collection which are not included in mine; while Flares afforded a large proportion of my species which are absent from their parcel sent to Sir W. J. Hooker,

It might be expected by a home botanist, or one who lived on shore while herborizing, that with only three hundred and fifty species, I ought to have brought away a very large supply of duplicates. Yet this is not the case; I do not estimate my specimens altogether at more than four thousand, including the smaller Cryptogamous plants, which, indeed, I possess very few species. On making this estimate of the specimens, when they arrived in England? I was certainly much disappointed at their paucity. I collected, from the last week in May up to the first week of September; and had I been living on shore, instead of being on board a ship, it is probable that the specimens dried would have been six times as many. But, as hints for the benefit of other botanists likely to be so impeded, I mention here the three circumstances which materially impeded the expected results of my exertions. In the first place, the plants dried very slowly, and when their paper was changed there was great difficulty in getting the damp paper made fit for use again. To have scattered the sheets loose about the deck, would have been a great breach of the neatness and etiquette of a man-of-war; and though I frequently bring them on deck tied in bundles, the process of desiccation was extremely slow in this condition. The only place in which I could keep loose papers was my sleeping cabin; and it will easily be conceived that a space of six feet square, which was occupied already by a bed, chest of drawers, wash-stand, table, chair, and botanical presses, could afford no "drying ground" for loose papers. Secondly? my opportunities for collecting were very uncertain. Sometimes, when all my paper was already damp, I could have got an ample supply of specimens; and at other times, when I had paper dry and ready, a week might elapse without having the opportunity of setting foot on shore. This I had hoped would not have been the case; but it was so; and the circumstance was even more provoking, because, in every other

respect, except not finding the expected facilities for botanizing, I had the fullest reason to be satisfied and pleased with the conduct of Captain Vidal and the officers generally. Thirdly, I fell into the error of drawing the straps of my presses too tight, which no doubt rendered the process of desiccation much slower, and considerably injured some of the more succulent specimens. Accustomed to dry plants at home, in an airy room, with usually many quires of paper between each layer of specimens, I had found a heavy pressure advantageous. In a damp climate and ship, where space compelled me to keep a limited supply of paper in use, a heavy pressure was certainly detrimental; though "in the darkness visible" of a sleeping cabin, it was long before I observed the injuries arising from this practice. I can now better understand why specimens come so imperfectly pressed from warm and damp climates, where tight pressure would induce an incipient putrefaction and destroy the distinctness of parts in the succulent individuals. I have, unfortunately, experienced this effect in my semi-succulent species of *Euphorbia*, *Campanula*, and *Convolvulus*, which appear to be undescribed.

To return from a digression which may probably give useful hints to some other collector. My former communication had carried me to the edge of the Caldeira, in Fayal. This was described as a circular hollow in the highest part of the island, and has doubtless been a volcanic crater in long bygone ages: now it is a natural botanic garden, where the true Flora of the Azores, above the cultivated region, reigns undisturbed by plough or spade. The diameter of the basin appears to be about one mile, and its perpendicular depth is more than a quarter of a mile, with very steep sides or walls, down which several small streams rush rapidly, forming beautiful cascades in places where they fall over precipitous ledges of rock. Ultimately, these streams are absorbed in a lake, which occupies about a third of the base of the valley; and from which, as before stated, there is no visible outlet for the waters which are constantly pouring into it.

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time during research for several days, if looked for outside the basin. I lost much time by not being sooner aware of this circumstance.

• The shrubs which are most abundant in the Caldeira are *Erica scoparia*, *Juniperus* (species unascertained), *Myrsine retusa*, *Laurus Canariensis*, and *Vaccinium Maderense* (or *pa* difolium*). Though the flowers of this *Vaccinium* are much longer than those of the Madeira specimens, I am disposed to regard the Azorean plant as the same species; not detecting any other well marked difference. *Viburnum Tinus*, *Hedera* (*Helix?*), *Ilex Perado*, and a handsome shrubby *Euphorbia*, also occur among the more abundant species first named. This *Euphorbia* is nearly allied to *E. mellifera*, but is much larger in all its parts, and more especially in its leaves. It grows like a great forked candelabrum, with long and stiff branches, which terminate in tufts of darkly glaucous leaves and umbels of yellow flowers.

Among the *Ferns*, as far as my recollection serves, the most conspicuous for their size or frequency were *Woodwardia radicans*, *Pteris arguta*, and *aquilina*, *Aspidium foeniseccii*, and *angulare*:—*Trichomanes speciosum*, *Hymenophyllum Tunbridgense*, *Cyrtia fragilis*, *Acrostichum squamosum*, and *Asplenium monanthemum*, though less conspicuous, were plentiful enough in many places, on wet and shady rocks. *Lycopodium suberectum* may also be gathered in the Caldeira; and here only did I see any species of *Equisetum*, the few barren fronds found apparently belonging to *E. fluviatile*.

Ranunculus cortusafolius, *Cardamine Caldeiraria*, *Sanicula ciliaris*, *Senecio malvafolius*, *Bellis Azorica*, *Erythraea diffusa*, *Veronica* (No. 158 of my specimens), *Ilumecc* (No. 216'), *Luzula* (No. 254), *Carex sagittifera*, and other species of the same genus, were also observed in this Caldeira, and may be regarded as the Alpine plants of Fayal.

At the base of the Caldeira, about the lake, were several British species which are commonly found in wet or damp places in this kingdom, namely, *Mentha rotundifolia*, *Cerastium viscosum*, *Callitriche verna*, *Peplis Portula*, *Veronica*

Anagallis, *Potamogeton natans*, *Juncus effusus* and *Scirpus* Savii*. In Fayal, where the low grounds consist of porous rocks, which allow very little water to remain on the surface, the marsh productions thus associate with the alpinists; and these alpinists are several of them large plants, unlike the diminutive growth of the Scottish Highlands. To these species we may add *Sibthorpia Europaea*, *Tormentilla officinalis*, *Frogaria Vesca*, *Lysimachia nemorum*, (or *L. Azorica*), *Cotyledon Umbilicus*, and *Thymus caspitius*, as farther souvenirs of the Flora of the Caldeira; and generally that of the hilly parts of the island.

Some other plants also occur on the hills between Flamingos and the Caldeira, which I do not recollect to have seen within it, though it is likely enough that they may be most of them found there, if sought for; namely, *Dicksonia Culdta*, *Asplenium anceps*, *Juncus ericetorum*, *Serapias cordigera*, *Festuca jubata*, *Tolpis macrorrhiza*, *Nephrodium molle*, *Holcus mollis*, *Subta ylendens*, *Hypericum grandifolium*, *Aira caryophyllifera*, a handsome (but yet unascertained) species of *Solidago*, a *Habenaria* allied to *H. viridis*, a new *Carex*, to which Dr. Boott has attached the specific name of *Watsoni*, and some few more plants. *Menziesia polifolia* is extremely abundant on the hills, and was also seen at the Caldeira. *CaUuna vulgaris* and *Myrica Faya* are plentiful in places above Flamingos. A *Rubus*, with larger flowers than our native species, also occurs locally.

Among the more interesting productions of the lower parts of the island, and not mentioned in my former letter, may be enumerated the following; namely, *Solanum pseudo-carolinense*, *Physalis pubescens*, *Frankenia pulverulenta*, *Arenaria macrorrhiza*, *Lathyrus Tingitanus*, *Trifolium Ligusticum*, *Dorychnum parviflorum*, *Asplenium palmatum*, *Gymnogramma leptophylla*, *Lythrum Grisebii*, *Chrysanthemum Myconis*, *Microdenia nana*, *Butenus leucantha*, *Cyperus bicus* and *C. esculentus*, *Gaudium fragilis*, *Festuca petraea*, *Juncus tenuis*, and *Urospermum picroides*. *Laurus Indica* and an *Olea*, allied to *excelsa*, are doubtful natives.

Several of the names thus mentioned shall be unknown to most botanists. They have been obtained from the labels of Guthnic's collection, or are the appellations conferred on the same species in Madeira, by the Rev. Mr. Lowe, and kindly communicated to me, with numerous specimens from Madeira, by Dr. Lemann, from whose extensive knowledge of plants, and more particularly of the productions of the Atlantic islands and the Mediterranean coasts, I have derived great assistance in determining many of those collected in the Azores. While alluding to Mr. Guthnic's collection, I may correct a misprint of his name, which runs through the whole of my former communication ; the name having been printed Guthrie, probably in consequence of my spelling it Guthnic, though Guthnick may be the proper orthography.

The genera of Fayal plants, which yield species that I have not yet been able to refer to described species, are *Convolvulus*, *Carex*, *Euphorbia*, *Luzula*, *Veronica*, and *Rubus*. There are also species of *Carex*, *Cardamine*, *Bellis*, *Festuca*, *Sanicula* and *Lyimachia*, which have been named, if not described, by Lowe, Guthnic, or other botanists.

Notes on the Distribution of the PLANTS OF ABERDEENSHIRE in relation to altitude, by G. DICKIE, M.D., Lecturer on Botany in the University and King's College of Aberdeen.

IN studying the Distribution of Plants, in relation to Altitude, it is important to bear in mind the different agencies by which they may be removed, even to a considerable distance, from their natural places of growth; in short, it is necessary to distinguish between what may be called *natural* and *accidental* stations.

When one meets with patches of *Urtica dioica*, *Cerastium viscosum*, &c. in the Highlands, at a distance from any habitation, it will generally be found that the ruins of some former smuggling hut are not far off. For the most part, however, plants of the low country are not so liable to make

their appearance *accidentally* at high altitudes, as are ^{^P} plants to intrude upon the lower haunts of the former, ^{It} will be observed, that these remarks are only strictly true, of a district, which includes a range extending from the sea-level to several thousand feet above it. Rivers are the ^{chie} agents by which plants of the higher are conveyed to ^{tn} lower districts.

If now and then, a *solitary* tuft of *Epilobium alpto***, *Saxifraga aizoides*, *Oxyria reniformis*, *Festuca vivipara*, an *Alchemilla alpina* appears not far from the sea and near ⁱ level; this, (on the supposition that they have not been ^{wi} fully introduced by man), can only happen in the vicinity ^o of some stream, which traverses, or some of whose ^{tributarie} pass through, a mountainous district. Such is the case with ^{tn} plants alluded to, in the vicinity of Aberdeen;—and they ^{pre-} sent us with examples of what I have ventured to call *acci-* *dental* stations.

It is quite likely that, after a time, some species, ^{thaa} conveyed far from their natural places of growth, may ⁱⁿ crease rapidly, and become established in such localities; ^{so} that it would be ultimately impossible to ascertain ^{whetne} they had, or had not, been introduced in the way ^{allud} to.

Mr. H. C. Watson, in his second paper, (Lond. Journ. Bot. May, 1842), makes the remark, that « All alpine species have not an equal tendency to descend into dark valleys, *ot* along the courses of streams ; or to grow upon shaded rocks, or near the sea-shore. The consequence is, that in such situations several species are occasionally found, far ^{belo} others, with which they are naturally associated by ^{clim} when they grow in similar situations; and their absolute altitude thus becomes an ^{imperfect} guide to their true relative positions as ^{determined} by climate." A question arises, therefore, by what means we are to ascertain the lowest natural limits of such stragglers ; and it is one which cannot *he* answered with certainty, except as by attending to the ^{asso-} ciations of such plants and their comparative abundance, ^w

may make an approximation to the truth. On passing inland, and consequently (in Aberdeenshire at least), ascending, we find that the five plants already mentioned all become more and more abundant; and that, not in the immediate vicinity of any large stream which might be supposed to have conveyed them, they are also associated with others which are more permanent in their stations. The following may be considered as the order in which they naturally appear at their lower limits, *Epilobium alpinum*, *Alchemilla alpina*, *Festuca vivipara*, *Oxyria ?^oeniformis*, and *Saxifraga aizoides*, the last descending naturally lower than the others. Many plants of the lower parts of the country, when reaching, as they often do, considerable altitudes, become less fastidious in regard to the situation in which they grow, chiefly in reference to its comparative moisture.

It is by springs, at high altitudes, where we principally meet with such associations as *Monia fontana*, *Saxifraga stellaris*, *Caltha palustris*, *Epilobium alsinifolium*, *Apargia autumnalis*, *Bellis perennis*, *Ranunculus Flammula*, *R. acris*, *Stellaria uliginosa*, *Empetrum nigrum*, *Juncus squarrosus*^ *Galium saxatile*, *Blechnum boreale*, *Prunella vulgaris*, *Leontodon Taraxacum*, *Trifolium repens*, *Nardus stricta* and *Feronica officinalis*; the water of the springs retaining a temperature more equable than that of the air, thus favours the development of these plants, many of which are naturally common in the lower districts, but in situations of a very opposite character.

Mr. Watson, whose investigations must be familiar to all who have paid any attention to this interesting subject, has left so little undone, that the present communication and a subsequent one, can only be considered supplementary to that gentleman's published works, and his papers in previous numbers of this Journal.

The following list exhibits the highest observed altitudes in Aberdeenshire, of the plants mentioned, all of which also occur at, or near the sea-level. In a subsequent communication, the lowest stations will be given, of plants na-

turally occurring chiefly at high altitudes, and in it, care will be taken to distinguish, as far as possible, between their *natural* and *accidental* lower limits. The different altitudes have been measured by Adie's Mountain Sympiesometer. The names of the plants are those adopted in the Fourth Edition of Sir W. J. Hooker's *British Flora*.

	Feet.		Feet.
Achillea Millefolium.	1715	Fragaria vesca.	1900
Airapracox.	1715	Geum rivale.	1200
Alchemilla arvensis.	1715	Gentiana campestris.	1742
———vulgaris.	1863	Gnaphalium dioicura.	2163
Artemisia vulgaris.	1386	Galium verum.	1800
Airacristata.	2155	———palustre.	1500
Avena pratensis.	2000	———boreale.	2500
Angelica sylvestris.	2400	Geranium pratense.	1517
Agrostis vulgaris.	2400	———Robertianum.	1200
Aira flexuosa.	3887	Habenaria viridis.	2500
Asperulaodorata.	1200	Hieracium murorum.	W?
Bellis perennis.	2000	Hieracium paludosum.	1200
Brachypodium sylvaticum.	801	Juncus squarrosus.	2500
Cardamine pratensis.	1500	———uliginosus.	2500
———hirsuta.	1800	———lampocarpus.	2400
Callitriche verna.	2245	———conglomeratus.	2100
Carexflava.	1863	———acutiflorus.	1175
Cnicus arvensis.	1386	Juzula sylvatica.	2500
Centaurea Cyanus.	1386	Lotus corniculatus.	1800
Campanula rotundifolia.	3048	Lycopsis arvensis.	*386
Carex pulicaris.	2163	Leontodon Taraxacum.	2200
Campanula latifolia.	820	Lysimachia nemorum.	1863
Chrysanthemum segetum.	820	Lonicera Periclymenum.	>>500
Carex stellulata.	2000	Lapsana communis.	1200
Cnicus palustris.	1800	Mercurialis perennis.	1300
Cerastium viscosum.	2397	Melica nutans.	1200
Cnicus lanceolatus.	1700	Montia fontana.	1900
Caltha palustris.	3559	Myosotis palustris.	2100
Cochlearia officinalis.	3560	Menyanthes trifoliata.	1800
Dactylis glomerata.	1386	Oxalis Acetosella.	2500
Eleocharis pauciflora(?).	1863	Polygonum Persicaria.	1380
Epilobium palustre.	1500	———annua.	1386
———montanum.	1800	Pyrethrum inodorum.	1386
———angustifolium.	1900	Pinguicula vulgaris.	2500
TeBtuca durmscula.	2500	Petasites vulgaris.	1500

	Feet.		Keet#
Prunella vulgaris.	1900	Spergula arvensis.	1386
Polygala vulgaris.	2500	Stellaria media.	1386
Poa pratensis.	2900	Silene maritima.	2163
Plantago lanceolata.	1900	Stellaria uliginosa.	2800
Pedicularis palustris.] 667	Solidago Virgaurea.	• 1200
Polygonura viviparum.	2500	Stachys sylvatica.	1200
Parnassia palustris.	2500	Spergula nodosa.	1175
Poa fluitans.	2199	Trientalis Europaea.	1300
Potamogeton natans.] 658	Thyraus Serpyllum.	1800
'——heterophyllus.	1658	Triodia decumbens.	1742
Primula veris.	1516	Trifolia repens.	2000
Quercus Robur.	1500	Triticum repens.	1200
Rubus saxatilis.	1747	Tussilago Farfara.	1200
Rumex Acetosella.	3559	Tanacetum vulgare.	1200
——Acetosa.	1336	Vicia Cracca.	1386
Ranunculus Flammula.	2000	Veronica Chamaedrys.	1900
Rosa canina (?).	1863	———officinalis.	1900
•——spinosissima.	2000	———Beccabunga.	1200
Ranunculus acris.	2800	Valeriana officinalis.	1200
Sagina procumbens.	1742	Utricularia vulgaris.	1500
Spiraea Ulmaria.	1386	Urtica dioica.	1300

Some Data towards the Botanical Geography of New Holland,
by DR. JOHN LHOTSKY, late of the Civil Service in Van
Dieman's Land.

It is an interesting and, I believe, hitherto unnoticed fact, that it has fallen to the lot of one single individual to become connected in a conspicuous, I might almost say, exclusive manner, with the Botany of New Holland, and that from its very outset. Whatever increase the Flora of this country may in future receive, and accessions doubtlessly will take place to a considerable extent, still, the foundation laid by that eminent naturalist, Dr. Rt. Brown, has been of such a broad and comprehensive kind, that his name must ever remain identified with the Botany of New Holland, far more permanently than those of Humboldt and Bonpland with the Flora of South America, Already the fame of these latter

great travellers has, to a degree, merged in that of Martius and St. Hilaire, etc.

The subject, however, on which I purpose to offer some remarks, is of an especial, though no less important character; I allude to the *Botanical Geography of New Holland*. It is now upwards of twenty years since Dr. Brown published his first papers thereon yet the statements therein contain are laid down in such a wide and sweeping, though guarded manner, that subsequent investigation has but confirmed their accuracy. It is only to one feature in Brown's Memoir that I mean to allude, as forming the basis of the following observations.

In the enumeration which follows of the plants that grow in the southern parts of New Holland, a great approximate may be traced towards the European Flora, entirely coinciding with Dr. Brown's observations, when he says :—" It appears from the foregoing remarks on the several Natural Orders, that a much greater proportion of the peculiarities of the Australian Flora exist in this parallel, which I have therefore called the principal Parallel (lying between 33° and 35° S. latitude), and that many of them are nearly confined to it.¹* Again:—" Proceeding from the principal parallel, most of the characteristic tribes diminish in number of species, as well as of individuals," etc.*

It has been to the disadvantage of every branch of science connected with the general history of our globe, that Naturalists, instead of confining themselves to a close examination of the region before them, have all arranged their observations so as to tally, or even made them purposely in accordance, with a certain favourite theory which they desired to establish. Anxious to obviate this anomaly, I have divided the vegetation of the country over which I travelled (namely from Sydney to the top of the Australian Alps) into five

* *Vide* General Remarks, Geographical and Systematical, on the Botany of Terra Australis, p. 586. Appendix to Capt. Flinders' Voyages to Terra Australis.

Classes or Divisions. I am very far from anticipating that this arrangement of mine will hold good, when New Holland shall be more fully explored, and when repeated observations of this nature shall enable future observers to combine such detached remarks into one comprehensive view, and to correct my partial statements by reference to more extensive investigations. I shall therefore feel neither surprised nor disappointed if some of my Divisions should subsequently merge into those laid down by abler pens.

FIRST CLASS. *The Coast Vegetation from Sydney south to Illawarra.*—Its subsoil is the almost shifting sand of the places contiguous to the sea coast; or recks of coal-sandstone, either naked or very slightly covered with earth; or it may be seen occurring around those small ponds of salt or brackish water, which are exceedingly common in these districts. In such localities as these, the *Epacris*, *Boronia*, *Dillwynia*, *Gompholobium** *Xanthorrhcea*, *Hakea*, *Grevillea*, *Persoonia*, *Lumbertia*, *Astroloma*, *Lomatia*, *Comesperma*, *Leucopogon* and *Xerotes* are prevalent and characteristic tribes, while no kind of forest-tree, except the *Eucalypti*, is visible. The above-named plants grow in such dense masses, that men and cattle penetrate with difficulty, presenting a striking analogy with the plains of South Africa. The stiff and dry nature of the foliage prevents their being applied to any economic purposes.

SECOND CLASS. *Vegetation of Rocky Gullies near the Sea-coast.*—In these localities, a small number of springs may be seen, which feed the few creeks on the sea-coast. This moisture, whether permanent or periodical, generates a series of plants, not met with elsewhere. In such gullies, and the small flats surrounded by them, appear the only two kinds of *Palms* that are indigenous to Australia. Here the *Corypha australis* rears its annulated stem to a height of a hundred feet, and the *Seaforthia* attains an equal stature, but with a thicker and smoother trunk. The *Arborescent Fern* (*Alsophila*) likewise affects these spots; also that splendid ornament of Australian vegetation, *Doryanthes ewcelsa*,—the *Tasmania*,

Callicoma, besides the few Australian species of *Rubiacea* and *Malvacee*, here occur.

THIRD CLASS. *The Argyle Vegetation*.—It may be seen and is characteristic of all those park-like spots, with the stately *Eucalyptus Trees*, growing at some distance from each other, with very little underwood:—places so peculiar, that they have struck all travellers, from Tasman down to the wanderers of the present day. This vegetation prevails upon every kind of rock, which, by its easy decomposition and the alumine which it contains, is capable of being converted into soil; as *Greywacke, Trap, Limestone, Granite, &c.* The Coal-sandstone is uncongenial to it, because containing so much Silica, that nothing but the scanty growth described as belonging to the First Class can thrive upon it. The *Argyle Vegetation* contains species of *Thlaspi, Cerastium, Gonia, Convolvulus, Euphrasia, Prunella, Thymus, Verbena, Scandix, Hydrocotyle, Desmodium, Lespedeza, Lotus, Oxalis, Silene, Hypericum, Caulis, Ajacium, Arabis, Dianella, Brachyocotyle, Myriogyne, Leptomeria, Scleranthus, Polygonum, Exarrhenia*; these are amongst the most characteristic of its productions; whilst the family of *Composite* also, as *Calotis, Helichrysum, Bellis, Senecio, Sonchus, Angianthus, Gnaphalium, Cotyledon, Podolepis* and *Craspedia*, also exhibit the discrepancy that prevails between the coast-productions and the inland Flora of Australia. The *Gramineae*; too, such as *Anthistiria australis, Stipa, Poa australis, Holcus plumosus* and *Triticum*, combine to form part of the turf of these peculiar spots, while this tribe is entirely absent in the districts which produce the first Class of Vegetation. It is further evident, that whilst our first Division is composed, as already stated, of harsh and stiff plants, the latter mainly consists of herbs which are soft and juicy; and whilst so much has been said of the mercantile and commercial importance which attaches to the herbage of this vast continent, we think this is the first time the subject has been treated in a scientific light.

FOURTH CLASS. *The Minero Vegetation*.—This comprehends the Flora of the Downs of that name surrounding the

Upper Murrumbidgee and Snowy Rivers, and it is also diffused over the plains and flats at the foot of the Alps. In these Downs chiefly resides the richness of New South Wales, so far as grazing is concerned; they stretch on the east side of the Alps for about a hundred miles, containing many level or slightly depressed plains, which measure from three to seven miles, without break or interruption, till the traveller reaches a slight ridge of dividing hills, skirted again on the other side, by similar tracts. With the exception of *Hakea* and *Brunonia*, no shrub of any size can be descried, and it appears certain that either these plains have been only lately heaved out of the sea, or else that the granitic gravel which overspreads them, must be the result of some very recent geological trituration, for trees appear to have had no time to establish themselves thereon. These Downs present, at different times, different aspects. In the Spring (about November), they begin to be clothed with the most luxuriant herbage, which reaches its perfection at Christmas, when the subsequent heat gradually destroys it, and in summer, the plains, from the month of April onwards, look quite yellow, and are parched and barren. Generally, in winter, these Downs are partially overspread with snow, and if this lasts long and the patches of vegetation on the banks of ponds or creeks* become inaccessible to cattle, they are obliged to browse upon the young branches and leaves of *Eucalyptus*, in which case many of them die. As it was at the commencement of such an unfavourable season that I traversed these Downs, my botanical collections were, of course, rather scanty; especially as the hurry of my movements prevented me from paying attention to the family of *Graminea* and *Cyperaceae*, so abundant in these peculiar localities. Besides possessing a good many of the plants of the immediately preceding Class (and a palpable transition takes place between these two Classes), *Lythrum*, *Potentilla*, *Euphorbia*, *Epilobium*, *Rumex*, *Leuzea anstralis*, *Malva*, *Chenopodium*, *Amaranthus*, *Limosella*, *Helichrysum* (a variety of species of this last genus), *Calotis*, *Gnaphalium*, *Erigeron*

and *Senecio* are very characteristic; while, on the ridges that separate the Downs from each other, the genera *Eucwllr* and *Exocarpus*, with *Callitris sphceroidalls*, may be seen.

FIFTH CLASS. *Alpine Vegetation*.—It begins in the valley of the Alps, and reaches their summits; amalgamating? on one side, with that of the meadows or *Minero* Downs, and terminating on the other, in a point which our present state of knowledge* will not allow us to overstep- I have traced it to the summit of Mount William the Fourth, certainly of the loftiest among the Australian Alps. Supposing these mountains should somewhere rise to the elevation of perpetual snow, the extent of this latter Class will, of course, be considerably increased. At all events, it is certain, that the numberless peaks and rocky slopes of this chain must yield a great accession to the New Holland Flora, even supposing that there should be no great novelty in the genera and species of the plants which grow there. As the difference of latitude between the Australian Alps and the Table Mountain of Van Dieman's Land is only five degrees, it must be presumed that although the former mountains be several thousand feet higher* than the latter, yet that many of the productions of the Table Mountain will also occur on the Alps; and when it is taken into consideration that Dr. Brodie ascended the Table Mountain, no less than nine times, the chance of discovering any very remarkable novelties on the yet unexplored heights of New Holland, is much diminished. One species of *Eucalyptus*, growing from twelve to twenty feet high, is the only tree that rewarded my researches among the Alpine vegetation; but some rangers and stock-keepers having assured me that a large tree, of a particular kind, may be seen in one of the valleys, most probably » species of *Atherosperma*, there assuredly remains something yet to be detected and identified in this Class of vegetation.

The soil in this division is primitive, and in those spots

* According to a calculation, made from the temperature, viz. 1°6' which water boiled on the summit of Mount William the Fourth, this mountain has an elevation of 8,000 feet.

where I most closely studied this department of Australian vegetation, I mean in Napoleon's Valley and on Mount William the Fourth, I every where found the formation to be of coarse-grained granite, upon which rests a stratum of vegetable mould, covered with *Sphagnum*. A characteristic feature in these localities consists in the tracts, which for miles, are covered with dead timber (the small *Eucalyptus*), killed during severe winters by the vast accumulation of snow; a fact, however, upon which, inasmuch as it rather belongs to Physical Geography than Botany, I shall not here dilate. The characteristic plants of this Class are two species of *Gentian*, a *Mniarum* and *Sphagnum*, a new *Dracophyllum*, *Pentachondra*, *Aseroe*, *Galium*, *Veronica* (n. sp.), *Leptorhynchus*, *Callitriche* (?), *Eurybia* (several species), *Acrostichum australe*, *Coprosma*, *Podolepis* (some of them three feet high), and several *Umbellifera* of very extraordinary aspect.

All the most remarkable plants that I collected during my expedition are deposited in the British Museum. It is only by the aid of the second volume of the *Prodromus Flora Nova Hollandiæ*, that their earlier elucidation could be accomplished,—a book, than which none would ever afford more effectual assistance to the explorer of New Holland.

Brief descriptions, with figures, of JUNIPERUS BERMUDIANA, the Pencil-Cedar Tree; and of the DACRYDIUM ELATUM, Wall.,—by W. J. H. (TABS. I, II).

JUNIPERUS BERMUDIANA.

I had long been anxious to procure authentic specimens of *Juniperus Bermudiana*, which is considered to yield the wood of which cedar pencils are made; but notwithstanding that the Bermudas are a colony of Great Britain, and that, besides the interesting use of the wood just mentioned, ships are actually built with it, yet it was only very lately, and then through the kindness of the Rev. C. E. Johns, that I

I regret that I am at present able to give no history of this valuable tree, beyond the meagre accounts which might be gathered from botanical works; but I trust to make up for this deficiency at some future time. It is generally considered that this Juniper of Bermudas *originally* afforded the fragrant "Cedar-wood" of which pencils are made; but that this material becoming scarce and dear, recourse was had to the *J. Virginiana* of the United States, which, *now*, is the wood generally, if not solely, in use for that purpose. There exists indeed a great affinity between the two plants, and the foliage on *some* of the smaller branches of the one can scarcely be distinguished from those on the other. Then, again, the *J. Virginiana*, I have, so far as its botanical characters are concerned, referred (in my Flora Bor. Americ), to the European *J. Sabina*, in which I am followed by M. Spach. Indeed no genus stands in greater need of a thorough revision than that of the Junipers.

Tab. I. fig. 1. Portion of a young plant; f. 2, its leaves, *magnified*; f. 3, portion of a fruit-bearing plant; f. 4, its leaves, *magnified*.

DACRYDIUM ELATUM. *Wall.*

Foliis undique insertis aliis angustissimis lineari-elongatis tetragonis acutis erecto-patentibus, aliis arete imbricatis brevibus ovatis obtusis rarius acuminatis, fructu ovato obtuse tetragono apice umbilicato, receptaculo cupuliformi. (TAB. II).

Dacrydium elatum. *Wall. Cat. n. 6045.*

Juniperus elata. *lioxb. Fl. Ind. v. 3, p. 838.*

Juniperus Phillipsiana. *Wall, in Herb. 1824.*

HAB. Pulo-Penang. *Wallich, Roxburgh, Jack.*

Here, as in the *Juniperus Bermudiana* just described, the leaves are extremely variable, even in the fruit-bearing plant. My original specimen from Dr. Wallich (*Cat. n. 6045*), is about 14 inches long, much branched, its branches long, flexuose, subcorymbose # the main branch nearly thick at the base as a swan's quill, terete, clothed with remote,

ovato-subulate leaves (f. 4); the lower branches, bearing fruit, have the leaves similar to those in our main figure (f. 1, 5, & 0) \ these gradually pass into the upper and longer numerous branches, which exhibit the long, slender, acutely four-angled foliage, as shown at f. 2 & 3. That state of the plant sent by Dr. Wallich in 1824 as *l. Phillipsiana* (but which in his "Catalogue" he correctly refers to *Dacrydium datum*) has all the leaves short and densely imbricated, and is itself our fig. Y In the *FL Indica*, Dr. Roxburgh says the leaves are "subcylindric and mucronate," which is not the case with any of them. The same author speaks of the tree as constituting a large timber of slow growth; but nothing more of its history is yet known to us.

Tab. II. Fig. L Portion of the tree with all the leaves short and imbricated; f. 2, portion of ditto, with acicular leaves; f. 3, leaves off. 2, *magnified*; f. 4, leaf from a main branch, *magnified*; f. 5, fruit-bearing branch, *magnified*; f. 6, lower portion of the main branch, *magnified*; f. 7, single leaf, *magnified*.

BOTANICAL INFORMATION.

ILLUSTRATIONES PLANTARUM ORIBNTALIUM; *on Choix de Plantea Nouvelles ou pen connues de PAsie Occidentals, par M. LE COMTE JAUBERT, et M. ED. SPACH. Paris, 1842, %c.*

Of this beautiful and important publication, the four first *wraisons* have reached our hands; and it is not too much to say that it promises to add greatly to our knowledge of the vegetable productions of the East, in a manner highly creditable, both to the authors and the accomplished lady to whose pencil the volumes are indebted for the execution of the greater part of the drawings. Such work is become the more needful and welcome, in consequence of the vast accession of plants to our Her-

baria from the regions embraced by it; not only such as are collected by private individuals for the use of themselves and their immediate friends, but those whose collections have been dispersed among numerous subscribers, as in the case of MM. Bove*, Aucher Eloy, Fleischer, Kotschy, etc.

It will be issued in *livraisons* of ten beautifully-executed copper plates, and will form five volumes, large quarto, each volume composed of one hundred plates and about thirty sheets of text. Ten *livraisons* are to appear in the year, and the price of each *livraison* is fifteen francs—a very moderate sum, considering the execution and the details of the plates. Besides the botanical figures, the work will be accompanied by a new geographical map in four sheets, exhibiting the principal routes of botanical travellers, commencing with Rauwolf in 1570 and extending to Coste in 1841, which cannot fail to be of great interest, including as they do, besides the names of the travellers just mentioned, those of Tournefort, Hasselquist, Forskal, Sestini, Michaux, Olivier, Corancez, Bélanger, Delaborde, Texier, Texier and Jaubert, Botta, Aucher Eloy, Col, Chesney, Ainsworth, etc. Also General Trézel, Gen. Fabvier, Thuillier, Callier, Hamilton, and de Beaufort. A portion of this important map is already given with the present numbers. It is prepared by M. le Colonel Lapie, on a scale of 3,500,000 of a mile, and extends (from west to east) from the coasts of Asia Minor to Mersched, and (from north to south) from the Caucasus to the embouchure of the Persian gulf.

We cannot give a better idea of the botanical interest of this publication, than by saying that the present *livraisons* contain:—1, *Texiera glastifolia*, a new genus founded on the **old** *Peltaria glastifolia*; 2, *Boreava orientalis*, a new cruciferous genus; 3, *Syrenopsis stylosa*, ditto; 4, *Silene echinata*, *Ott.*; 5, *Tunica* (*Gypsophilae* sect.) *brachypetala*, n.; 6, *Dichoglottis* (*Gyps.* sect.) *tubulosa*, n.; 7, *Sedum Cariense*, n.; 8, *Jaubertia Aucheri*, *Guitt.*; 9, *Valeriana alliarifolia*, *Vahl*; 10, II, *Acroptilon Picris*, DC; 12, *Heterochroa*

minuartioides,»; 13, *H. spergulifolia*, *n.*; 14, *Abies orientalis*, *Poir.*; 15, *Campylopus cerastoides*, *Spach.*; 16, *Hypericum origanifolium*, *Willd.*; 17, *H. Tournefortii*, *Spach*; 18, *H. Jaubertii*, *Spach*; 19, *H. ptarmiceefolium*, *Spach* x 20, *H. adenotrichum*, *Spach*; 21, 22, *H. rupestre*, *n.*; 23, *H. nanum*, *Poir.*; 24, *H. anagalloides*, *n.*; 25, *H. cuneatum*, *Poir.*; 26, *H. repens*, *L.*; 27, *H. retusum*, *Auch.*; 28, *H. saturejaefolium*,»; 29, *H. spectabile*, *n.*; 30, *H. aviculariaefolium*, *n.*; 31, *H. Aucherii*, *n.*; 32, *H. Montbretii*, *%icfc*; 33, *H. amoenum*, *n.*; 34, *Drosanthe fimbriata*, *SjpacA*; 35, *D. hirtella*, *Spach*; 36, *D. helianthemoides*, *Spach*; 37, *Thymopsis aspera*, *n.*; 38, *Androssemum xylosteifolium*, *Spach*; 39, *Adenotrias* (*Hypericum auct.*) *phrygia*, *n.*; 40, *Disemeston gummiferum*, *n.*, a most extraordinary umbelliferous plant, of which the description will be given in the fifth livraison. The greater number of these figures are from the drawings of Mine. Spach, and they contain admirable analyses of the flowers and fruit.

We shall conclude this notice by an extract from the very interesting Preface, written by Count Jauberc himself.

Having felt, he says, from my earliest youth, a keen delight in the study of plants, I had successively visited several times, first, in company with the unfortunate Jacquemont, whose premature decease has proved a heavy loss to science, and subsequently by myself, the South of France, the Alps, the Pyrenees, Austria and Italy; not to speak of my tribute to the *Flora of Central France*, published in two octavo volumes, by my friend M. Boreau, Director of the Botanic Garden at Angers. Scarcely a year has elapsed, since 1819, without my making some botanical excursion. The Mediterranean Flora engaged my keenest attention, and the researches, then instituted, having urged me to pursue these investigations in the East, I finally, in the spring of 1839, decided on executing this plan, and had the good fortune to join M. Charles Texier, whose noble Archaeological labours in Asia Minor are so justly appreciated, and who

was then about to set off on his fourth expedition. Never could I have met with an abler guide, a more desirable travelling companion in every possible point of view. Together, we visited that portion of Asia Minor, which comprizes Smyrna and Ephesus, the valley of the Meander, Geyra and Mount Cadmus in ancient Caria, Phrygia, the chain of Olympus in Bithynia, Nicea, Broussa, Nicomedia and Constantinople.

The state of my health, which suffered from the effects of the climate, forbade my pursuing these investigations any farther; but though I have thus only partially performed my self-imposed task, still, devoting my time exclusively to botany, and provided with ample means for gathering an abundant harvest of specimens, I have brought home an immense number of interesting plants, and, among them, a good many new ones. To the publication of the latter I was about to proceed, when I was unexpectedly summoned to the Office of Public Works, a deviation from my favourite pursuits which proved of brief duration, and from which I was no sooner released, than my earliest thought was to resume my projected publication.

It was needful, in the first place, in order to promote the interest of science, to glean out of the rich herbaria of the museum of my honoured colleague, M. Benjamin Delessert, those particular collections which previous travellers had brought from the districts near what I myself had visited. But as my work proceeded, so did the wide horizon expand before and around me, and equally my desire increased to investigate that Mediterranean Flora which first led me to Asia Minor, and which is so intimately connected with the productions of Western Asia, as to throw much light on the general features of the botany of that vast region. Here was indeed an enormous mass of materials, either imperfectly known, or wholly inedited. Collections, which appeared as if exhausted, were perpetually presenting me with subjects alike requiring and meriting elucidation. Who, for instance, could have supposed that the laborious and

successful Tournefort had left any thing for Desfontaines and others to glean in the Levant? And yet the manuscripts and herbarium of this eminent naturalist, aided by the original drawings which we owe to the skilful pencil of his artist, M. Aubriet, all of which have been submitted unreservedly to my examination, by the extreme kindness of M. Adrien de Jussieu, permit not a doubt to remain on this subject.

Among more recent collections, none are richer than those of Aucher Eloy, who died at Ispahan in 1838, a real martyr to science, after ten years of travels, which he pursued exclusively in the region of which I have spoken. The principal portion of these, containing eminently the unique specimens, is deposited in the Museum, and has been arranged by M. Adolphe Brongniart; the remainder is diffused among various Parisian and foreign herbaria; in France, MM. Delessert, and Webb (author of the *Natural History of the Canary Islands*), M. Maille and myself, possess the chief part. Some idea may be gained of the discoveries made by this intrepid traveller, by glancing at those volumes of De Candolle's *Prodromus Systematis Universalis Regni Vegetabilis*, which have appeared since 1838. The widow of Aucher Eloy, whom I had the honour to visit at Constantinople, has kindly confided to me her husband's various manuscripts; among which, his Journal of 1835, and that from 1837 to 1838, are peculiarly valuable, on account of the variety of observations which they comprise, on many subjects besides botany; and if they cannot bear comparison as to literary execution with the Indian letters of Jacquemont, they possess an equal interest, owing to the painful trials and difficulties with which his laborious journeys were accompanied. It is my intention, with the permission of Madame Aucher Eloy, to publish these journals separately, after I shall have reduced them to proper order, and added some explanatory botanical notes, deduced from an examination of the plants themselves. It is thus that I have been induced, instead of merely publishing those plants which I have myself gathered,

to make known, by drawings and descriptions, (not assuredly? ALL. the unpublished or little known botanical productions of Western Asia, which were a work of enormous labour, and expense, but) a considerable selection of these species, enlarging or limiting my plan as may appear best. Thus I propose to unfold a sort of botanico-geographical map, capable of further extension, which shall afford a *rendez-vous* to the researches of such *savans* as already may require, or shall, in future* find occasion, to make use of it. Already I have received information that M. Boissier,* of Geneva, author of *Botanical Excursions in the South of Spain*, has commenced, at about the same period with myself, to work upon Aucher Eloy's plants; but no person, that I am aware, has yet contemplated making any engravings from them, and the public will be only greater gainers from our common labours.

The nature of my collection excludes,] at least for the present, any idea of systematic arrangement into families and genera. A lengthened manipulation, alone, of the plants of these regions, could justify the offering to the public a methodical enumeration, or *Flora of Western Asia*, though this is the end towards' which my labours would tend, and this the object I would fain promote. If unable myself to attain it, I shall, at least, have contributed to facilitate for others the accomplishment of a work which is assuredly a desideratum in science.

Once embarked in this undertaking, I found that my own powers were hardly adequate to its requirements, and having aimed at procuring the help of an experienced and authorised botanist, I was so fortunate as to obtain that of M. Spach, Assistant-Naturalist at the Museum, already well known by his critical writings, and by his having aided M. Mirbel in the more delicate researches of *Vegetable Physiology*. Together, we undertook this work, to the completion of which I intend, henceforth, to devote all my leisure hours.

The region which we are about to illustrate contains all

* See London Journal of Botany, vol. 1. pp. 311 & 398.

Asia Minor, Armenia and Georgia, as far as the summits of the Caucasian range, part of Persia, reaching to the Salt Deserts and the frontier of Beloochistan, and finally Muscat and Arabia Petrsea, to the Isthmus of Suez; excluding the Hedjas and Yémen, which are the subject of a separate publication, already begun by M. Decaisne.

For a very long period of time, that attraction which the East has proved to the inhabitants of Europe, has been felt by botanical travellers, and the following list will convey some idea of the materials they have amassed for us :—pre-mising that the French nation having taken the largest share of these labours, I have felt a peculiar delight in the patriotic work of pursuing such a creditable employment,

A Frenchman heads the honourable series, Peter Belon, a native of Mans, about the year 1546.

Between 1573 and 1575, Rauwolf, of Augsburg, explored Palestine, Syria and Mesopotamia; his narrative was published in 1583, but the systematic catalogue of his plants not till 1755, by Gronovius, at Leyden.

In 1615, Bachelier brought the *Horse-Chestnut Tree* to France from the Levant.

Our immortal Tournefort, one of the greatest reformers of Botany, and an accomplished model for travellers, investigated, by order of Louis XIV, Georgia, Armenia, and the north of Asia Minor, in 1700.

Sherard, the English Consul at Smyrna, [in 1702, sojourned there a long time, making many excursions into the adjoining provinces.

In 1728, Buxbaum published the result of his journeys in Armenia and several other countries of the Levant.

In 1738, appeared the work of Shaw, a botanist and antiquary. Guilandin is of the same period.

In 1749, Hasselquist, a pupil of Linnaeus, studied the environs of Smyrna, Palestine and Syria.

About 1761, Forskal, the companion of Niebuhr in Arabia, touched at Constantinople and Smyrna.

Sestini, in 1779> described a portion of ancient Bithynia and the Peninsula of Cyziqua; in 1781, 82, and 87, he explored almost all Turkey, and advanced almost as far as Bussorah.

In 1784, Michaux, who was, at a subsequent period, to bring to France the materials for a *North America Flora*, went to Aleppo, under the protection of Lemonnier, and visited several provinces of Turkey and Persia, including Ghilan.

Sibthorp, in 1786, 87, and 1794, botanized twice on Mount Olympus, following the coast of Asia Minor, and exploring the islands, principally that of Cyprus.

About that time, Labillardière made an excursion in Syria.

In 1792, Olivier and Bruguière were sent to Turkey and Persia, on a scientific mission by the Provisional Executive Council, in which Mouge and Roland presided, and they passed six years there.

Latterly, when the love of Natural Science has become more and more diffused, many travellers have explored the East in various directions, and enriched our herbaria with the plants they have collected. Among these are Dumont d'Urville, B&anger, Botta, Bove, Dubois, Ravergie, Coquebert de Montbret, and especially Aucher Eloy, all natives of France; besides Webb, Riippel, Schimper, Fleischer, Kotschy and Ehrenberg. The expedition commanded by Col. Chesney, and sent to explore the Tigris, with a view to opening new channels for British commerce, has not been fruitless in the matter of botany.

_ In the Caucasian countries alone, the Germans and Russians, who accompanied the military expeditions, rendered invaluable services to our favourite branch of Natural History 5 it may suffice merely to mention the names of Bieberstein, Szovitz, C. A. Meyer, and Hohenacker. A sketch of their labours may be seen in the Essay by M. Trautvetter, entitled *Grundriss einer Geschichte der Botanik in Bezuff an*

Ilusland, extracted from the Memoirs of the Academy of Science, at St. Petersburg.

While we were engaged in laying, so to speak, the foundation of a Western Asiatic Flora, it was indispensable to append to our *Illustrationes* a Geographical Map of this region, marking the principal routes of travelling botanists, and this I compiled myself, with the most scrupulous care, laying down their tracks from all the documents that I could possibly procure, and giving that of Michaux from the unpublished collection of the Autographs of Botanists, which forms a part of M. B. Delessert's valuable collection. These journeys have afforded me many precious particulars, elucidating not merely the localities named in herbaria, and the stations of individual plants, but supplying many gaps in Geography itself. The great works of M. Texier, on Asia Minor, Armenia and Persia, with the beautiful map of Persia, upon which Colonel Lapie has long been engaged, will throw much light on these countries, and both these gentlemen have kindly consented, in the interval that still precedes the publication of their important labours, to assist in forming a special map, devoted to that region which now engages our attention. All M. Texier's routes are laid down in it, so that it may serve as a travelling map to his atlas. We have agreed also to indicate thereon, both because of their own merit and because of their connexion with M. Texier's travels, the two French, though not botanical, tracks of Corancez and of my respected colleague, M. Léon de la Borde.

Wherever it was practicable, we have marked on our map the authentic indications of elevation above the level of the sea. Many of these statements are derived from the barometrical observations of M. Texier, corroborated by Col. Delcros, whose extensive information on this subject has proved highly useful to us in this department of the work. We feel confident that our map will be extremely serviceable to botanists, whether in facilitating the classification of localities in their collections, or in calling attention to unex-

plored points, and it may prove of advantage to all travellers, whatever be the object of their researches.

COUNT JAUBEET,
Member of the Chamber of Deputies.

The GEOGRAPHICAL DISTRIBUTION of BRITISH PLANTS, by HEWETT COTTERELL WATSON. Third edition. (For private distribution only.)

THE earlier] editions of this work, together with other writings connected with the same subject, have long stamped their author as one well qualified for the task of publishing on the geographical distribution of the plants of our own country; and he has in the present edition carried out his views on a more extensive scale; so extensive, indeed, that several volumes will be required to complete the present object;—namely, ⁶⁵ that of bringing together, under a methodical form, those facts which are calculated to assist in showing both the general range and local habitats of such plants as are reputed indigenous, or pretty well naturalized, in the island of Great Britain, and its islets immediately adjacent, from Scilly to Shetland/ —" A probability/ Mr. Watson continues, " of the work running out to an extent so voluminous, and an unwillingness to give such a pledge for the completion of the whole, as ought always to be implied by the *publication* of any portion of a work, have induced its author to print the parts for private distribution only, and from time to time, as the materials may become ready. The copies are offered to those botanical friends who have assisted the author in his investigations concerning that department of botanical science to "which the treatise relates."—This, we know, is not the first liberal act of the kind which Mr. Watson's ardent love of science has led him to practise.

The natural orders, considered in this volume, are the three first, following the arrangement of De Candolle* namely, *Ranunculace*<*B*, *Nymphaacea**, *Papaveracece*.

Each Order is headed by a very valuable history of its geographical distribution over the globe, which shows an intimate acquaintance of the author with this subject on its widest scale: and this, in regard to Ranunculaceae alone, occupies fourteen pages:—then follow seven Lists; of which the 1st records the proportions of Ranunculaceae relatively to latitude. List 2. Proportions of Ranunculaceae varied locally. List 3. Comparative frequency of British Ranunculaceae. List 4. Number of Ranunculaceae in the districts of Britain. List 5. Number of Ranunculaceae in the regions of Britain. List 6. Number of Ranunculaceae as varied by altitude, in Britain. List 7- Number of British Ranunculaceae in other countries.

Next comes the full consideration of each species of the several genera. Following the name of the plant is: 1. DISTRICTS. A simple enumeration of certain districts in which the species under consideration has been ascertained to grow. 2. FLORAS. A paragraph enumerating the local Floras and Catalogues in which the same is mentioned. 3. SPECIMENS. Localities from which specimens are preserved in the author's herbarium. 4. UNCERTAIN LOCALITIES. 5. BRITAIN : under which head the distribution of the species in Britain is slightly sketched out. 6. GENERAL DISTRIBUTION.—The concluding paragraphs, preceded by the names of the districts, embrace a miscellaneous compilation of localities brought together from various sources of information.

With each species are given two diagrams: the one representing a miniature map of Britain divided into eighteen sections or districts, by one longitudinal and several transverse lines; so drawn as to throw the counties into that number of groups; while the second figure shows the absolute and comparative heights attained by the highest hills of the respective districts; the cones of this figure corresponding with the districts on the map, as numbered from south to north. " By introducing a copy of this diagram under each species whose distribution is to be illustrated, and

omitting the figures in those spaces which correspond to districts within which the species had not been ascertained to grow, a tolerably exact notion of its topographical range may be instantly conveyed to the eye of a reader. Those botanists who are sufficiently interested in such investigations, may give greater precision to the diagram by colouring the spaces, in accordance with the details of distribution given in the text for each species. This course will be more especially requisite with the scale of altitudes; since the mere elevation of the highest hill of the district cannot prove at what particular height the species in question has been ascertained to grow, although it may often show that a given species is to be found in districts including lofty hills. In each copy of the work, one or more of the diagrams will be so coloured, by way of example; but the manual labour of applying colour to all of these, would be far too great; while the cost of engraving equally prevented the substitution of printed shades or markings in the diagram, the introduction of which would have necessitated the cutting of a separate block for each of 1200 species/

Indeed, nothing here is wanting that labour and industry, extensive travels and acute observation can furnish; and if carried out to its completion, Mr. Watson's book will serve as a model (as indeed it does now, so far as it goes) for all other works on this interesting subject.

SALICTUM BRITANNICUM EXSICCATUM; *containing dried specimens of the BRITISH WILLOWS, edited by the REV. J. E. LEEFE, MA. Fasc. 1, folio, Saffron Walden, 1842.*

IN the first volume of this Journal, (p. 418), we announced that Mr. Leefe had in preparation a series of specimens of British Willows, of which the present is the first fasciculus. The author, in his introductory remarks, modestly alludes to the above notice, as "indicating more extended objects

than the editor wishes now to be understood has been aimed at/' But, on referring to that notice, we are satisfied that the most sanguine expectations we thus expressed, are here fully realized: or if any expression requires to be modified, it is that " the author only wishes to retain as species such as afford readily ascertainable characters, rejecting those which exhibit intermediate forms/' &c. Mr. Leefe's views are no doubt more correctly stated in the present work, " The labels are intended only to supply a correct set of names for the specimens—this, alone, being no easy matter, when it is considered that the descriptions, to which the plants must be referred, are very often rather representations of forms than species, together with occasional synonyms and remarks. Any attempt, however, to define the limits of specific variation has been abandoned ; because the editor feels strongly, that until the value of the characters on which specific distinctions are founded, has been ascertained by experiment, the limits so assigned could only be looked upon as guesses at truth. At the same time, with a view to promote inquiry, he has prefixed to the collection, a table, in which such Willows as he thinks are not species are arranged as varieties;—but in doing so, he wishes to be clearly understood, that he does not profess to decide dogmatically, but merely to express a suspicion, that in order to facilitate the study of the *Salices*, it is desirable to combine, instead of any longer separating the various forms; not indeed passing them by without notice, but reducing them to what appear their proper ranks. It is true, that in a paper printed in the *Transactions of the Botanical Society of Edinburgh* the editor expressed rather a strong opinion respecting the distinctness of certain species so called, and this will probably be the conclusion arrived at by most persons, to whom those of any one locality are accessible; but an inspection of a large series of specimens from several localities, has convinced the editor that his views were in some degree too contracted/¹

Mr, Leefe now enters upon his useful task with a mind

perfectly free from prejudice, and has given a most beautiful and useful series of specimens in the present fasciculus, carefully selected and well dried, neatly fastened on white paper, and attached to the stout leaves* of the fasciculus, which are of a dark grey colour, and, beneath, is the label, with the synonyms, time of flowering, &c, and, generally? some useful remarks. Forty-nine folios are thus occupied, and the synoptical table contains the following species and varieties.

A, PEDUNCULATE.

- *Amenta terminalia serotina. *S. reticulata*, *L.*
S. herbacea, *L.*
- ** Amenta lateralialia coetanea . *S. pentandra*, *L.*
S. amygdalina, *Sm.*
S. triandra, *L.*
S. contorta, *Crowe.*
S. Hoffmanniana, *Sm.*
S. triandra, *Curtis.*
S. undulata, *Ehrh.*

B. SESSILES.

- *Antherae deflorate nigrae . . *S. Helix*, *L.*
S. purpurea, *L.*
S. purpurea, *Sm.*
S. Woollgariana, *Borr.*
S. ramulosa, *Borr.*
S. Lambertiana, *Sm.*
S. rubra, *Hud**.
S. rubra, *Sm.*
S. Forbyana, *Sm.*
- **Antherae deflorate lutes. *S. viminalis*, *L.*
S. viminalis, var. *intricata.*
S. viminalis, var. *stipularis.*
S. stipularis, *Sm.*

*The price of the fasciculus thus beautifully prepared is only £1 ~ with the specimens loose, 10s.

S. Smithiana, Willd.
S. Smithiana, E. Bot.
S. holosericea, Hook.
S. ferruginea, And.
S. acuminata, E. Bot.
S. cinerea, L.
S. cinerea, Sm.
S. aquatica, Sm..
S. oleifolia, Sm.
& *aurita*, L.

Such specimens, collected chiefly by Mr. Leefe and Mr. Ward, of Richmond, Yorkshire, who has long made the willows his peculiar study, and authentically named with the valued and valuable assistance of M. Borrer, cannot fail to be of the utmost use to every student and lover of British plants, and highly to the honour of the author. As may be supposed, it is only a limited number of copies of such a work that can be prepared, and it will reflect little credit on the botanists of this country, if they allow these to lie long in the hands of the publishers ; Mr. Bowman, of Richmond, Yorkshire, and Messrs. Whittaker and Co., London.

SPECIMENS OF SCOTTISH PLANTS .

SINCE the days of Dickson, and Don, and Drummond, we know of no one who has ransacked the plains and the hills, and the glens and the mountains of Scotland more successfully than Mr. Wm. Gardiner, of Dundee: and it is not a little remarkable that Don and Drummond also were inhabitants of the same district, the immediate vicinity of Dundee. From specimens that Mr. Gardiner has communicated to us, and especially from some cryptogamous ones that we have lately received from him, we know that he is not only very successful in his researches, but possesses the art of preserving TM specimens with great skill and neatness, whether of

phcenogamic or cryptogamic plants, and we have reason to believe, that during the two last seasons, he has distributed more than 30,000 specimens \$ so that he cannot fail to have much assisted in promoting the good cause of Botany.

During the ensuing summer, he intends to add to his stores, by collecting in the mountains of Clova, Braemar and Cairngorum, those old and favourite haunts of his predecessors, and he is now desirous of receiving the names of subscribers to extensive sets of specimens, which will be gathered during the present year, of Scottish Phaenogamic and Cryptogamic Plants, including as many of the rarer ones as possible; carefully selected and prepared, with the names and localities attached. Each set will contain 500 specimens, and be offered at the moderate rate of £2. Mr. Gardiner will be glad to receive the names of any persons who may wish to subscribe. His address is 40> Overgate, Dundee, N.B-

SWISS LICHENS.

WE have elsewhere,* and with much praise, noticed the publication of the valuable "*Iachenés Helvetiá Exsiccati*" of our friend, Mr. Schoerer; we have just received the continuation, as far as Fasc. XVIII, inclusive, which extends to 450 species. This work, we presume, is now completed, for it is accompanied by the second part of the "*Lichenum Helveticorum Spicilegium; continens Sectiones VII—XII, illustrantes Lichenum exsiccatórum fasciculos XIII—XVIII;*" and this Spicilegium is brought to a close with a very copious Index. This is a work which deserves to be in the hands of every student of the Lichens, and we believe that Mr. Ackerman is the agent for the sale of it in this country.

* In the English Flora, Vol. V. Part I. p. 140, and in the first volume of the Journal of Botany, p. 182.

Discovery of Carex paradoxa, WILLD., in Britain.

We have the satisfaction of announcing this interesting *Carex* as an inhabitant of the British islands; fine specimens having been sent to us from Ireland, where the discovery was made by Mr. D. Moore, Curator of the Glasnevin Botanic Garden, who has already added other new and very interesting plants to the Flora of his native country. Along with the specimens, Mr. Moore has been so obliging as to communicate his very accurate observations, made from recent specimens, on this and its allied species *C. paniculata*, Linn., as well as from *C. teretiuscula*, Good, and which we here transcribe;

CAREX PANICULATA, *Linn.*

Roots densely tufted; stem striated, acutely angular; leaves broad, strongly striated; spike generally 3 to 4 inches long with diverging branches; fruit plano-convex, between deltoid and triangular, with a broad serrated margin extending from the middle to the bidentate beak, broad and subcordate at the base, stipitate, striated on both surfaces; striae scarcely extending down the slender stipitate point of attachment; scales ovate, acuminate, with broad membranaceous edges.

CAREX PARADOXA, *Willd.*

Roots densely tufted; stem striated, long and slender, slightly triangular, except where it approaches the panicle, and there only roughish; leaves long and narrow, slightly striated; spike 1-2 inches long; branches short, acuminate; bractees very small, setaceous; fruit ovate-subrotund, gibbous on the inner face, with a long slender beak, slightly cloven, and edged with a narrow serrated margin, base gradually lengthened out into a strong stipitate point of attachment, which is a continuation of the convex surface, with strong

nerves all round, which extend down the stipe; scales ovate, acuminate, scarcely membranaceous at the edges.

Carex canescens, *Host, Gram. v. 1, p. 43, l. 57* (figure the fruit too short and broad at the base). *Schk. Caric. l. E, N. 21*, (figure excellent).

The characters which will best separate this from *C. teretiuscula*, Good., which it most resembles, are its *closely tufted* habit, differently shaped fruit, and especially the strong nerves *continuing all round it*, which, indeed, will alone suffice.

From *C. paniculata* it may be recognised by the whole plant being much more slender, the leaves narrower, the nerves closer and shorter, the stems *nearly round* for two-thirds their whole length and almost smooth, but especially by the differently-shaped fruit, and scales less membranaceous at the edges.

HAB. Found by me in considerable abundance, growing on the margins of deep drains, cut through boggy wood in Ladiston demesne, the seat of J. C. Lyons, Esq. near Mullingar, County Westmeath, July, 1842.

I may here mention that *Carex teretiuscula*, Good, may easily be distinguished from its British allies, by the roots creeping extensively, and consequently, not growing in close dense tufts; but the striae on the fruit afford at once a ready and permanent character, as pointed out by Dr. Boott; these are only to be found on the *convex surface*, varying from *three to five*; whereas in the others, the fruit is striated on both surfaces with numerous striae.

D. MOORE.

Dublio, 20th Dec, 1842.

BOTANICAL COLLECTORS.

Chinese Plants.

It has been already announced in a late number of the *Gardeners' Chronicle*, that Mr. Fortune, who has had the

important charge of the hot-house department in the Horticultural Society's garden, is to proceed, under the auspices of that Society, to China, for the purpose of introducing new plants and fruits to this country. His leisure time, however, will be devoted to collecting and drying the vegetable productions of that new and hitherto unexplored region, and we are happy to learn that these collections, well selected and well preserved, will be offered to botanists on similar terms to those of South America gathered by Hartweg. Thus, by this important mission, botany and horticulture will be alike promoted.

South African Botany.

In the 2nd vol. of our *Journal of Botany*, it will be seen that in November, 1839, M. Zeyher, the African traveller and botanist, was about to proceed on an expedition to the north, in the interior of South Africa, for the purpose of collecting animals and plants. This extensive journey was planned and executed wholly at the expense of the Right Hon. the Earl of Derby. One of his Lordship's own gardeners, Mr. Burke, than whom few were better fitted for the enterprise, was sent out to take charge of this expedition. He reached the Cape on the 16th of March, 1840, and after spending a few days in visiting Ludwigsberg, and getting his luggage on shore, he proceeded to Vyge-Kraal, where a waggon was already provided; but six weeks were required to procure the oxen and make the necessary preparations, when he proceeded in an easterly direction to Uiten-Jage, where he was joined by Zeyher, with two waggons. Thence they started for the interior, collecting every where as they went along; and at length, amidst unheard of difficulties, they proceeded in a northerly direction, crossing the Orange river, till they attained nearly to the 24th degree of latitude, and then returned to the Cape, bringing with them an immense collection of living and dead animals, and dried plants, seeds, bulbs, etc. With these, Mr. Burke immediately em-

barked for Europe, in July, 1842. Their journey would have stretched much farther north, were it not for the jealousy of a body of Dutch emigrants who had just settled in that country where they wished to pass, and who, suspecting our travellers to be spies, most obstinately prevented their proceeding further. We can speak to the great value of the botanical collection, which Lord Derby has generously placed at our disposal. It is remarkably well preserved, and contains a great deal of novelty and some highly remarkable forms. Amongst them is a new *Menodora*, a genus hitherto supposed to be peculiar to South America, and a very singular plant, allied to *Anacampseros*, but with the stipules quite entire, and so large and concave, white and membranous, and so closely imbricated, that the plant looks more like some gigantic-leaved *Sphagnum*, than any phaenogamous production. The singular *Stapelia Gordoni* was found in plenty. This was previously only known to European botanists by the extraordinary figure in "*Masson's Stapelia*;" so extraordinary, indeed, that our stapelia-growers used to speak of it as a fiction; but the representation is most faithful and accurate. One of the *Fungi* is so peculiar, that the Rev. Mr. Berkeley has pronounced it to be a new genus, and a figure and description of it will appear in an early number of this Journal.*

It is our intention here, however, to enter no farther into the particulars of this valuable collection, than is necessary for showing that by this important and expensive expedition, Lord Derby has rendered an essential service to botany & well as to zoology^s and we trust to have the opportunity* ere long, of making known many of the novelties, through the medium of this Journal.

Our object, in the present instance, is to state that Mr. Burke having left M. Zeyher at Cape-Town, it is the intention of the latter, for several years, to devote his attention, as zealously as ever, to collecting the seeds, roots and specimens of South African plants. He has already commenced

* See our Tabs. VI & VII.

gathering the more showy liliaceous species, and growing them at the Cape, where they will be well looked after during his absence on his excursions. His motive in thus cultivating them before they are transmitted to Europe, is that they may be well ripened after flowering; for it is well known, that Cape bulbs have suffered much from being sent off immediately after being gathered in their flowering state. He has already set out on a journey to the west, into Namaaqualand, where the vegetation is extremely different from that of the eastern extremity of the colony, where he has lately passed so many years. M. Zeyher's address is at Vygekraal, Cape Town, Cape of Good Hope.

Plants of Caucasus and the Volhynia.

It is announced by MM. Hochstetter and Steudel, that M. R. F. Hohenacker, of Esslingen, near Stuttgart, on his return from the countries of the Caucasus, when it had been his object to pursue his investigations again in Syria and Palestine, was induced to abandon this design, from a consideration of the present state of those regions, and in consequence of the advice of well-informed persons, especially the learned heads of the *Unto Itineraria*, to adopt the following plan. He is about to settle a while at Esslingen, and aided by the information and botanical knowledge possessed by Professor Hochstetter and Dr. Steudel, to arrange and prepare for sale the plants that may be collected by travelling botanists. The purchase of the highly interesting herbarium which M. Th. Kotschy had gathered last year in Koordistan and in the vicinity of Mossul and Aleppo, has been favourable to the commencement of this scheme. The arrangement of these plants is now proceeding, and will be announced as soon as completed. Meanwhile, M. Hohenacker offers for sale the following collections of dried specimens.

*I**—Caucasian Plants, a very complete set: first part, containing 570 species, to comprise those species which the

Unio Itineraria has from time to time distributed in the sets I—VIII of Caucasian plants. Price 70 German florins, or 150 French francs.

Ditto, second part, containing 120 species. Price 148 German florins, or 311 French francs.

2.—Caucasian Plants; a second and less complete set. First part, containing 400 species, comprising mostly the species which are in the collection No. 1. Price 48 florins, or 103 French francs.

Ditto, second part, containing 150 species. Price 18 German florins, or 401 French francs.

At a future time there will be supplements to both these collections (Nos. 1 and 2). Particular care has been taken that the purchasers shall not receive one species alike in these supplementary sets; and where errors in the names of the plants had existed, they are now rectified.

3.—Caucasian Plants, collection 6th, containing 55 species. This includes the species of the sixth livraison of the *Unio*, which some possessors of the preceding five have not yet received. Price 61 florins, or 14 French francs.

4.—Caucasian Plants, collection 7th, containing 78 species. These are what the *Unio* has not yet published. Price 10 florins, or 211 francs.

5.—Caucasian Plants, collection 8th, containing 22 species. Price 2 florins, or 5 French francs.

6.—Volhynian and Podolian Plants, gathered by Professor Besser, 32 species. Price 3 florins, or 6 French francs.

Those friends of botany who may wish to become possessors of any of the above plants, are requested, when sending an amount of their purchase-money, to point out particular which collections they prefer; also to state whether, in case the sets of Collection No. 1 (containing 600 species), being previously disposed of, they would be willing to receive No. containing 550 species. Orders to be addressed to

*R. F. Hohenacker, Esslingen, near Stuttgart**

Swan River Botany.

Many of our friends, as well as ourselves, have felt great anxiety respecting the fate of those valuable collections of plants and seeds, which it was at length ascertained had been embarked by Mr. Drummond, at the Swan River, in the month of May last, on board the "Shepherd," bound for London. On application to the gentlemen, Messrs. Sewel, Norman and Sewel, to whom this vessel is consigned, they assure us that news has been received of her arrival in China, where she had to take in a cargo, and whence she would proceed direct to England. In the meanwhile, we are sure our readers will peruse with interest the following extracts from letters which have lately come from Mr. Drummond, much in them bearing on those plants which will be found in the collections now daily expected.

Perth, Western Australia,
May 10th, 1842.

"I have just shipped, on board the 'Shepherd' bound for London, two large boxes, containing about 15,000 dried specimens of Swan River, and sent some account of them in two long letters, which I despatched about a fortnight since.* There are collections of native seeds in these boxes, destined for the Royal Gardens at Kew, and for Baron Hugel. In gathering these seeds, I have aimed to procure chiefly those of ornamental shrubs and plants, which you will see by the dried specimens which accompany them, as the fine *Banksias*, *bryandras* *Verticordias* of this country. Among the seeds are some papers containing roots of mixed sorts of *Droseras*, which, from the state in which they now are, I perceive would have vegetated successfully if I had had the opportunity of shipping them direct for London four months ago,^a several are now in flower, though they have lain in dry sand for the last half year. The specific name of *bulbosa* is

* See vol. 1 of this Journal, p. 626.

not happily given to any particular plant of the genus *Drosera*, as there are eleven or twelve species here, all exhibiting equal tendency to form bulbs with the one so called; and *stolonifera* is still more inapplicable, as the particular individual is not stoloniferous. Three-fourths of our *Droseras* inhabit the most arid spots in this most arid country; and even those which are not bulbous, resist the heat and drought better than most plants.

“ I send you a species of *Melaleuca*, named *M. Leakei* by Mr. Preiss, upon which Mr. Leake particularly desires your opinion, as to whether it has hitherto been undescribed; since Mr. Preiss's situation in this colony rendered it difficult for him to ascertain positively whether a plant was new or had been discovered previously by British botanists.”

FairlawD, Vasse District,

June 13.

“ Having recently mentioned to you a very remarkable plant, which is found to the south of the Vasse Inlet, and which from the few imperfect specimens I had seen of A appeared to me like a new species of *Dasyogon*, I am anxious^{us} to inform you, that having had an opportunity of examining this plant in a growing state, I find my conjecture to be correct. It attains a height of 15 feet, and the circumference of its stem, after the leaves have been burnt off by the bush fires, is 9 inches. The leaves are about three feet long and 2 inches broad at their insertion, gradually tapering so as to be half that width (namely 1 inch) in the middle, and coming to a point. The flower-stalks measure nearly a yard long? and are surmounted with heads of flowers smaller than in *D* bromeliafolius*, and hispid, but not rough, as in that species. They are about twelve or fifteen in number, and produced from the axils of the upper leaves. In habit, this plant resembles *D. bromelmfolius*, and creeping at the roots, appears to grow in groups or patches, the young plants bearing so strong a resemblance to a pine-apple, that it would take an experienced eye to detect the difference. To this highly

remarkable production, the most striking, perhaps, in the whole colony, I have given the specific appellation of *Hooke*TM

The Vasse Inlet, following the winding of the road, is about 150 miles south of Freemantle; and the *Dasypogon* first makes its appearance on the side of the footpath (for there is no cart-road) to Augusta, about six miles south of the Vasse. When his Excellency, Governor Hutt, visited Augusta, last summer, he presented me with a leaf and head of flowers of this plant, but the leaves were narrower than any which I had observed, although I had travelled among an abundance of it for upwards of twenty miles. I have since learned, from Mrs. Molloy, that the Governor's specimens were gathered at M'Leod's Creek, about eleven miles to the north of Augusta, and this settlement, again, is supposed to be about sixty miles from the Vasse. Augusta is situated at the mouth of the Blackwood River, believed to be the same as the Beaufort, as the Williams River is now ascertained to be identical with the Murray.

The curious *Aspjiodelous* plant which I found at King George's Sound, is common in the Vasse district, and I gathered one specimen of it in flower. The prickle-like petals, or bracts, are purple at the period of inflorescence; there are six anthers, about an inch long, borne on filaments of the same length, which are attached at their bases to the six interior petals: the style overtops the anthers by about a quarter of an inch.

By far the finest species of *Boronia* I have ever observed in Western Australia, grows on the banks of swampy brooks between the Vasse and Augusta. Captain Molloy informs me he has seen it as high as his head, when riding on horseback. Its foliage is generally pinnated with four pairs of leaflets and an odd one, an inch long; the footstalks and the flowers solitary; large, and of a deep rose colour, springing from the axils of the leaves, on petioles about half an inch in length, each furnished with two minute opposite bracteas. The plant varies, in having its foliage and stems smooth or hairy.

Under the belief that this truly beautiful species is new, I have given it the name of *Boronia Molloyi*, after the lady of Capt. Molloy, late of the Rifles and now Government-Resident of the Vasse District. You may have heard Capt. Mangles speak of Mrs. Molloy, who has sent him many seeds and specimens of the productions of this country; she has long been ardently attached to Botany, and cultivates plants with great success. The *Maurandia Barclayana** grows on her house and blooms abundantly, climbing to the very roof, and in her garden I first saw that lovely *Phlosfi* which you named after my deceased brother, and which flowered there for the first time in this colony: Mrs. Molloy had previously shown me a drawing of this species, in the beautiful groups of annuals published by Mrs. Loudon.

During my late journey, which I undertook principally to obtain accurate information of the above-mentioned *Dasy-pogon* in a growing state, concerning which I had heard many contradictory accounts, I met with several *Proteacea* that had never before fallen in my way. One of them, belonging to the genus *Lambertia*, grows thirty feet high, with a trunk three feet in diameter. Judging from some imperfect flowers which still remained on the shrub, the blossoms appear to be greenish-yellow, and not very conspicuous or showy, and the species belongs to the one-flowered division of the genus. This character, however, is by no means invariable, for in two or three individuals of this plant, I have observed the flowers in pairs. The tree itself has the bark as rugged as an English Elm. Along with this *Lambertia*, and rivalling it in height and thickness, grew a *Hakea*, that was new to me; its bark too was of a similar character. It appears nearly allied to *H. mivta* (Lindl.) or, at least, to what I suppose to be an arborescent variety of that species, for the common *nuxta* is here a bushy shrub, only about four or six feet high: but this wants the filiform foliage altogether, and

* Botanical Register, tab. 1108.

Dr. L. ... discovered « Texas by the late Mr. Thomas ... ; Bot. Mag. tab. 3441.

is an entirely distinct species. I also found two other *hakeas*, that I had not seen before; and two more individuals of the genus *Manglesia*; which make my number of species in that latter genus amount to either seven or eight.

During this journey I observed about a dozen kinds of the interminable papilionaceous division of the *Leguminosa*, which struck me as novelties, though few of them were in flower, and also seven or eight *Acacias*. Captain Molloy showed me a beautiful *Convolvulus*, growing on his grant of land near Toby's Inlet, which is perhaps identical with one which I mentioned to you some time ago. I procured a few seeds of it, which shall go by the next opportunity, and in the meantime I send a flower and leaf, with two small specimens of the lovely *Boronia Mottoyi*, and will take care to transmit some very fine ones, which the lady, whose name it bears, has kindly preserved. The curious *Malvaceous* plant,* called by you after your late correspondent who lived at Formosa in Van Dieman's Land, is common on the rich swampy ground of Captain Molloy's grant, and I think I possess another kind, with broader foliage and a more dwarfish mode of growth. At the Swan I have got two or three undescribed *Asters*.

I regret being unable to furnish you with seeds of *Dasy-pogon Hookeri*; but before quitting this place I hope to procure a supply of growing specimens of it, and of the *dsphodelous* plant, and to set them in Captain Molloy's garden, whence he will forward them to me when opportunity offers of transmitting them to England in a state of vegetation.

Hawthornden Farm, Toodjay Valley,
June 26, 1842.

^ " As it is my desire to continue sending home dried specimens of all the plants in Western Australia, accompanied by collections of the seeds of such as shall appear worthy of

* • Lawrencia:—*L. spicata*, Ic. Plant. Tab. 261, 262, and *L. glomerata*, «. Plant. Tab. 417.

cultivation, so I mean to leave this place about the beginning of October, bending my course first towards Mount Wilu* and Saddleback. Afterwards I shall investigate the mountainous country behind Cape Leuwin and Cape Naturahste, which, from what I have already seen, promises to yield a rich harvest of botanical novelties, and thence ascending the Blackwood River, which I believe to be identical with the Beaufort, I hope to reach the same spot where I crossed it in my inland journey to King George's Sound, and so to travel south in that direction. During this expedition I shall be accompanied by my eldest son, and we shall hardly return to the Swan before the close of February; the object being to collect this season all the seeds we possibly can secure of the southern plants.

I have just been examining a very curious individual of the natural order *Ampelidea*, perhaps a *Cissus*, though undescribed, if such, by De Candolle; but my want of a good magnifying glass renders it difficult for me to make out the number of its stamens, and often baffles me in the investigation of nearly allied plants. The leaves are cut, like those of the *Parsley-leaved Grape*, and the inflorescence is very small* borne in a sort of corymb, like *Cissampelos*, and succeeded by berries, which, when ripe, are blue, and contain, if perfect, four seeds. No plant can well be rarer than this appears to be; I have known it for the last four years; but growing in a single spot and only two or three plants of it. Perhaps its natural tendency is to climb, for each corymb is furnished with a tendril like the Vine 5 but where I have found it, on the top of a Quartz-stone hill, there is nothing for it to climb upon. When botanizing lately in the vicinity of the Vasse, I met with two species of an interesting *Proteaceous* plant, which I was inclined to refer to Mr. Brown's genus *Agastachys*; but his description led me to doubt it. In proceeding southward, these plants first made their appearance in the open mahogany forest, after crossing the Capel River: they appear to be herbaceous. One bears a few lance-shaped leaves, growing close to the ground, but the great bulk of the

plant is formed of much divided green branches, from two to three feet high, and interwoven in such a mass as to resemble the flowering branches of *Statice Tatarica*; the blossoms are numerous, lilac-coloured, and highly fragrant and produced near the ends of the slender branches. The second species differs in having bractees, which run along the principal stems and terminate in bluntish leaves; this Plant is of rather lower growth than the first: the points of the slender branches are triangular, and its blossoms were not expanded. I gathered this latter kind in the vicinity of *uig George's Sound, and I think you will find specimens of it among my *Proteacee*, in the large box.

During my late expedition to the south of the Vasse, my opportunities of discovering luminous phosphorescent *Fungi** were rather better than I could have wished. For several days and nights I was incessantly wet to the skin, my lucifer watches incapable of ignition from the damp, and my hands Mistered with making a fire after the native fashion; when, one night, after all my efforts to procure a fire had been un-availing, I descried afar off, in the forest, a tree which I imagined must have been set in a blaze by lightning. On making my way to it, I found that the light was produced by a remarkable *Agaric*, which grew, tier above tier, up the trunk of a dead *Eucalyptus occidentals*. The species is different from that which I described in a former letter: the "Pperjsurface of the pileus being nearly black in the centre and the gills milk-white. This curious property appears to be not uncommon among those *Agarics* which have the stem M one side of the pileus, and grow on dead wood."

July 18th, 1812.

«TT
 C a n t - ^ 7 n t t e n * o y o U f r o m F a i r f a w n , t h e r e s i d e n c e o f
 D i s t r i c t , a n d p i a i n M o l l o y , G o v e r n m e n t - S u p e r i n t e n d e n t o f t h e V a s s e
 f e n i S I T C n y 0 U a n a c c o u n t o f a f e w p l a n t s w h i c h I
 o u n d p r i n c i p a l l y b e t w e e n t h e V a s s e a n d A u g u s t a , I n o w

take the liberty of annexing some short extracts from the Journal which I kept on that journey.

My friend^ Mr. Harris, Senr. having been appointed Surgeon to the Australind Company, in the place of the late Dr. Carpenter, I gladly availed myself of the opportunity thus afforded of having his company in my excursion, and started with him on the 11th of May. Mr. Harris, though not one of the earliest, has always been among the most active and enterprising settlers at the Swan, and as he had many adieus to take, it was late in the day before we quitted Perth, and equally late on the following (the 18th) ere we left Fremantle. I should have stated that I rode my favourite grey pony "*Cabbine f*" this word is a native one, corresponding best perhaps with the English "*Perhaps*," and signifying uncertainty, and a blending of hope and fear, not inapplicable to the animal which a Botanist rides. He was, however, so called by the Natives. Mr. Harris travelled in a cart upon springs, and as both he and I were experienced bushmen, we did not forget to carry a good supply of necessary provisions. We reached Clarence, a deserted village, where Mr. Peel and his people first settled about nine miles south of Fremantle, before dark that evening, and made tea at one of his old wells. Here I observe the Hottentot's Fig* of the Cape, which had become naturalized, and was displaying its large flowers, of a yellow colour; whereas our indigenous species has rose-coloured blossoms, as I have seen it growing on the coast. The fruit of both is alike indifferent, indeed the only good fruit produced by this tribe of plants, and the best, perhaps which we have, is that of a *Mesembryanthemum*, with small lilac flowers, which grows commonly on the banks of the Salt river, and other places of the interior. After taking our tea, we proceeded six or seven miles farther, and halted for the night in a grove of *Blackboys*. Grass being plentiful

* *Mesembryanthemum*, I presume. ED.

every where along the coast line of road, there was less difficulty in choosing our resting place. On such occasions, I have only to let Cabbine, who is one of the best and quietest of the Timor race, go loose, when he eats his fill, and, having done so, comes and lies down by my side.

Early in the afternoon of the 19th we arrived at Mandurah, the residence of Thomas Peel, Esq. one of the largest land proprietors in this Colony, where we stopped for the night. Mandurah is situated close to the outlet of that great estuary, which receives the waters of the Serpentine, Murray and Harvey rivers, and is about forty miles to the south of Freemantle. Few spots are more beautiful and the soil excellent, lying over limestone. Mr. Peel's garden is in a rich valley near his dwelling, and abounds with vegetables throughout the year, which here grow almost spontaneously. In it I noticed a very pretty species of *Aster*, growing like a weed, and near it I observed, so as to recognise it, your *Lawrencia spicata* (Icones Plantarum, Tab. CCLXI, and CCLXII;) but I have seen the same, or what is perhaps an allied species, on the rich flats at the head of the Swan; and also a dwarf-growing, broad-leaved kind, between the Swan and Wallup. The large sheets of water, many miles in extent, into which the three above mentioned rivers empty themselves, appear to me one of the remarkable features in this part of the country; they abound with fish of many sorts, ducks, &c. as well as black swans.

On the 20th Mr. Harris and I started for Pinjarra, about fifteen miles distant, whither our road lay across the estuary, so as to avoid crossing the Serpentine, over which there is neither ford nor bridge. But missing our way, we got to the south of the Murray as well as the Serpentine. On discovering our error, we had to retrace our steps, plodding in the water above our middles for four hours, so that it was dark ere we reached Mr. Armstrong's farm, called Ravenswood, about nine miles only from Mandurah, where we staid all night. The next day, as neither Mr. Harris nor I felt inclined, after our exploits in the water, to travel very far,

we dined with Mr. Tate, a young Irish gentleman, who has lately settled on the right bank of the Murray, about two miles above its junction with the Dandelup. This latter is a small river, remarkable for the fertility of its banks, which are nearly level with the stream; unlike those of the Murray, which are much elevated above its waters. In the latter case, of course, there is no alluvial deposit, though the soil, a strong loam, when manured, will yield heavy crops of wheat. The margins of the Murray river are covered with a beautiful *Bankm*, with nearly entire leaves, which I suppose to be Mr. Brown's *B. vertkillata*; though, to me, it hardly appears specifically distinct from the long narrow-leaved kind, of which I have sent you specimens in the last collection. A fine new *Mangkm*, to judge from its foliage, grows on the sloping bank of the river, immediately at the back of Mr. Tate's present residence, for he is not yet moved into his new house. This species is much like Tab. CCCXXXVH, of your *Icones Plantarum*; but with leaves* more than twice as long and narrower, perfectly smooth, of a deep green and not glaucous, as in that species. It attains the size of a small tree, with a rough bark, very different in these respects from the one you have figured, which is ^a spreading bush, remarkable for its glaucous foliage and stems. Both are aquatics, at least inhabitants of river-banks, and their seed-vessels are much alike. On the banks of the Murray I also observed a shrub, with willow-like foliage and seeds in clusters, resembling those of *Hornbeam*, which I had never seen elsewhere.

— About two miles above Mr. Tate's house is the far-famed Rnjarra, a most excellent farm of Mr. Oakley's, who also keeps a comfortable inn and store there. This spot is noted in the history of our Colony, as being almost the only place where any approach to a pitched battle has occurred between the settlers and natives, ever since the first occupation by Europeans of these districts; the aborigines, owing to *Z d t Z i r* ¹⁷ . ~~ca~~ Which ** entertain, that the white people are the spirits of their deceased relatives, have always

been disposed to receive the new-comers as friends. Even Yagan, who for many years was the terror of the Swan and Canning Districts, never hurt a white person except in revenge for injuries, real or imaginary, which he or his friends had sustained; and thus he eventually became the murderer of six or seven Europeans, soldiers and civilians. Up to the time of Yagan's death, about as many black men had been killed by the settlers. But it is a most unfortunate characteristic of these natives, in common with many savage nations, that when they cannot take reprisals on the offending parties, they wreak their vengeance on the relatives and friends; thus making the innocent suffer for the guilty, too often on both sides. Shortly previous to the battle of the Pinjarra, it so happened that a Serjeant Barron, of the 63rd regiment, the first soldiers sent to do duty at the Swan River, and who had become a settler at Perth, went into the bush in search of some horses, which belonged to him, near Mr. Peel's residence, and was accompanied by a private of the 21st, which had succeeded the 63rd. A native whom they met, offered his services; but instead of leading the two whites to the horses, as he had promised, he conducted them into a thicket of *Blackboys*,* where they found themselves surrounded by the armed aborigines, who speedily killed the soldier, and would have done the same to the Serjeant, had not the fleetness of his horse enabled him to escape. He received however, two spears in his body, and there can be no doubt he was a marked man, for he had rendered himself obnoxious to the black people, while in the army, probably in the performance of his duty. I may mention that the soldier who was set to flog Yagan, when the latter was a prisoner on the island of Carnac,t had six spears driven

* The species of *Xanthorrhoea* are so called, because their stout cylindrical trunks are blackened by the natives burning the grass which surrounds them.

t Carnac is a small island, between Rottenest and Garden Island, whither Yagan and some other natives had been sent as prisoners. Thence they contrived to give their keepers the slip, and securing a small boat, escaped

into him by Yagan after the latter made his escape, the very first time afterwards that he was met on the mainland-

Such was the state of affairs in the Murray District, when the Governor, Sir James Stirling, Captain Ellis, superintendent of police, Mr. Norcote and several individuals of the mounted police, some soldiers of the 21st, and gentlemen on horseback, being engaged in a surveying expedition, arrived at Pinjarra, which is the nearest ford across the Murray River, after leaving the estuary. On reaching this place, having learned that a large body of natives had encamped a little to the south, the Governor directed Captain Ellis, with the officers, to go and demand some of those black men, who were charged with the murder of the soldier above mentioned, and the attack on Serjeant Barron. These functionaries were received with a shower of spears, and one having struck Captain Ellis on the temples, he tumbled from his horse, and either in consequence of the injury or the fall* died in a fortnight. One of the policemen was wounded in the arm, and several horses received spear wounds. After the officers had fired repeatedly on the natives, the latter divided into two parties; one, taking to the south got clear off, but the other which made for the ford, were followed by the police, and met in front by the Governor and his company. They then plunged into the water, and continued swimming about, hiding under the banks and among the bushes: but, sixteen or eighteen were shot, among them some women. It is sad to think there is no reason to suppose that these natives either anticipated any attack from the white people, or intended doing them injury, but had simply congregated for the purpose of hunting and feasting upon the Kangaroos.

We spent the night of the 20th at Pinjarra, and I examined the banks of the river for plants, and gathered *Aniffozanthus*

to the mainland, but Yagan had particularly observed the soldier, who had been deputed to flog him for misconduct while on the island, and dogging him from place to place, fell on him and left him for dead. The soldier, however, recovered.

flavida, the large green variety, which I had never seen nearly so far to the north. Also a large *Leguminous* shrub, with whorled leaves, that I had only found in one locality, many miles to the south.

On the 21st we proceeded on our way towards Australind, and in about twenty miles reached the estuary of the Harvey, or the southern extremity of the embouchure of the Murray. We had two miles of water to pass through, but accomplished it in safety before dark. We had still to spend a couple of nights in the bush before reaching Australind, but nothing worthy of record took place.

Australind is situated on the Leschenault estuary, which is formed by the waters of the rivers Collie and Preston. In the immediate vicinity of the town, the soil is sandy; but the situation highly beautiful. My companion, Mr. Harris, had long been anxiously expected; and I had letters of introduction from His Excellency Governor Hutt, to Mr. Clifton the Chief Commissioner, which procured me the notice of his amiable family, who invited me several times to dinner. Mrs. Clifton is a near relation of the late Mr. Barclay of Bury-hill. Mr. C. expressed his willingness to assist my views in any way in his power, and introduced me to Messrs. Plowes and Gibson, two young gentlemen, merchants in Australind: the latter is well acquainted with the Reverend Mr. Bree, an English botanist, whom I had known both by sight and by reputation; but as my botanical pursuits led me farther from Australind, I started from that settlement on the 30th of May, and after spending a day with Mr. Andrew Stirling, a near relation of our late Governor of that name, at Bury-hill, near Bunbury, the sea-Port for Australind, I visited a farm on his (Sir James Stirling's) estate, held by Mr. John Scott, an old settler at the • Swan. The establishment of the town of Australind has been highly advantageous, as affording a ready market for the produce of their farm, both to Mr. Scott and his industrious, kind-hearted gude-wife, named Nelly Scott. The 1st of June, the anniversary of this colony, proving a most wet

and tempestuous day, I found myself storm-staid at Mr. Scott's, but it was impossible that I could have been in better quarters.

The next morning I started for the Vasse, but found the road very indistinctly tracked. In fifteen miles I reached the Capel River, the property of Sir James Stirling, and having heard a description of a highly beautiful *Convolvulus*, growing near the fording place, and forming lovely festoons from tree to tree, I looked out for it, but could find nothing of the kind. Soon after crossing the Capel, I observed the elegant *Be(M-
fortia decussata* and *Johnsonia lupulina*, which I had never seen before, except near King George's Sound.

Five miles farther on, I crossed some hills of secondary limestone, covered with immense trees of *Eucalyptus* (I think *E. occidentalis* Hugel) ; but whatever be the species, this was by far the largest tree in Western Australia', the foot stalks of this gigantic species are united, several together, flat, nearly a quarter of an inch broad. It surpasses all other inhabitants of the forest, both in height and breadth and thickness. Some miles before reaching this forest, I met with a remarkable plant, whose foliage bore some similitude to the European *Yew*, but rather longer, more pointed and glaucous; it is a low growing dioecious shrub, forming patches, several yards in extent. The male flowers resemble a compound of many blossoms of the *Yew*, but I must state that I only observed them remaining on the plant in a withered and dry state; the female flowers I did not see, but they had been succeeded by ripe fruits, about the size of a middling plum, and of a beautiful purple colour, covered with rich glaucous bloom. It is impossible to present a more tempting appearance to the eye than does this, and when I showed it, and specimens of the shrub which bore it, to Mrs. Molloy, she assured me that it was equally good to the palate, and when she had resided at Augusta, That a soldier had brought it to her from somewhere on the Blackwood River. To me, this small tree appears more closely allied to the *Yew*, than anything else with which I

acquainted. A curious plant also came in my way, near the Vasse, very much like what is figured and described in the *Icones Plantarum*, Tab. ccxxxvii., it belongs to *Compositae*, and under the yellow flowers there are five glandulous filaments.

I reached Mr. Chapman's farm at the Vasse Inlet, soon after dark, and received there the kindest possible welcome, and next morning proceeded up the Vasse Inlet, to Cattle Chosen Busseltown; which, as the name implies, is one of the best dairy farms in Western Australia, though the whole district of the Vasse is noted for butter and cheese. Mr. Bussel is brother-in-law to Mr. Taylor, late of King George's Sound, a Scotch gentleman, who, having realized a considerable fortune, and relinquished the intention of returning to his native land, now lives with him. By these gentlemen and Mrs. John Bussel, wife to the eldest son, I was kindly pressed to stay at their house, but Mrs. Molloy being a Botanist and an old acquaintance, I could not do otherwise than remain with her, during my abode in this neighbourhood.

• I have already given you some account of the plants which I met with to the south of the Vasse, but I omitted one, a lanceolate-leaved *Stylidium*, which I found in flower, and had already sent you some specimens of, from King George's Sound. The weather rendered this excursion both unpleasant and unprofitable, the heavy rains keeping me wet, day and night: the whole time, nearly a fortnight, my shirt was soaking on my back; so I will not annoy you with a recapitulation of disagreeable particulars; but proceed to say that Captain Molloy, being an old Waterloo man, would not suffer me to depart till after the 18th of June, the anniversary of that battle: and on the night of the 17th there came on, one of the most extraordinary storms I ever knew; accompanied with rain, wind, thunder and lightning. On my return to Australind I found that the Leschenault district had suffered from a similar visitation at the self-same time. Its effects were first visible on a narrow belt of land which lies between the Leschenault Estuary and the sea,

*

where, for about four hundred yards wide, in a direction from north-west to south-east, every tree in the forest had been levelled. The kind of lane, thus formed in the forest, was two hundred yards long, and not a tree was left standing, except a few bare trunks. The storm, after traversing the before mentioned narrow belt of land, appears to have crossed the Estuary, there about two miles broad, and struck its eastern shore, about a mile from the town of Australind, prostrate every tree in its course for about a similar width of space, then ascending the hills and descending into the valleys, right over the Collie and Preston Rivers \ but how it might proceed into the interior, is unknown. In all my travels, I have never witnessed any thing like the effects of this storm, nor heard or read of aught similar - could not have been a tornado or whirlwind, because the trees were levelled flat all one way. At Perth, the morning between the 17th and 18th of June was excessively tempestuous, the hailstones having broken several hundreds of panes of glass.

Two or three days after my return from the Vasse Australind, I was so fortunate as to meet with an opportunity of forwarding all my specimens as far as the Murray in Mr. Singleton's cart, and accompanying the driver myself. I reached this gentleman's residence, after a four days' journey; which was as pleasant as can be expected in the best at this season of the year. Mr. Singleton is the Government Resident of the Murray District, and the day after my arrival at his house I proceeded to examine the land in his enclosure, where many horses have died, no less than nine, within the last year. Mr. S. was firmly persuaded that this mortality was attributable to some plant, which the animals had eaten among the grass, on its first springing up after the rains. He had carefully examined, after death, the bodies of the horses, and had found that they invariably perished from inflammation in the kidneys and neck of the bladder, producing strangury, and of course intolerable suffering. My own opinion is that the *Ranunculus Coloneus* of Hugel is

the cause of this mischief, for it grows thick among the grass of Mr. Singleton's enclosure, and I have strong reasons for believing that the same plant occasions the blindness with which sheep and goats are commonly seized, after feeding on the rich flats at the head of the Swan and on the Helena and Canning Rivers; several of Mr. Singleton's horses having gone blind, before any other dangerous symptoms supervened. I suspect this *Ranunculus* to have the same effects on animals as are produced by cantharides, when taken internally, upon the human frame.

After spending two days with Mr. Singleton, I found an opportunity of proceeding to Freemantle by Mr. Oakley's cart, and noticed in this journey those species of phosphorescent *Agarics* to which I have alluded in my letter.

J. DRUMMOND.

Additional Observations on the pollen-collectors of Campanula.

In reference to his paper on this subject, given at p. 601 of our First Volume, Mr. Wilson remarks; " I find the same structure in *C. ranunculoides*, as in *C. rotundifolia*, except that the three branches of the stigma become decidedly revolute, and thus come into contact with the pollen lodged upon the collecting hairs ; but this does not occur until after the hairs are retracted into their cavities, and consequently long after fecundation may be supposed to have taken place.

" The pollen sends out tubes from four points which are previously visible as circular disks. The pollen-tubes appear to be branched, and much entangled; their diameter not more than one fifth of the tubular cells composing the stigmatic tissue, and on that account they would be very distinguishable if they penetrated that tissue, but I could never find any in that part, and still less within the ovarium. On the other hand, I extracted a grain of pollen from one of the cells of an invaginated hair on the style which exhibited traces of four pollen-tubes.

"In both the species examined, the stigmatic tissue appears to be composed of very loosely cohering long cylindrical tubes, (not hexagonal) and instead of being more dense and coloured, it was pellucid and colourless."

*Extracts from a Monograph of the North American Cuscutineae;** by G. ENGELMANN, M.D., of St. Louis, Missouri.

TAB. III. Figs. 1—8.

From *Sittiman's American Journal of Science and Arts*, Vol. XLIII No. for October, 1842.

In directing my attention to the different forms of *Cuscuta* growing in this vicinity, I was surprised to find several distinct species, and a remarkable allied genus; while only single species (*C. Americana*) is noticed in botanical works. Having been induced to examine particularly both the fan-shaped indigenous to this neighbourhood, and the specimens various which my correspondents in different parts of the country have favoured me, I offer the results of my investigations to the public, with the view of directing the attention of Botanists, through our wide-spread country, to the neglected tribe of plants may thereby farther elucidated.

Order CONVOLVULACEAE, R. Br.

Tribe 2. *Cuscutineae*, Link.

Leaves reduced to scales. Embryo spirally rolled round mucilaginous albumen, without cotyledons.

This remarkable tribe is appended to *Convolvulaceae*, kept*

* It is delightful to observe with what rapid strides Botany is progressing in the United States of America. We trust we may now consider that it has a firm footing in the "far West;" for in Dr. Engelmann, now resident there, author of the memoirs from which the following extracts are made, we discover a tact for observation, and a method of describing plants which would do credit to an inhabitant of the most civilized and scientific cities in Europe.—ED.

ing the same relation to that family as *Monotropea* does to *Pyrolacea*, and *Orobanchece* to *Antirrhinea*; these plants, which may be likened to *Phanerogamous Fungi*, being all destitute of verdure and of proper leaves (bearing scales, in place of the latter, but never leafless, in the full meaning of the term); while, in the structure of their flowers, they agree with plants of the highest organization. They are all parasitic on other vegetables— the *Cuscutinea* on their stems; most *Orobanchece* on their roots; and the *Monotropea* on their mouldering remains: hence they are obviously analogous to the Class *Entozoa* of the animal kingdom, and may be termed *Epiphyta*, growing on plants. The *Cuscutinea* are distinguishable from other *Epiphyta* by their growing upon and twining around the stems (and occasionally the foliage of) other vegetables, as well as by their large seeds, resembling those of *Convolvulus*, and presenting a long slender embryo which is spirally coiled round a mass of mucilaginous albumen. *Monotropece* and *Orobanchets* have extremely minute seeds, in some respects similar to the spores of Acotyledonous plants. The seeds of *Cuscutinece* germinate in the ground; but quickly finding the plants round which they twine, (turning constantly to the left like all *Convolvulacea*) they strike their papillose roots into the epidermis of the stem, from whence they subsequently derive nutriment; their own original stems soon withering away, so that the plant has no longer any direct communication with the earth.

In the *Epiphyta*, each species is, for the most part, restricted to the same or similar plants. This is most constantly the case in the *Orobanchem*, where the germinating embryo fixes itself at once upon its favourite plant; but, in *Cuscuta*, where the seed germinates in the earth, and the stem afterwards lays hold of that individual which affords it nutriment, it frequently twines round all the plants in its neighbourhood and is capable of extracting from them its food. Some species, however, are more constant in their predilections than others; as, for example, the European *Cuscuta Epilinum* never grows on any plant but Flax; and our

Lepidanthe Compositarum is confined to *Solidago* [^] *Helianthus* and some other *Composite*. Yet several, like the European *C. Epithymum*, and the American *C. Polygonorum* live parasitically on most of the vegetable productions within its reach, evidently preferring, however, some particular species or genus, and rarely seen, except in its immediate vicinity. I have, therefore, ventured, so far as practicable, to name *Cuscutae* after the plants on which they grow; in accordance with the nomenclature frequently adopted, of late, in case of parasites, especially in the genus *Orobanche*, as *O. Galii*, *O. Eryngii*, *O. Scabiosa*, *O. Salvæ*, &c. thereby designating an important circumstance in the history of the parasite.

1. CUSCUTA. L. Dodder.

Calyx monosepalous, 4-5cleft, persistent. Corolla campanulate or urceolate, 4-5cleft; styles 1 or 2. Capsule 2-celled, 4-seeded.

Twining parasitic plants; stem filiform, simple or generally branched, whitish, yellow, or orange-coloured, with small leaves. The inflorescence is a cyme, with a central flower opening first, and axillary or lateral flowers, expanding afterwards; flowers whitish, sessile or pedunculate, more or less clustered and conglomerate in some species, and rarely lax (paniculate) in others. First or central flower typically 5-partite, lateral ones in some species regularly 4-partite? in others almost always 5-partite. Limb of the corolla erect & spreading or reflexed, and together with the stamens invariably persistent at the base of the capsule or more frequently separated from its insertion, and covering its summit: its texture in some species nearly membranaceous, in others thicker and more fleshy.

Stamens united with the tube of the corolla up to the base of the segments. Near their base, within the tube of the corolla, they bear a scale which is evidently not a distinct organ; but only an appendage of the stamens. These are present in all the species I have examined; sometimes consist-

ing only of one or a few teeth on both sides of the filament (as in *C. Coryli*.) but commonly forming a distinct lamina. In some, they are bifid, in others undivided ; but in all either crenulate or fimbriate, or laciniately or pinnatifidly divided; they are erect and appressed to the tube in some species \ in others, convergent, closing the tube and including the ovary.

Ovary always 2-celled, 4-ovulate; styles 2 (in a single species united into one), frequently unequal in length; in a few cases supported by a stylopodium. Stigma either filiform (in the European), or capitate (in the American *Cuscutce*.)

Capsule globose or depressed, crowned by the persistent styles and stylopodium (where the latter exists), 2-celled, sometimes 4-seeded, but oftener by abortion 3-2, and even 1-seeded. In the European kinds, it separates by circumscission from its base, leaving the dissepiment persistent on the ^ y x ; in the American, the capsule does not appear to open regularly, but separates easily from the calyx when ripe.

1. *C. Cephalanthi* (n. sp.); stem high branching, flowers subpedunculate mostly 5-partite, tube of the corolla cylindrical (after flowering ventricose) twice the length of the obtuse spreading segments and of the ovate obtuse calycine lobes; stamens shorter than the limb ; scales ovato-laciniate nearly appressed, styles equal to the depressed ovary, capsule depressed covered by the remains of the corolla. (TAB. HI. f.1.)

On *Cephalanthus*; also on *Vernonia*, *Aster*, *Bahmeria*, and other plants (chiefly *Composite*), near ponds and swamps about St. Louis, where it is the commonest species. I have observed it, ever since 1833; but always confined to the immediate vicinity of *Cephalanthus*. Jul. Sep.

£• *C. Coryli* (n. sp.); stem branching, flowers peduncled subumbellate, mostly 4-partite; tube of the corolla cylindrical, equalling in length the ovate subacute crenulate indexed lobes and the acute carinate segments of the calyx, stamens shorter than the limb, scales appressed bifid consist-

ing of few teeth, styles as long as the ovary with the stylopodium, capsule depressed covered with the remains of the corolla, crowned by the stylopodium and reflexed styles- (TAB. III. f. 2.)

13. *stylosa*; styles much longer than the ovary, exerted.

On *Corylus*; in the Ban-ens, W. of St. Louis. Aug. Sep-

0. On *Solidago*; dry prairies near St. Louis.

Nearly related to *C. Cephalanthi*, but easily distinguishable by the shape and proportions of its calyx and corolla and by the stylopodium on its ovary. Scales of the filaments smaller than in any other of our *Cuscuta* and consisting of 2 teeth on each side of the filament (where it adheres to the tube) thereby indicating the real nature of these singular "nectaries." Rarer than the other sp. and oftener found on dry ground.

3. *C. vulgivaga* (*n. sp.*); stem branched, flowers pedunculate somewhat glomerate or more lax, generally 5-partite tube of the corolla deeply campanulate, longer than the petaloid punctate open (finally reflexed) lobes and the roundish carinate obtuse and slightly crenulate calycine segments, scales convergent fimbriate united at the base, styles about as long as the ovary (with the stylopodium?) the remains of the cor. persistent at the base of the globose capsule. (TAB. III. f. 3.)

a. *laanflora*; flowers in loose cymes.

P. glomerata; flowers conglomerate.

y. *tetramera*, flowers in umbelliform cymes 3-4-partite.

This species has the widest range of any American *Cuscuta*, but is less restricted to the same family or genus of plants as indeed I have scarcely met with it twice upon the same. Var. a. is the S. or W. form, *ft.* is from the Northern Provinces, and from Connecticut.

Intermediate as a species, between *C. Cephalanthi* and *C. Saurun* but distinguished from both by the carina of the stem formed of larger uneven prominent cells and by the large pellucid dots in the substance of

the corolla, which might be mistaken for glands, but are only large cells. Other slighter differences divide this sp. from one or other of its congeners.

4. *C. Saururi* (n. sp.); stem low branching, flowers 5-parted somewhat pedunculate at length in spikes, tube of the cor. campanulate, equal to the somewhat obtuse campanulate or spreading lobes and longer than the obtuse calycine segments, stamens as long as the limb, scales pinnatifid-laciniate convergent covering the ovary, styles as long as the ovate-globose ovary, with the stylopodium, remains of the cor. persistent at the base of the subglobose capsule. (TAB. III. f. 4.)

Margins of lakes and swamps, opposite St. Louis, grown ^mS °n *Saururus*; also at Alabama and Texas. Fl. Sep.

Like [^]*C. Polygonorum*, but with stouter stems, larger flowers, larger and convergent scales and ovary furnished with a stylopodium. The season of inflorescence is also much later than any other species. (TAB. III. f. 4.)

5. *C. pentagona* (n. sp. [^]; flowers pedunculate subumbellate small 5-partite, tube of the cor. open campanulate shorter than the long acuminate lobes and the smooth roundish obtuse segments of the 5-angled calyx, stamens shorter than the limb, scales ovate fimbriate converging, styles filiform about equal to the globose ovary, capsule—.(TAB. III. f. 5.)

On *Euphorbia* or *Tragia*; in Virginia, &c.

Bearing some resemblance to *C. Polygonorum*, but with small flowers, and a 5-angled calyx, of which the lobes are roundish and obtuse, not triangular, &c.

6. *C. verrucosa* (n. sp.); stem low branching, cymes lax few-flowered, flowers (small) long-peduncled 5-partite, tube of the cor. campanulate shorter than the lanceolate acuminate lobes and nearly equalling the ovate subacute segments of the verrucose or somewhat hispid calyx, scales ovate fimbriate equalling the tube, styles as long as the ovary, capsule globose surrounded at the base by the persistent cor. (TAB. III. f. 6.)

[^] a. *hispidula*; inflorescence, and frequently also the branches, hispid or glandular-pilose, cal. lobes acute shorter than the tube x of the cor.

13. *glabrior*; cymes more or less glabrous, cal. lobes broader somewhat obtuse, nearly as long as the tube of the cor.

Texas: both vars. together in dry sterile prairies, particularly (a.) on *Euthamia*, *Aster*, &c.; and 13. on *Petalostemum* (Drummond 3d coll. No. 2470)

The lowest of all the American species and (with *O. Pentagona*) the smallest-flowered; not particular as to the position on which it grows, but creeping over all indiscriminately. This is the only *Cuscuta* I have ever seen with any adventitious pubescence. Allied to *C. Polygonorum*; but distinguished by the lax and few-flowered cyme, &c.

7. *C. Polygonorum* (n. sp.); stem low branching, subsessile glomerate mostly 4-partite, tube of the corolla panulate nearly equalling the acute campanulate or lobes and the acute calycine segments, stamens as long as the limb, scales mostly bifid laciniate appressed, persistent long as the depressed ovary, remains of the corolla at the base of the depressed capsule. (TAB. III- f. 70)

On different *Polygona*, also on *Lycopus*, *Penthorum*, Aug. Sept.

Of much humbler growth than *C. Saurwri*, &c. the coloured stems, growing in overflowed places, and margins of ponds, W. of St. Louis.*

2. *LEPIDANCHET* (nov. gen.)

Calyx consisting of many imbricated scales, persistent. Corolla tubular, 5-cleft; styles 2; capsule 2-celled, 2-seeded. Very similar to *Cuscuta* when young, but assuming a different

* Since the MS. of this article was sent to the *American Journal*, I have observed 2 sp. of *Cuscuta*, mentioned by Sir W. Hooker.

C. umbrosa of Beyrich (Hook. El. Bor. Am. v. 2. p. 77) from the West-coast and United States.—*C. Saurwri*? *C. vulgivaga*, p?

C. arvensis, Beyrich (*C. Americana*? Hook. Fl. Bor. Am. 1. c.)—*C. vulgivaga*, a?

C. coronata, Beyr. (Hook. Comp. Bot. Mag. 1, p. 173.)—New Orleans, Drummond; on stems of *Laurus Caroliniensis*.

C. Epilinum, Weihe, introduced with flax, Chester County, Pennsylvania, & v. ania, and elsewhere. See *Darlington Flora Cestrica*. ed. 2.

t From *Xanthoxylum* a scaly plant, straggling those whereon it grows.

ent appearance, when in flower or fruit. The stem, which connects the several clusters of flowers, having then disappeared, the latter only remain, consisting of innumerable crowded sessile flowers and scariose scales, spirally and most tightly coiled (with one or several turns) round the stems of the supporting plant, which, at a distance, looks as if a rope were twisted round it. The flowers are so crowded that many become abortive and, as it were, strangled, presenting nothing but a bunch of scales; while others, which seem perfect, do not ripen their seed.

The principal difference between *Lepidanche* and *Cuscuta* consists in the calyx, which is not monosepalous but composed of numerous imbricated scales, of which the 2 or 5 that are exterior (being much smaller) may be regarded as bracts, while the 10 inner, (nearly alike in size and shape, crenulated and with reflexed or squarrose summits,) appear to constitute the proper calyx. The corolla and stamens, with their scales, are entirely similar to the corresponding organs in *Cuscuta*: so is the ovary; but the unequal styles are generally longer in proportion, and the stylopodium is as large as the ovary proper, or even larger. The ovary is 2-celled and 4*ovulate; but I have never seen more than 2 seeds, separated by an incomplete dissepiment; and frequently only a single seed ripens.

L. *Compositarum*. (TAB. III. f. 8.)

*ar. a. *Solidaginis*; flowers smaller, lobes of the limb reflexed, stylopodium half as large as the ovary,

#*ar. *p_m Helianthi* flowers larger, lobes of the limb spread-
to g; scales of the filaments united with one another, forming
a 5-lobed crown in the tube; stylopodium larger than the ovary.

This singular plant appears confined to the western prairies; as> near St. Louis* (on *Solidago* and *Vernonia*) and at New

* Certainly the *Cuscuta Americana* (Hooker, *Comp. to Bot. Mag.* v. *U Pj* 1?3) found by Drummond at St. Louis, and its aspect thus described:—

Some specimens have all the flowers abortive and apparently turned to
8c ales, which are densely crowded, and form a thick wreath, of a pale
•tow colour, round the branch of some shrub."

Albany, Indiana (on *Silphium*). The second variety, which may prove a distinct species, grows on *Helianthus*, in similar localities.

Flowers always 5-partite; tube not exactly cylindrical, a little wider at the mouth than at the base, rather Styles longer than in any of our *Cuscuta*, and almost unequal, and inserted on a distinct stylopodium, also largest in the genus. Stigma capitate, a character common to all the American species.

While the above was actually in type, we have to receive the following remarks from the Author, in dated St. Louis, Feb. 12, 1843.

" Since the Memoir in Silliman's Journal was printed, I have had occasion to examine a large collection of *Cuscuta*, and have investigated this neighbourhood again, and am now able to correct some important mistakes in my paper, and to publish some new species of *Cuscuta* as well as one of *Lepidanche*. These additions and corrections have sent to *Silliman's Journal*, but am ignorant whether they are likely to appear soon in that work, which, as you are aware, is the only American Journal, not edited by some society. I can hardly hope that the notice which you so kindly promised to insert in the *London Journal of Botany*, should have appeared ere this can reach you; still it may be as well to state those alterations, &c, which I find necessary to make. But, in case you realize the hope so agreeably held of lending me your collection of *Cuscutince*, for examination, further changes will, of course, be needful. There is one thing which I much regret the impossibility of rectifying, and that is the names, which I, at first, thought very appropriate for the species; being under the impression that each *Cuscuta* grows more or less, upon the same or similar kinds of plants. But I am now convinced this is entirely a mistake, ample proof having been given that the identical same species often grows upon totally different plants, without the least variation in its characters. I should therefore have wished to change *Cuscuta Cephalanthe*

to *C. tenuiflora*; *C. Coryli* to *crenulata*: *C. Saururi* to *C. umbrosa*, Beyr. (they are probably identical); and *C. Polygonorum* to *C. chlorocarpa*. Also *Lepidanthe Compositarum* should have been altered to *L. squarrosa** But, on conferring with Dr. Asa Gray, we thought it imprudent to adopt so extensive an alteration, however desirable it might have been. The names would certainly be more appropriate; except perhaps in the case of *C. umbrosa*, which grows along open sunny ponds as well as in shady places; but still this appellation, being the older one, must be substituted for mine.

The most important corrections are as follows:

C. Cephalanthi is generally 4-parted.

C. vulgivaga has a considerable stylopodium, as the figure 3. e. shows. *

C. Saururi is distinguished from the foregoing species, less by the proportion of its parts, than by the open corolla, of finer texture, the lobes of the calyx and corolla not orbiculate or ovato-orbicular, but oblong or even linear-oblong.

C. verrucosa is Drummond's plant, which I have received likewise from Mr. Lindheimer, gathered also on *Petalostemon multiflorum*.—*C. verrucosa*; caule ramoso, cymis umbelliformibus, floribus pedunculatis (parvis) 5-partitis tubo corollae globoso-campanulato, calycis campanulati verrucosi segmenta ovata obtusiuscula duplo superante, laciniis limbi longe acuminatis subbreviore; staminibus limbo multo brevioribus; squamis ovatis fimbriatis incurvis tubum excedentibus; stylis ovarium globoso-depressum subaequantibus, capsula globoso-depressa, Texas. With this species I have confounded, in my memoir, *C. hispidula*; caule ramoso, cymis laxis paucifloris hispidulis v. subglabris, floribus longissime pedunculatis (parvis) 5-partitis; tubo corollae turbinato campanulato, calycis segmenta ovata acutiuscula duplo superante laciniis limbi longe acuminatis leviter crenulatis brevioribus, staminibus limbo multo brevioribus, squamis ovatis fimbriatis incurvis tubum subaequantibus, stylis ovarium stylopodio coronatum subaequantibus, capsula globosa, stylopodio cum stylis coronato.—Texas. Apr. May, in dry sterile prairies.

Very near this species, but much later in flower, ^{vn} compacter inflorescence and far larger blossoms, is ^{*he fol-} ^{rinibus} ^{tubo} ^{cuta} ^{umi-} ^{limbo} ^{tubum} ^{u-er-} ^{Rud-} ^{mad} ^{ie} ^{next} ^{roxi-} ^{arc.} ^{te} ^{evis-} ^{inte-} ^{lum} ^{er-} ^{tido-} ^{cum} ^{ulla} ^{Vitis,} *C neuropetala*; caule ramoso, cymis umbelliformibus, glaberrimis, floribus pedunculatis (majoribus) 5-partitis, corollæ campanulato calycis segmenta ovato-lanceolata acutata carinata et laciniæ limbi uninerviæ ovatas breviter acuminatas crenulatas patentes subaequante; staminibus paulo brevioribus, squamis ovatis fimbriatis incurvis sequantibus, stylis ovarium stylopodii coronatum paulo superantibus.—Texas, in wet prairies, growing on *Liatris*, *beckia*, *Helianthus*, *Myrica*, fyc. August.

Lepidanche Compositarum:—nearly all the remarks in speaking of the genus refer to this species; since the **and** new one differs essentially in habit, and more approximates to the true *Cuscuta*.

Lepidanche adpressa; caule ramoso-elato, floribus sessilibus glomeratis 5-partitis, sepalis 7-9 imbricatis, simile crenulatis concavis adpressis ovato-orbiculatis, anterioribus minoribus, tubo corollæ cylindricæ calycem paulum excedente, laciniæ limbi oblongas obtusas patentes bis superante 5 staminibus limbo brevioribus, squamis pinna laciniatis convergentibus ovarium includentibus, ovario stylopodio stylos æquante, capsula globosa subacuta corollam marcescente oblecta 2-4 sperma.

St. Louis, in rich shady woods, on *Laurus*, *Bhus*, *Bignonia*, fyc. Perhaps the *C. coronata* of Beyrich?

EXPLANATION OF TAB. III.

1. *Cuscuta Cephalantifii*, a. A tetramerous and 6. a pentamerous flower. ^d Corolla laid open; d. the Ovary; c. vertical section of a half-grown* capsule; /. Capsule invested by the remains of the Corolla.
2. *Cuscuta Coryli*, a. A flower; b. Corolla laid open; c. Ovary ^d styles; d. same of var. *ft*. e. Capsule invested by the remains of & Corolla.
3. *Cuscuta vulgivaga*, a. b. c. Flower; d. Corolla laid open; e. Ovary-
4. *Cuscuta Saururi*, a. Flower.; 6. Corolla laid open, with the

scales; c. Ovary; d. vertical section of the half-grown capsule; e. mature Capsule.

5. *Cuscutapentagona* a. Flower; b. Corolla laid open; c. Ovary,

6. *Cuscuta verrucosa*, a. Flower.

7. *Cuscuta Polyonorum*, a. Flower; 6. Corolla laid open; c. Ovary; d. Capsule.

8. *Lepidanche Compositamm*, a a. Flower of var. a.; b. Ovary and Styles of do.; c. Flower of var. |3.; d. Corolla of P. laid open; e. Ovary and styles of var. |3.

All the figures are magnified.

*Figure and description of a new species of THUJA, from Chili,
by W. J. H.*

{With a Plate.—TAB. IV.)

Thuja Chilensis; ramis (cum foliis) ancipiti-compressis, foliis quadriferiam imbricatis, lateralibus complicato-carmatis ovatis decurrentibus utrinque canaliculatis canaliculis glaucis, intermediis minimis subrotundo-ovatis carinatis stipuh-formibus, capsulis nutantibus coriaceis ovatis compressis profunde 4-valvibus, valvis ovatis obtusis infra apicem spina tuberculiformi, duabus quadruplo minoribus, semmibus ala maxima ovali-oblonga.

Cupressus Chilensis. Gillies mst. in Herb. Nostr.

HAB. Valleys of the Andes of Chili. *Dr. Gillies, Mr. Lobb. Antuco, Mr. Reynolds* («. 78). Laguna de Rauco, Province of Valdivia, *Bridges* {n. 731).

A tree from thirty to forty feet high, of great beauty, and well worthy of being introduced to our gardens, where there can be little doubt, from its native regions, whether the Andes of Chili, or the southern provinces of Antuco and Valdivia, that it would thrive well in the open ground, and be a great ornament to our shrubberies. The first knowledge I had of it was from Dr. Gillies, whose mst. specie name I have adopted, and it has since been found by Mr. Reynolds, an American gentleman, Mr. Lobb and Mr.

Bridges, and it probably inhabits all the colder and temperate parts of Chili. sharks

The older branches are terete, clothed with brownish d with
 theyounger ones pinnate ancipiti-compressed, and clothe re of
 small imbricated leaves in four rows : and these leaves a osite
 two different kinds: the lateral ones, which are exactly opp called
 and complicato-carinate, so that they may almost be both
 equitant, their form ovate and singularly decurrent; on lveru-
 sides is rather a deep groove filled with a glaucous pu. inute,
 lent substance: the intermediate leaves are very m bi-
 also opposite and stipuUform (like the stipules or a . I
 gastra of a *Jungermannia*, ovato-rotund, obtuse and can rs of
 Capsules copious, terminal, drooping, about three-quarte alv ^
 an inch long, coriaceous, ovate, deeply 4-valved; the v hort
 obtuse, each of them below the apex furnished with a S are
 spine-like tubercle : of these valves two (opposite; r in
 about four times smaller than the other two. gpedis ion to
 each capsule, each with an obliquely erect (with regar
 the seed) oblong, or ovato-oblong, membranous wing- 3.

TAB. IV. Fig. 1. Leafy branches. / 2. Capsule. /
 The same bursting open. / 4-5. Seeds:—all magnified-

*On two HYMENOMYCETOUS FUNGI, belonging to the Lycopodaceo-
 perdaceous group, by the REV. M. J. BERKELEY, » - A.*
 F.L.S. (TABS. V. VL VII.)

Few Fungi have as yet been received from South ern
 Africa; but, from the collections hitherto made in that o o X X n-
 try, it is evident that far the most striking feature is the
 variety of forms under which the Lycopodaceo group
 presents itself to the notice of the mycologist. Not only the
 common European genera and even species occur, white the
 curious *Batarrea*, represented by the British species, accom-
 panies them; but we have *Podazon Cardnomatis* ^ on * b

* The specific name is so spelt in the Linnsean Herbarium, where the
 original specimen remains in excellent p?eservation.

ant-hills, differing altogether in habit from any European genus, and several other forms, either more or less allied to those which have long been recognised, or quite unlike both in habit and character. It is to two of the latter that the attention of the mycologist is now directed, presenting as they do a most curious combination of characters and highly interesting matter for reflection as regards affinity.

One of these has already been shortly characterised by Kunze,* from whom I have received a beautifully-executed sketch and a portion of the hymenium, which leave no doubt as to the identity of my plant with his. The other, as far as I can discover, is altogether new to science. Both form part of the rich collection of Sir W. J. Hooker, by whom they have been kindly placed in my hands.

I shall proceed at once to the characteristics of the genera, reserving my remarks on their affinities to the close of the Memoir.

SECOTIUM, *Kze.*

Volvauniversalis (-peridium) demum subobliterata. Stipes distinctus non cellulosus e fibris flaccidis compositus in spedi-
 fcunibus optime evolutis cum hymenophoro confluens. Hyme-
 ni-um subtus liberum gyroso-cellulosum, cellularum parietibus
 ab hymenophoro 1. apice stipitis nascentibus et ab illis nequa-
 quam discretis. Sporidia cum pedicello limoniformia cellu-
 larum parietes vestientia, nucleo globoso. Flocci nulli.
 ubi stipes non ad hymenophorum attingit sed ipse
 hymenio terminatur.—Fungus boletiformis terrestris Hy-
 menangium stipitatum volvatum referens. Nomen ab *κῆτος*
cellulosus ductum.

Secotium Gueinzii, *Kze. Flora*, 1840, p. 322. (TAB. NOSTR. v.)

Inarenosis Promontorii Bonae Spei detexit Gueinzius, 1839.
 In Uitenhage, Decembri, Zeyherus.

Volva universal, clothing the base of the stem and pileus, smooth, white, at length entirely vanishing below, and only

to be seen satisfactorily in unexpanded specimens. 2½ inches high, obese below, about | an inch thick at the point where the volva becomes free, soft and elastic, central fibres paler and less compact, composed of flaccid filaments, mixed with more slender filaments. Walls do not collapse, attenuated upwards, and then more or less expanded, either clothed above entirely by the hymenium or continued into the very thin hymenophore, and connected with the hymenium on either side above the expansion. The stem or Kleus or hymenophore 2-3 inches broad, subhemispherical or ovate, unequal, clothed permanently with the volva, smooth white, areolate, when dry, giving off, as well as the stem, more or less numerous plates, continued in substance, which ramify and form a spongy, mushroom-like hymenium, which is perfectly free below. Walls of cells clothed with yellow-brown, lemon-shaped spores about 1/4 - 1/2 of an inch in diameter, attached by a short peduncle, and containing a large globose nucleus. An apiculus at the top of the sporidia is seen only in certain positions. In one specimen the volva is torn off at the base, and remains partially attached to the edge of the pileus within its cavity, under the form of a distinct ring. M. Kunze, in his letter on the subject, writes me that he saw no trace of a volva in his specimens, but it is clear from his admirable sketch, that the stem was already elongated, and then no clear vestiges of the volva remain below. The walls of the cells are scarcely powdered, but coated with sporidia, exactly as in *Hymenogonium*, to which genus *Rhizopogon albus* of Eng. Fl. as far as the specimen found by Klotzsch is concerned is certainly referred. Bulliard's *Tuber album* belongs to a totally different genus being entosporous and not exosporous.

POLYPLOCIIUM, *n.gen.*

Volva universalis ampla persistens. Stipes distinctus non cellulosus e fibris flaccidis compositus cum hymenophoro confluentibus. Hymenium subtus liberum gyroso-cellulosum demum in processibus grossis aculeiformibus foetiscens; cellulae

parietibus ab hymenophoro nascentibus tandem discretis. Sporidia minuta copiosissima ovata nigra immixtis floccis tenuibus pellucidis parce ramosis cellulas implentia. Nucleus unus alterve globosus.—Fungus boletiformis terrestris foedis-
fiime inquinans. Nomen a *TTOXVTTXOKOS* formavi.

Polyplocium inquinans. (TAB. VI. VII.)

In ripas fluvii Orange river dicti in Africa australi detexerunt *Domini Burke et Zeyher*.

Volva universal, clothing the base of the stem and pileus, smooth, white, at length bursting irregularly, and forming a broad ragged persistent cup, nearly 3 inches broad. Stem obese below, nearly six inches high, 2i inches thick at the point from whence the volva is given off, attenuated upwards, so as to be 1 inch thick where it joins the pileus into which it gradually expands, soft and elastic, consisting of closely compacted flaccid fibres, arranged more or less in fascicles, which terminate abruptly at the sides. Pileus 5 inches broad, hemispherical, clothed with the adnate volva, smooth, rather wrinkled, and areolate when dry, clothed beneath exactly as in *Boletus* with the cellular hymenium. The cells proceed from the substance of the pileus, and are arranged more or less vertically. In a portion of the hymenium they separate into a number of coarse tooth-like processes, while in other parts the connexion of the cells is not broken; the whole hymenium at length easily separates from the pileus, exactly as that of *Boletus*. The cells are filled with an immense number of minute, dark purple-brown, or almost black sporidia, mixed with copious, pale, pellucid, slightly-branched, inarticulate flocci. The sporidia are ovate, with one or rarely two globose nuclei about $\frac{1}{10}$ of an inch in diameter. The thickness of the flocci is somewhat less than that of the sporidia.

It may now be considered as a well-established fact, that the puff-ball group, however different in their mature state, form a part of the vast division of *Hymenomycetes*. In my memoir on the subject, I have stated that I was first led to suspect this to be the case, by the resemblance between

the hymenium of a young *Boletus*, and that of a *Lycoperdon* in its early stage of growth. I was not however prepared to expect so striking a confirmation of such a view that exhibited by the two genera described above, general outward form, and in the disposition of the menium, nothing can be stronger than the resemblance between these genera and *Boletus*; and while in *Secotium* the hymenium is permanently united with the hymenophore and the cells simply bear the sporidia, which are not extremely numerous on their walls without the presence of accessory flocci, in *Polyplocium* the hymenium at length completely separable from the hymenophore, and more distinct from the stem, which is, as in *Boletus*, completely confluent with the pileus, and the mass of cells, which innumerable minute sporidia, accompanied by abundant flocci, is at length broken up, at least in parts, into hyphal processes.

The connexion exhibited between the *Tuberiform menomycetes* and *Boletus* is scarcely less interesting-hymenium of *Secotium*, as far as can be judged from specimens is as nearly as possible identical as to structure with that of *Hymenangium*. *Secotium* may be considered theoretically as consisting of an *Hymenangium*, supported upon a stem, and protected by a volva; and the more the stem penetrates the *Hymenangium* (= Hymenium) the more close is the resemblance to *Boletus*. The genus *Gautieria* which has no peridium, belongs apparently to the group *Clavariæ*, approaching to *Sparassis*. If this notion be correct, there appears at present to be no known *Lycoperdaceous* genus, except those described above, in which a portion of the hymenium is perfectly free from any integument.*

• Dr. Montagne has just sent me the characters of a genus very closely allied to the above, to which he assigns the name of *Gyrophragma*. It is founded on *Montagnites Dunalii*, Fr. In external characters, it is nearly identical with *Polyplocium*, but there are no flocci with the sporidia. Dr. Montagne remarks, that the volva is in reality the lower part

Explanation of the Figures, TABS. V. VI. vn.

TAB. v.—*Fig. 1. Secotium Gueinzii, nat. size. f. 2. Vertical section of the same, nat. size. f. 3. Sporidia in different positions, highly magnified.*

TAB. VI. vn.—*Fig. 1. Polyplocium inquinans, nat. size. f. 2. Vertical section of the same, nat. size. f. 3. Flocci and sporidia, magnified, f. 4, 5. Ditto, highly magnified.*

On some Entomogenous SPHERICÆ. By REV. M. J. BERKELEY, M.A. F.L.S. (with a Plate, TAB. VIII.)

It has been long known that certain clavariaeform fungi are produced on larvae and pupae of insects, and one species which has excited much attention is developed on full grown wasps. In the former cases it appears that the Fungus is uniformly produced on insects which have gone into the earth to undergo their transformation, and proceeds from the anterior part of the body. The *Guepes vég&antes*, as they are called, are wasps infested with a very long often twisted fungus, which, if we may believe what has been reported on the subject, without however giving heed to such fables as those of Father Torrubia,* at least commences its development on the living wasp, and, according to Dr. Maddiana,t arrives at its full growth during the life of the insect, though at length reduced by its parasite to the last stage of debility.

Several species have been noticed, but three only at present are admitted. I have no doubt however that the production first noticed by Réaumur in *Mémoires de l'Académie des*

of the peridium, a remark equally applicable to *Polyplocium* and *Secotium**
 It is, however, the same organ as the universal veil of a volvate *Agaric*.
 So close is the resemblance of the *Gyrophragmium* to many of the higher
Hymenomycetes, that its affinity with *Lycoperdaceæ* escaped the notice even
 of the great Swedish mycologist. If any thing more were wanting to
 Prove the alliance of *Lycoperdaceæ* to the higher *Hymenomycetes*, this fact
 alone would be sufficient.

* *Apparato para la Historia Natural Española in Madrid. 1754.*

t *Annals of Lyceum of Nat. Hist, of New York, vol. i. pt. 1. 1624. P. 125.*

Sciences, 1726, p. 302, under the name of Hia Tsao Tom Tchom, a drug much esteemed in China, whose properties are detailed by Duhalde, vol. 3, p. 490;—that by Watson and Hill in the Transactions of the Philosophical Society, vol. 53, p. 271, in their Memoir on Mouches Végétales des Caraïbes, and admirably figured by M. Fougereux de Roy in Mémoires de l'Académie Royale des Sciences, 1769, Mémoire sur les Insectes sur lesquels on trouve des parasites, and thirdly the parasite of the guêpes végétales are many distinct species. A fourth and most extraordinary species is one sent by Dr. Joseph Hooker from Australia.

Unfortunately in none of these species have I been able to detect perfect asci and sporidia, by which probably they would be as well characterised as the already described species. The characters therefore given will be necessarily imperfect; but my object is not so much to establish new species as to collect them together, leaving to future observers the task of completing what I am unable to represent perfectly. When the genus *Sphaeria* shall have been revised all will be arranged in *Hypocrea*.

1. *Sphaeria militaris*, Ehrh.

2. *Sphaeria sphecocephala*, Kl. in Hook. Herb.; lenta, pilida, stipite longissimo tortuoso: capitulo brevi subclavato. Jamaica, Dr. Bancroft. St. Vincents, Rev. Lansdowne.

And in other islands of the West Indies. The whole appearance of this species is very different from that of any state of *Sphaeria militaris*. The name given to it by Klotzsch with the authority of Kiinze attached to it is clearly a wrong transcription of Kiinze's name in Mycologische Hefte, for a somewhat analogous form of *Sp. militaris*; *S. sphaerocephala*. It is, however, so good that I have retained it. It is much to be desired that correct information should be obtained by some one resident in the West Indies as to the development of this species, and more perfect specimens procured than those in the collections of the British Museum, and Sir W. J. Hooker, to which alone I have had access. The heads in these are dotted with the

young perithecia, but there is not the slightest vestige of asci or sporidia.

3. *Sphaeria entomorrhiza*, Dicks.

4. *Sphaeria sobolifera*, Hill (sub *Clavaria*) *carnosa*, pallide fusca ; capitulo subglobose, stipite cequali tereti prolifero.

Clavaria sobolifera, Hill. Vide Watson and Hill in *Phil Trans*, vol. 53, p. 271, 1763. tab. 23. *Edward's Gleanings of Nat. Hist.* tab. 335. *Fougeroux de Bondaroy, Mém. de Vcad. des Sc.* 1769. tab. 4. Guadaloupe, Martinica, Dominica on the nymph of a species of *Cicada*. There are several specimens in the collection of the British Museum.

This species is extremely variable in form, but in its most perfect state has a subglobose head and proliferous stem; sometimes the terminal head is not developed and the stem is terminated by a number of little heads, which form a cluster as in a recorded variety of *Sph. militaris*; sometimes the stem is branched above, each branch being terminated by a little clavate head; sometimes a single head only is developed but tuberculated, and in this case there are no proliferous processes on the stem; and occasionally not only the stem is even, without any proliferous processes but the head instead of being subglobose is absolutely linear as in the two following species. I have in vain examined specimens both dry and preserved in spirits in the hope of finding Perfect asci, but the perithecia, though tolerably well formed, contained merely a few threads which broke up into short cylindrical portions. These are probably imperfect strings of sporidia, and if so differ materially from those of *Sp. entomorrhiza* and *Sp. Robertsii*. The greater part of the figures in plate 5 of Fougeroux's⁵ Memoir belong probably to *Sphaeria entomorrhiza*. The substance figured on a perfect Cicada is a secretion as Mr. Gray showed me in several specimens in the British Museum.

⁵« *Sphaeria Sinensis*, n. s.; Fusca, stipite cylindraco deorsum subincrassato; capitulo cylindrico cum stipite confluentibus; apiculato; apiculo sterili. (TAB. VIII. fig. 11. a. b. c. a\)

Hia Tsao Tom Tchom. *Réaumur Mém. de Vac. des Sc*
1*126. p. 302, tab. 16. Rees* CycLvol 17.

Hia Tsao Tong Tchong. *Duhalde. China, vol. 3,* ^ *90' fc

Hea Tsaon Taong Chung. *Westwood, Ann. of Nat B** '
vol. 8,j». 217.

China. *Mr. Reeves.* Collection of Brit. Mus.

Attached by simple or very sparingly branched, very
der flexuous inarticulate threads, which spread more or
over the surface of the caterpillar. The substance
caterpillar is replaced by a tough mass of very fine bran
threads, which are far more compact than those in the s
stance of the fungus, mixed with colourless oil g
The head is sometimes split into two or three
portions.

This species is a celebrated drug in the Chinese
copceia, but from its rarity only used by the Emperors
•• i _ i ••* •• .1 ~f Ginseng?
sici&n; it resembles in its properties those
being a strengthener and restorative, but does not like
cause hemorrhage. Father Perennin states that he
raised from a state of extreme weakness by the use
medicine, which was administered, dressed in the body
duck. The Chinese mime refers to the notion that
herb in summer and a worm in winter. The spec
figured by Reaumur were imperfect, and therefore their
nature was not recognised, but the fungus was
be a portion of the root of some plant to which at a cer
stage of growth the caterpillar attached itself. It is
little bundles tied up with silk. I have seen several
but have not been able to find any in which the
were folly developed.

TAB. VIII. fig. I. I. *Sphseria Sinensis*; *nat. size*., on
specimen with the head longitudinally splitting, *a.* radians
appearance of a fractured stem; *b.* filaments from the base
the stem; *c.* globules from the body of the caterpil
d. filaments forming the central substance of the fung
bearing caterpillar—all more or less highly *magnifid.*

6. Sph. *Robertsii*, Hook.—Sp. *Hugelii*. *Corda. Ic. Fasc.*
4. *cum opt. analysL*

On the larva of *Hepialus viresceris*, *DouKleday*. New Zealand.

The following valuable information was transmitted by Dr. Joseph Hooker, of H. M. Discovery ship, Erebus. "About *Spharia Iobertsii* I collected all the information and as many specimens as I could, but am still much at a loss to account for its development. They are found in spring generally under tree ferns; the caterpillar is buried in the ground as is the lower portion of the fungus. Now both these fungi (i. e. this and the following species) belong to caterpillars which bury themselves for the purpose of undergoing the metamorphosis} and both Mr. Taylor and Mr. Colenso hold the same opinion that in the act of working the soil, the spores of the fungus are lodged in the first joint of the neck, and the caterpillar settles head upwards to undergo its change, when the vegetable develops itself. I do not remember, you have remarked in your "Icones," that the entire body of the insect is filled with a pith or corky vegetable substance, and that the intestines are displaced, which my specimens in spirits shew well, and then what does the muscular fibre of the animal become? It must I suppose be turned into vegetable, for the skin of the creatures remains quite sound all the time. This change may take place from the displacement of one gas and development of another; it also occurs in the dark, and is hence somewhat analogous to the formation of Fungi on the timber-work in mines. However this may be, the whole insect seems entirely metamorphosed into vegetable with the exception of skin and intestines."

As in silk-worms attacked by *Botrytis Bassiana*, it is most probable that the caterpillar lingers a short time till the vital organs are clogged up with the mycelium. It does not appear that in any case it has made any progress with its cocoon. We are indebted to Mr. Dieffenbach for the knowledge of the moth to which the larva belongs.

7* *Sphaeria Tayhrii*, n. s. *stipitibus fasciculatis connatis*

anastomosantibus; stromate breviter palmato rufo fulvo
 tiliter velutino; ramis compressis; apicibus acutiuscu
 (TAB. VIII. f. II. a, b. c.)

Banks of Murrumbidgee. Australia. *Mr. Adams.*

Springing from the head of an extremely large caterpi
 About six stems grow from the same point, forming a cotf
 pact cylindrical mass 2\ inches long, £ of an inch
 connate slightly branched and anastomosing; e an p s
 slightly upwards, and giving off a branch of short niu
 compressed forked and palmate branches, which are do
 above with the perithecia. The apices are somewhat po
 The colour of the whole is a deep red brown, inclin
 tawny when dry. The whole of the branches are clo
 with a very thin coat of extremely short forked irregu
 flocci, which give the surface a dull appearance when
 They are at first solid, but at length become hollo*-
 portion of the caterpillar is filled with a white corky
 stance, for the root is more or less coated with a spongy
 mass, consisting of very slightly branched wavy threads.

The only specimen I have seen was not mature, bu
 bably arrived nearly at its full growth as the incipient pe
 thecia were evident towards the tops of the branches.

The following notes are from a letter of D^r «
 Hooker:—The information he states was received from
 Rev. Mr. Taylor of Waimate. « This caterpillar Fungus
 picked up on the banks of the Murrumbidgee River, 10 *
 from the township of Yap (in New Holland) in a rich iW
 alluvial soil, with many others of the same kinds. W
 fresh it was 8 inches long, and 3 inches of the fungus fr
 the nape of the neck were buried under ground, on
 surface of which is the oval or circular flower-like bunch
 branches of a brown velvety appearance when fresh. ^
 caterpillar has a great resemblance to the green wattle cater
 pillar, which produces a large brown moth. The discoverer
 Mr. John Allan, the only person who has heard of it, fbunj*
 many empty holes near, as if the chrysalis had been hatched,
 and he saw many empty shells of these grubs scattered about

the same place, and at night the brown moths were so numerous as to be quite troublesome. The body of the insect was solid and pithy; the outer skin attached to the substance of the centre which has no roots in it; and moreover the pith is of the same substance as the stem, which is as thick if not thicker than the body of the caterpillar. Both the pith and stem when burnt have a strong animal smell. Mr. Allan saw nearly 30 about March, 1837-

TAB. VIII. fig, II. *Spharia Taylori*, *nat. size* ; *a. a.* magnified branchlets; *b.* filaments of sponge about the root, highly rriagnd.; *c. do.* from velvety surface, *do.*

I cannot close my paper without due acknowledgement to Mr. I. E. Gray and Mr. White of the British Museum for their kind assistance in the prosecution of my inquiries. Several other fungoid productions on insects are preserved in our National Museum, but none certainly referable to the genus *Sphaeria*,

Enumeration of the Plants collected by R. B. HINDS, ESQ., and by MR. BARCLAY in the Feejee Islands, Tanna, New Ireland and New Guinea; to which are added a few spews gathered in Amboyna by MR. BARCLAY. By GEORGE BENTHAM, ESQ.

(Continued from p. 676 of Vol. I.)

Thespesia populnea, Corr. *Feejee Islands*, Mr. Barclay.

Abelmoschus moschatus, Moench. *Friendly Islands*, Mr. Barclay.

Sida microphylla, Cav. *Feejee Islands*, Mr. Barclay.

Heritiera littoralis, Ait. *Feejee Islands*, Mr. Hinds.

Heritiera Fomes, Symes? Not in fruit, but the foliage has more the appearance of *H. Fomes* than of *H. littoralis*. *New Ireland*, Mr. Barclay.

Melochia odorata, Forst. *Tanna*, Mr. Hinds, Mr. Barclay; *Friendly Islands*, Mr. Barclay.

Grewia mallococca, Linn. Fil. *Friendly Islands*, Mr. Barclay.

Elaeocarpus oppositifolius, W. et Am. *Aceratium oppositifolium*, DC. *Amboyna*, Mr. Barclay.

Vavsea Jmicorum, gen. nov. *Vavao*, *Friendly Islands*, Mr. Barclay.

Char. Gen. VAV^A. Sepala 5-6, aestivatione levissime imbricata. Petala totidem, hypogyna, aestivatione imbricata. Stamina 15-20, corolla breviora, inaequilonga. Filamenta haec glabra, in tubum disco adnatum monadelphum, simpliciter libera, hirsutissima. Antherae introrsas, biloculares, loculis longitudinaliter dehiscentibus. Discus hypogynus campanuliformis, carnosus, ovarium cingens et ei asquilongus. Ovarium intra discum sessile, hispidum, trilobum. Ovula in quoque loculo duo, angulo centrali affixa. Stylus simplex. Stigma crassum, peltatum, obscure triradiatum.

V. Jmicorum. Frutex? v. arbor? Kami glabri, junioribus pubescentes. Folia simplicia, in apices ramorum approximate alterna, obovato-oblonga, obtusa, emarginata v. obtuse acuminata, basi in petiolum brevem angustata, tripollicaria, chartaceo-membranacea, penninervia, superius glabriuscula, subtus sparse hirtella. Stipulas lineari-lanceolatae villosae, deciduae. Flores cymosi ad apicem pedunculati axillares brevioris. Inflorescentia tota pubescens. Bracteae parvae. Sepala lanceolata, villosa, 1 lin. longa. Petala intus extusque puberula, sepalis longiora, crassiuscula, oblonga, obtusa. Discus intus pilosus. Filamentorum villosa antheris longiores.

In the only specimen I have seen of this plant the flowers are not quite expanded, and the fruit being unknown, it is difficult to say to what order it should be referred. I have however evidently allied it to *Ixiomnthes* of Jack, a genus placed by Endlicher doubtfully at the end of *Cedrelaceae*, but which I have not had an opportunity of examining.

Micromelum ^{fo. Mem.} sp. n. junioribus in florescens aequae tomentosis, foliis 10-12 oblique ovatis acuminatis ^{mmute crenulatis} adultis glabris, calyce brevissime

5-dentato, fructu oblongo obtusissimo. This is evidently very near *M. pubescens*, Blume, but does not quite agree with his very short description. The leaflets are quite smooth, except in a very young state. The inflorescence is adidiotomous many-flowered terminal cyme. The flowers appear very small, but are as yet unexpanded in the specimen before me. The fruit is about 4 lines long. The foliaceous cotyledons are very broad, deeply emarginate and twisted, with rather a long straight radicle. *Friendly Islands*, M, Barclay.

Cuming's, n. 597, 1056, 1355, and 1850, from the Philippine Islands are also species of this genus.

Aglaia odoratissima, Blume? ramulis paniculis petiolisque dense lepidotis, foliolis 5 petiolulatis ovatis v. ovali-oblongis brevissime et obtuse acuminatis utrinque sparse lepidotis.—Foliola 3-4-pollicaria, subcoriacea. Paniculse amplissimae, floribundae, floribus parvis globosis. Antherae 5, rarius 6, infra medium tubi staminiferi inserta. The specimens answer to Blume's specific character, but that is too short for identification. *New Guinea*, Mr. Hinds; *Tobie Island*, Mr. Barclay.

Meliacea. Too imperfect to determine. *Friendly Islands*, Mr. Barclay.

Meliacea, *Lansio* affinis. Folia glabra, foliolis oppositis tojugis cum impari. Inflorescentia racemosa? brevis. Capsula baccata, subglobosa, pollicem diametro, 5-locularis, loculicide 5-valvis. Semen in quoque loculo unicum, axi centrali affixum, testa carnosissima versus axin incrassata. Embryones interdum 2 collaterales nee superpositi. Radicula superiora. Cotyledones crassi, carnosissimi. Specimens in fruit only, *New Guinea*, Mr. Hinds.

Tristellateia australis, A. Rich. Voy. Astrolab. 2. 38., *New Ireland*, Mr. Hinds.

Cardiospermum halicacabum, Linn. *Feejee Islands*, Mr. Barclay.

Schmidelia glabra, Roxb. ex Wall. Catal. n. 8057- This¹⁸ certainly very near *S. serrata*, but, at the time of flower-

ing, even the rhachis is perfectly smooth; the
 appears to be larger. The filaments are very hairy
 hairs appear to exist also, though in less abundance
 at the base of the filaments, even in Dr. Wight's speci-
 of *S. serrata*. *New Guinea*, Mr. Hinds; *New Ireland*
 Hinds, Mr. Barclay; *Amboyna*, Mr. Barclay.

Harpulia cupanioides, Roxb. Fl. Ind. ed. Wall.
 This precisely resembles Roxburgh's specimens,
 the flowers are perhaps rather smaller. The genus
 commonly referred to *Cupania*, but, if so, Endlicke
 racter must be considerably modified. The ovary
pulia is always bilocular, the stamens 5 only, the se-
 dulous and attached nearly to the top of the cell, &c.
Guinea, Mr. Hinds; *Tobie Island*, Mr. Barclay.

Colubrina Asiatica, Brongn. *Ceanothus Asiatic*,
Netv Guinea, Mr. Hinds.

Leea sambucina, Willd. *L. staphylea*, Roxb
 Mr. Hinds.

Zanthoxylum (Aubertia) variant, sp. n., glabra
 vix puberulis, foliis longe petiolatis trifoliolatis
 foliolis sessilibus elliptico-oblongis obtuse
 longe angustatis, paniculis axillaribus folio vix
 floribus hermaphroditis, ovarii glabris.—Color
 lide flavicans. Ramuli crassi, primo juventute ad
 beruli, mox glabrati. Folia subopposita, cujusve pari
 inaequalia, ad apicem petioli bipollicaris 4-8-pollicaris
 que trifoliolata. Foliolum terminale aequilaterum.
 valde obliqua et basi inaequilatera, limbo in P
 munem breviter decurrente, omnia penninervia,
 nuia, creberrime pellucido-punctata. FoUa superiora
 simplicia, foliolo terminali ceterum similia. Panicu-
 lares v. supra-axillares, laxae, parum ramosae, junior
 bescentes. Pedicelli 1-li lin. longi, hispiduli, secus
 fasciculati v. racemosi. Sepala 4, ovata, birsuta,
 tione valvata. Petala 4, ovato-oblonga, acutiuscula,
 subduplo longiora, apice recurva, astivatione valvata.
 mina 4, petalis paullo breviora. Antherae connectivo

nriatee. Ovaria 4, glabra, intra discum 4-lobura ovariiis
 ipsi longiorem affixa. Ovula in quoque loculo 2, collatera-
 lter affixa, at alter erecto altero pendulo in loculo quasi
 superposita. Styli 4, breves, filiformes, apice in unicum
 coalita. *Feejee Islands*, Mr. Hinds, Mr. Barclay.

Canarium asperum, sp. n., foliolis 5, petiolulatis oblongo-
 dlipticis obtuse acuminatis basi rotundato-truncatis subtus
 scabris ad venas petiolisque hirtellis, stipulis parvis subu-
 iatis, racemis axillaribus, floribus subsessilibus glomeratis,
 staminibus liberis, disco sex-partito, drupa monosperma.—
 Kami verrucosi. Foliola 4-5-pollicaria, rigidula, margine
 ciliata, reticulato-venosissima, supra glabra, eglandulosa. Sti-
 pulae rigidulse, 2 lin. longse. Racemi (seu spicse interrupt®) 2-4-
 pollicares, rhachide crassa hirtella. Pedicelli brevissimi, crassi.
 BracteaB minimae v. obsoletae. Calyx urceolatus, obtuse et
 subeequaliter trilobus, in fructu persistens, demum patens.
 Petala crassa, calyce fere duplo longiora, cestivatione indu-
 plicato-valvata. Stamina 6, petalis breviora, 3 petalis al-
 terna ceeteris paullo breviora. Filamenta tenuia. Anthera
 ovatee glabrce. Discus perigynus e squamis 6 obovatis ci-
 liatis constans, Ovarium subglobosum trisulcatum, breviter
 wsutum, triloculare, loculis biovulatis. Stylus brevis, cras-
 sus. Stigma crassum, obtuse trilobum. Drupa semipolli-
 ca ns, oblonga; sarcocarpio (in aqua madefacto) crassius-
 Culo, endocarpio durissimo intus nitido. Semen subsigmoi-
 deo-oblongum, testa fusca tenui, radícula recta ad apicem
 fructus spectante, Cotyledones valde plicatae. *Neio Guinea*,
 Mr. Hinds.

From the above account it will be seen that this species
 differs from the characters given to the genus by the valvate
 Petals and the deeply lobed, or rather sexpartite disk. The
 other characters are however entirely those of *Canarium*,
 and it is probably very near to *C. hispidum*, Blume. The
 fruit and seed, excepting in size, correspond exactly with
 Aertner's figure of *C. sylvestre*. The cotyledons are plicate
 and apparently lobed in the same manner, but owing to their
 Agility and to their cohering together in the not quite ripe

seeds I have opened, I have been unable to ascertain their precise form.

Cardiophora Hindsii, gen. nov. Terebinthacearum. ****
Ireland. Mr. Hinds, Mr. Barclay.

Char. Gen. CARDIOPHORA. Flores polygamo-mon^oi<*
Fl. masc. Calyx liber, sepalis 3 brevibus persistentibus-
Petala 3, carinato cucullata, per anthesin deflexa, P^{ersi}.^{^n} -
tia. Stamina 6. Discus carnosus in glandulas 3 bifc^g
divisus. PL hermaphr. Calyx, petala, stamina et discus u
inmasculis. Ovarium sessile, compressum, apice biiobu[^]
lobis brevibus obtusis, intus biloculare. Ovuium in Q^{uod}-
loculo unicum, angulo centrali lateraliter affixum. S t I g[^]
2, crassa, singula in ovarii lorum margine interiore sess[^]
lia. Fructus coinpressus, obcordatus, crasso-coriaceus m*[^]
gine tenui, medio incrassatus, indehiscens, bilocularis. S^e
mina in loculis solitaria, hilo oblongo lateraliter affixa[^]
subpendula. Testa crassiuscula. Embryo rectus, exal J-
minosus, cotyledonibus planis convexis subcarnosis, radicu
brevis, conica, ad apicem fructus spectante.

C. Hindsii. Arbor? Ramuli crassi, juniores pube W^o
ferruginea obtecti. Folia exstipulata, alterna, simplicia, PJ
tiolo subbipollicari adpresso-pubescente subsericeo; I^{am}
5-6 poliicaris, oblongo-elliptica, obtusa, basi angustata, p^e[^]
nervis, supra glabra, nitidula, subtus ad venas & i P^{GS} ^
pubescens, inter venas glabra, eglandulosa, mpuncta.
Flores in racemos axillares pubescentes petiolo vix long^{iores}
brevioresve dispositi, secus rhachin fascicillati. Bracte[^] mi-
nutce. Pedicellili-3 lin. longi. Flores parvi. Se^{pala}
ovata, obtusiuscula, pubescentia. Petala sepalis duplo loc-
giora, acuta, fere glabra. Ovarium jam ante anthesin p^{et}*
lislongius, pubescens. Stamina 3 petalis opposita »s^{lo}.^g
giora -at vix ovarium requantia, 8 sepalis opposita cffiten
paullo breviora. Pructus subglaber, 8-9 Un. longus et lat^s
fere obcordiformis, lobis sinu lato separatis incurvis. SeB[>]^{en}
fere 4 lin. longum, oblongum, compressum.

This genus differs from the generality of Anacardieie of
the presence of two perfect carpels, both of which usua^{Uf}

arrive at maturity. In this respect it is allied to the *Spondia*, but differs from either of the genera referred to that tribe by the trimerous flowers, the form of the fruit, and other characters.

Crotalaria quinquefolia, Linn. *Tanna*, Mr. Barclay.

Tephrosia purpurea, Pers. *Feejee Islands*. Mr. Barclay.

Desmodium umbellatum, DC. *13 villosum*. *Feejee Islands*. Mr. Hinds, Mr. Barclay.

Desmodium triquetrum, DC. *Amboyna*, Mr. Barclay.

Phylacium bracteosum, Bennett in Horsf. PL Jav. Rar. 159, t. 33. *Amboyna*, Mr. Barclay.

Mucuna monosperma, DC. var. *pedunculis elongatis paucifloris*. *Tanna*, Mr. Hinds.

Dalbergia densa, sp. n., scandens, foliolis 7-11 oblongo-ovali-ellipticis obtusis emarginatisque supra reticulato-venosis glabris subtus petiolisque brevissime hirtis, paniculis abbreviatis, floribus secus ramos pedicellatis secundis, bracteolis orbiculatis, calyce glabro, staminibus omnibus connatis.—Affinis *D. volubili*. Foliola 1-1½ pollicaria. Paniculae vix sesquipollicares, e racemis simplicibus racemosisve compositae, rarius irregulariter cymosse. Rhachis et bracteolae ferrugineo-pubescentes. Bracteolae calyce triplo saltern breviores, et ei appressae. Calyx glaber, urceolatus, 1 lin. longus, dentibus brevibus latis, infimo caeteris angustiore sublongiore. Corolla glabra, petalis omnibus unguiculatis. vexillum oblongum, cucullatum, incurvum. Alae paullo breviores, concavae, obliquae. Petala carinalia lato-obovata, obtusa, apice leviter cohserentia. Staminum vagina supra sessa. Antherarum loculi erecti, distincti, bivalvatim dehiscentes. Ovarium stipitatum, glabrum, 2-3-ovulatum. Legumen, quod junius tantum vidi, ei *D. tamarindcefolice* non dissimile. *New Guinea*, Mr. Hinds; *Tobk Island*, Mr. Barclay.

«salpinia nuga, Ait., *New Ireland*, Mr. Barclay.

Bauhiniee, sp. An *B. ferruginea*, Roxb. var. *bracteolis*

angustioribus? An *B. semibifida* Wall. var. calyce longiore? Perhaps a distinct species from either, but the specimens are too young to determine. *New Guinea*, Mr. Hinds; *Me Island*, Mr. Barclay.

Acacia laurifolia Willd. *Feejee Islands*, Mr. Hinds.

Bruguiera Akeedii, Blume. *Tobie Island*, Mr. Barclay.

Bruguiera, sp., with small flowers and an angled stem but not in a state to determine. *Tobie Island*, Mr. Barclay,

Cereops pauciflora, sp. n., foliis obovato-oblongis petiolatis, pedunculis axillaribus bifloris.—Folia bipollicata in petiolum pollicarem angustata, apice obtusissima v. retusa. Pedunculi petiolo subbreviares, recurvi, crassi. Bracteae Timoriensis. Flores majores. Sepala fere 3 lin. longitudo calyce breviora, membranacea, obovato-oblonga, lateraliter coherentia, apice involuta, truncata, triaristata setis claviformibus, basi angustata. Stamina petalis longiora, filamentis apice abrupte attenuatis et inflexo-hamatis. Antherae sagittate acutiusculae. Stylus e basi incrassatus conica filiformis, stamina subaequans, stigmatibus obtusis. Perigonium calyci omnino adhaerens, uniloculare, ovulis pendulis. The ovary is certainly unilocular as described by Decaisne in the Timor species, and not as Arnott found it in his *C. Candolleana* to which he is supposed to refer Decaisne's plant. The species now described is evidently distinct from both, in the fewer and much larger flowers, narrower leaves, &c. *New Ireland*, Mr. Barclay.

Melastoma mahbathricum, Linn. *Amboyna*, Mr. Barclay.

Melastoma polyantum, Blume. *New Ireland*, Mr. Barclay. A poor specimen with flowers almost solitary, belonging with very little doubt to Blume's species.

Osbeckia angustifolia, Wall. *O. linearis*, Blume. *Amboyna*, Mr. Barclay.

Monoxora latifolia, sp. n., Mis lato-ovatis 3-5-nervis

subtus albicantibus, cymis sessilibus plurifloris petiolo subbrevioribus, calycis tubo glabro. *ToUe Island*, Mr. Barclay.

In the more common *Monowora spectabilis*, Wight (which is *Myrtus spectabilis*, Blume, and *Myrtus smilacifolia*, Wall. Catal. 3629, and of which besides Wallich's specimens from Tavoy, and Marsden's from Sumatra, I have Malacca specimens, from Cuming, n. 2256 and 2285, the one-flowered pedicels proceed from so short a common peduncle that the inflorescence is an axillary fascicle, the calyx is thickly clothed with a somewhat ferruginous down, and the leaves are oblong or oval-oblong and three-nerved only or with a very slight trace of additional marginal nerves.

In *M. latifolia*, the leaves are twice as broad and usually evidently five-nerved, the peduncles, about three on each side, often bear three or more flowers, and the tube of the calyx is almost perfectly glabrous, the lobes alone (which are much broader than in *M. spectabilis*) being very slightly pubescent and ciliate. The ovary in both species is as described by Wight, one-celled with two parietal placentae peaching from the apex to a little below the middle of the cell and each bearing a number of ovules irregularly arranged.

A third species of the genus with precisely the same ovary and placentation is *Myrtus trinervia*, Sm., or *Eugenia trinervia*, DC., which may be thus distinguished: *Monoxora trinervia*, DC., foliis oblongis v. ovali-oblongis acuminatis trinerviis subtus tomentoso-pubescentibus ad venas rubescentibus, cymis subsessilibus plurifloris petiolo 2-3-plo longioribus, calycis tubo glabriusculo. Of this I have examined some specimens of A. Cunningham's from Moreton Bay.

The three-nerved canescent leaves of *Myrtus tomentosa*, Ait. give it so remarkable a resemblance in habit to *Monoxora* that I have been induced to examine with care the structure of the ovary, and have found it to be essentially different from that represented by Wight, Ic. Pl. 2. t. 522, though nearer to that of *Monoxora* than of *Myrtus*, yet suf-

ficiently distinct from both to authorise the species as forming a genus, for which De Candolle's name *Rhodomyrtus* may be adopted. I find the ovary 8-celled, with three thick fleshy double placentae to the centre, but without cohering. The margins of the placenta, as they reach the centre of the ovary, bear each a single row of densely superposed ovules, whilst from the centre (or as it were the middle) of each placenta a spurious dissepiment projects slightly into the cavity so as to separate the two rows of ovules, however reaching half-way to the centre. The ovary in its young state is easily separable from the calyx which encloses it. The *Rhodomyrtus tomentosa* is the one I am acquainted with, and occurs frequently in Cuming's 1253 from the pine Islands and 2264 from Malacca.

Nelitris Urvillm., DC. *Tobie Island*, Mr. Barclay's

Of this genus, besides Barclay's specimens, I have examined Cuming's n. 801, 821 and 1824 from the Philippine Islands and 2271 from Malacca, and East Indian specimens from Roxburgh, Wallich and others. The ovary always appears 8 or 10-celled, although strictly speaking it may be tetramerous or pentamerous. The placentation is in the same manner as that of *Rhodomyrtus*, but the placentae, meeting only in the centre, cohere together; and the dissepiments of *Rhodomyrtus*, also reach the centre of *Nelitris*, and are there united with the common axis, so as to divide each cell into two. Of the above mentioned specimens, Roxburgh's, Wallich's and Cuming's n. 227h flowers and ovary tetramerous, and belong to the same species as Lindl. Barclay's and Cuming's 821 are pentamerous and agree with De Candolle's character of *N. Urvillm.*; Cuming's n. 801 is allied to *N. Jambosella*, but has certainly more than the others, several ovules in each cell; and Cuming's 1824 probably a new species allied to *N. Urvillm.*

Eugenia vismioides DC? Prod. 3, 267- *New Ireland*, Mr. Hinds, Mr. Barclay.

Eugenia rariflora, sp. n., foliis late ovatis obtusis basi rotundatis crasso-coriaceis nitidis ramulisque glabris, pedicellis solitariis unifloris folio brevioribus adpresse puberulis, calycis puberuli tubo ovato-glabro, limbo inaequaliter 4-partito, laciniis latis obtusis tubo paullo brevioribus.—Folia 2-3 poll, longa, li poll. lata. Pedicelli 6-12 lin. longi. Bracteolae, corollas et stamina in speciminibus jam delapsa. Calycis limbi lacinias majores 2 lin. longas et lato. Ovarium biloculare, ovulis numerosis. Bacca oblique ovoidea, calycis limbo coronata. Semina saepius 2, depresso-glabra, testa crassa, cotyledonibus conferruminatis. *Feejee Islands*, Mr. Hinds, Mr. Barclay.

Syzygium nitidum, sp. n., foliis ovali-ellipticis basi cuneatis apice obtuse acuminatis coriaceis nitidis impunctatis, venis subtus reticulato-pinnatis in venam margine parallelam confluentibus, cymis paniculatis in ramis annotinis terminalibus trichotomis, calycis margine repando.—*S. venoso*, DC. affine. Folia breviora, multo rigidiora, supra siccitate glauco-nigricantia, petiolo 2-3 lin. lamina 3 poll, longis. Paniculae rami crassi, compressi. Calycis tubus per anthesin late turbinatus. Ovarium biloculare, ovulis in quoque loculo 2-3. *New Guinea*, Mr. Hinds; *Tobie Island*, Mr. Barclay.

Syzygium, apparently new but the specimen insufficient for description. *Amboyna*, Mr. Barclay.

Jambosfi sp.?, a very imperfect specimen. *Amboyna*, Mr. Barclay.

Barringtonia speciosa, Linn. *Feejee Islands*, Mr. Barclay,

Barringtonia eocelsa, Blume, Bijdr. ex. D.C. Prod. 3. 26i) ? foliis cuneatis oblongisve breviter acuminatis subserrulatis, floribus secus ramos elongatos paniculae amplee sessilibus.—Arbor elata, speciosa. Folia confertim sparsa, sessilia, v. brevissime petiolata, usque ad sesquipedalia, supra medium 5-6 poll. lata. Spicae adsunt sesquipedales, quarum tres in coUectione Hindsiana (eo teste) partem minimam formant paniculae speciosissimae. Flores magni, secus rhachim angulatum irregulariter dispositi, alii approximati, alii pollicem inter se distantes. ..Calycis tubus ovoideus, sulcatus, limbus

amplus, bipartitus v. lacinia una alterave bifida S[^]-p^{*1*1*09},
Stamina numerosissima, fere sesquipollicaria, antheris parvis
globosis. Ovarium 4-loculare, ovulis in quoque loculo 4,
per paria pendulis. *Tanna*, Mr. Hinds, Mr. Barclay.

Carica Papaya, Linn. *Feejee Islands*, Mr. Barclay.

Cucurbitacea. Apparently a *Luffa* near *L. acutangwa* but too much injured to determine. *Feejee Islands*, Mr. Hinds.

Passifloracea} A slender smooth plant with deeply three-
lobed obtuse leaves, the flowers destroyed. *Feejee Isl* Mr. Hinds, Mr. Barclay.

Sciodaphyllum macrostachyum, sp. n., foliis digitatis, foliolis (9) oblongis ellipticisve breviter acuminatis basi rotundatis coriaceis nitidis glabris, capitulis pedunculatis long⁶ racemosis, floribus 10-12-meris.-Foliolaineequalia, 9-15 poU. longa petiolulis 1-3-pollicaribus. Racemus sesquipede 1^{oo}gior. Pedunculi pollice breviores, singuli ex axilla bracteovate acuminata orti. Floras in capitulo sessiles. Oaly^{*'} margo integer. Petala 10-12, angusta, in calyptram colli^{*'} rentia. Stamina totidem, antheris oblongis sagittatis <'>mento brevi dorso affixis. Ovarii loculi tot quot pe^{*1*} Stylus brevissimus, crassus, conicus, stigmate radiato terminatus. *New Guinea*, Mr. Hinds.

Arahaea, an *Aralia palmata*, Lam ? Folium adest unci^{'>'} amplum, nervis palmatis, profunde 9-fidum, laciniis gr^{os?} dentatis v. inciso-pinnatifidis. Panicula umbelliform^{s>} in specwne fructifer. Bacca ovoidece, 5-6-sulc[@], 5-6-Io^{ctt} lares, stigmate sessili. *New Guinea*, Mr. Hinds.

Viscum orientale, WUld. *New Guinea*, Mr. Hinds.

Two Loranthi, one from *New Guinea*, Mr. Hinds, > other from *New Ireland*, Mr. Barclay; both perhaps ne* > but in very imperfect specimens.

... *Uncana appendiculata*, sp. n., ramulis adpresse P^{«^{beS}f *'} bus, fohis ovatis acuminatis basi rotundatis subco«W»J'' supra hirtellis subtus ferrugineo-villosis, stipulis . b i p ^ *' gemmisve lanceolatis acutis petiolo longioribus, pedunc-b» medio amculatis involuocratis, laciniis calycinis s u b u ^

ciliatis, sinibus dente brevi setaceo auctis.—This is near *U. pilosa* in appearance but is readily distinguished by the very slender divisions of the calyx and by the small accessory teeth between each. The surface of the plant is also rather less hairy and the leaves larger. *New Guinea*, Mr. Hinds.

Uncaria setiloba, sp. n., foliis ovatis v-ovali-oblongis acuminatis basi rotundatis subtus ad venas ramulisque pilosulis caeterum glabris, pedunculis medio articulatis involucre, laciniis calycinis subulatis ciliatis, sinibus dente brevissimo nunc obsoleto auctis.—Near the last but without any ferruginous down, the leaves narrower, and the accessory teeth of the calyx smaller or even wanting. I have not seen the stipules. *Amboyna*, Mr. Barclay.

Wendlandia paniculata, DC. *Amboyna*, Mr. Barclay.

Bikkia australis, DC. var. foliis 4-6-pollicaribus coriaceis breviter et obtuse acuminatis. Perhaps a distinct species but the single specimen is in fruit only. *Tobie Island*, Mr. Barclay.

Hedyotis (*Oldenlandia*) *multiflora*, Cav? (sub *Oldenlandia*). Very near *O. racemosa*, Linn., referred by DC. to *O. paniculata*, Linn., but the inflorescence is very lax and broadly paniculate, and by no means racemose. Perhaps it may be the true *O. paniculata*, Linn., if that plant, as supposed by Arnott, be truly distinct from *O. racemosa*. Cuming's n. 575 from the Philippine Islands appears to be the same species with rather more ovate leaves.

^ *Stylocoryne pepeticarpa*, sp. n., tota glabra v. inflorescentia v*x tenuissime puberula, foliis ovali-v. oblongo-ellipticis acutiusculis basi angustatis submembranaceis, panicula terminali corymbosa brevissime pedunculata laxa trichotoma inultiflora, calycis laciniis latis obtusis. Tota siccitate figrescit. Ramuli juniores et inflorescentia leviter canescunt. *oha 4-6-pollicaria, supra nitidula, subtus pallida, petiolo semipollicari. Stipule latae, acuminatae. Corymbus intra *olia suprema sessilis v. brevissime pedunculatus, pluries trichotomus. Pedicelli ultimi 1-1 i lin. longi. Calyx linea brevior, tubo subgloboso, limbo concavo, laciniis minute

ciliolatis tubo dimidio brevioribus discum epigynum p^{*uIIo} superarantibus. Corollae tubus 2 lin. longus, extus pubescens, lacina paulo breviores, lanceolatae. Antherae lineares. Stylus laciniis corollinis paulo longior? stigmatibus integeritno? Baccae magnitudine grani piperis, globoseae, nigrae oligospermae. *Feejee Islands*, Mr. Hinds (with ripe fruit only.) *Friendly Islands*, Mr. Barclay, (in young fruit with the remains of a single flower).

Lasiostoma loranthifolia, gen. nov. *New Guinea*, M^{*'} Hinds.

Char. Gen. LASIOSTOMA. Calycis limbus breviter urceolatus, integer. Corolla infundibuliformis, tubo brevi, laciniis 4-partito, laciniis aestivatione valvatis, intus basi partibus membranaceis dense hispidis. Antherae in superioribus tubo insertis, oblongae, subinclusae. Ovarium biloculare, loculis multiovulatis, disco crasso coronatum. Stylus filiformis, stigmatibus clavatis. Bacca subbipartibilis, bilocularis, baccina nuda, minuta, pendula, in placenta carnosa affixa. Intente affixa nidulantia.—*S. loranthifolia*, foliis late obovatis obtusissimis. Tota glabra. Rami crassi, carnosissimi, siccitate fragiles. Stipulae breves, vaginantes, truncatae, juniores virentes, mox irregulariter ruptae, et tardius evanescunt. Folia sessilia, plerumque bipollicaria, integerrima, basi cuneata, crasso-coriacea, obscure penninervia. Flores in capitulis axillaribus nodiformibus sessiles. Calyces floridi carnosissimi, cum bracteis intra capitulum immersis, umbo discum ovarium subaequantem. Corolla omnino exserta, 2 lin. longa, extus glabra, subcarnosa; fauces et laciniarum pars inferior in paleis angustis hyalinis densissime hirsuta, tubus glaber. Bacca ovoidea, 2 lin. longa, disco carnosissimo et calycis limbo crasso coronata.

This plant has so strong a resemblance to Gaudichaud's *Myrmecodia inermis* (Freye. Voy. t. 95.) that I should have been much tempted to consider it as the same, were it not that I find the structure of the ovary and fruit entirely different. With his description. It is an ordinary pocket glass the placenta have, capsule

cially at the time of flowering the appearance of single peltate ovules attached by their inner surface, but under a stronger glass, especially as the fruit advances towards maturity, these fleshy placentae are covered with small oblong pendulous seeds more or less imbedded in pulp as in *Gardenia*, *Randia* and other allied genera. I have not however seen them quite ripe, so as to examine their internal structure. De Candolle refers moreover to *Myrmecodia inermis*, Gaud, the *M. tuberosa*, Jack, whose description differs from the plant before me in several points. The genus *Lasiostoma* now established would belong to the *Gardenia*. I have adopted for it a name originally substituted by Schreber to Aublet's *Rouhamon* now united to *Strychnos* and extended by Sprengel to include *Myrmecodia*, but now unoccupied.

Lasiostoma oblonga, sp. n. foliis ovali-oblongis obtusis. The leaves are scarcely more than half the breadth of those of the preceding species, the bark of the branches smoother, and the flowers smaller but precisely the same in structure. *New Ireland*, Mr. Barclay.

Timonius Forsteri, DC. *Burneya Forsteri*, Cham. Schiecht. *Amboyna*, Mr. Barclay.

Ixorce sp. not distinguishable by the single specimen before me, from *I. Timtmensis* Decaisne. *Amboyna*, Mr. Barclay.

Vernonia einerea, Less. var. *angustifolia*. *Tanna*, Mr. Barclay.

Wollastonia strigulosa, DC. *Tanna*, Mr. Barclay.

Wollastonia insularis, DC ? *Feejee Islands*. Mr. Barclay.

^x «e leaflets of the involucre are remarkably obtuse, in other Aspects it agrees precisely with De Candolle's character,

[^]giceras/rc[^]rra/w, Kōn. *Tobie Island*, Mr. Barclay.

Myrsine sp. in fruit only. *Amboyna*, Mr. Barclay,

y i^a floribunda, sp. n., glaberrima, foliis longiuscule petiolatis oblongo-ellipticis obtuse acuminatis basi angustatis subundulatis nitidis, paniculis axillaribus laxe ramosissimis, floribus parvis, calyce profunde 4-fido, corolla fere ad basin 4-partita, laciniis erecto-patentibus concavis. Folia omnino

C. attenuate, Wall. Paniculae multo ramosiores. Coroll*
dimidio fere minores, petalis vix patentibus nee recurvi*
New Ireland, Mr. Barclay.

Chaetosus volubilis, gen. nov. *New Guinea*, Mr. Hinds.

Char. Gen. CHJETOSUS. Calyx brevis, 5-partitus, sepa^{ll}
aestivatione imbricatis. Corolla tubus brevis, ovoideus,^{faux}
leviter contracta, subnuda; limbi lacinae 5, oblongo-Hn[^]
cestivatione leviter contorta. Stamina 5, imo tubo ins** *.
Antherae exsertae, in conum connate. Glandulae hypogy^{1*25} ^F
conicae, ovario aequilonga*. Ovarium biloculare, ^{ovullis} ^t ⁹
quoque loculo numerosissimis, placentis dissepimento adnati [^]
Stylus filiformis. Stigma basi orbiculari impositum, oblon-
gum, apice breviter bicuspidatum. Bacca bilocularis, ^{crus-}
tacea, polysperma, seminibus peltatis dissepimento affi^{xis}.
C. volubilis. Frutex glaber, ramulis volubilibus. ^{Folia}
opposita, petiolata, ovata, breviter acuminata, P^{en} ^{ninervia},
subtripollicaria. Stipulse interpetiolare brevissimi^{ae}, breviter
multisetae. Cymae pedunculate axillares, 2-3-cho^{tom}fiB, ^{petiolo}
paullo longiores. Calyx *i* lin. longus. Corolla intus ^{extus-}
que glabra, tubo lineam, limbi laciniis sesquilineam ^{longis}.
Faux annula obscura aucta. Filamenta crassiuscula, ^{Pilis}
paucis hirtella, tubo corollae paullo longiora. Ovarium ⁸ ^{no-}
phoro crasso carnosio impositum, tetragono-conicum. ^{Bacca},
in speciminibus immaturae, late obovoideo globosae, 4-5 ^{l'n.}
longae et late, nonnullae loculo uno abortiente ovoideae ⁱ ⁿ
curvae. Semina in quoque loculo 4-5; matura non vidi.

This genus would belong to the tribe Carisseae of ^AP^oC^l*
naceae, but that the stipulary setae are more evident ^{than} [^] ¹
others of that tribe. It has much of the habit of *Gardner*^R
and appears to come near to the character given to *P&*
phlam of Blume, but is in several points sufficiently dis-
tinct.

Alyxia laurina, Gaudich. ad Freycin. 451. t. 62. ^{New}
Guinea, Mr. Hinds; *Tobie Island*, Mr. Barclay.

Apocynacea, not in a state to determine. *Feejee* ^{Islands},
Mr. Barclay.

Dischidia ovata, sp. n., carnosae, foliis ovatis ^{acutiusculis}

subtrinerviis, pedunculis axillaribus, corolla fauce dense pilosa. Habitus Dischidiarum sed utriculi in speciminibus nulli. Folia pleraque scsquipollicaria, latiora v. angustiora, obtusiora v. acutiora. Pedunculi breves, apice nodoso-bifidi. Corolla 3 lin. longa, basi inflata, ad faucem valde contracta et ibidem intus dense pilosa; lacinie limbi breves, ovatae. Corollae foliola membranacea, profunde bifida, laciniis quasi stipitatis oblique oblongis incurvis. Anthere et pollinia omnino generis. *New Guinea*, Mr. Hinds.

Asclepiadearum genus novura? • *Hoyce* et *Cyrtoceras* affine, Planta volubilis, glabra. Folia opposita, subcarnosa, lato-ovata v. orbiculata, basi subcordata. Umbellae interpetiolares? Pedicelli singuli semipollicares. Sepala parva. Corolla rotata? inaperta pentagono-pyramidata, profunde 5 loba, laciniis ovato-triangularibus. Corona staminea 5 phylla, foliolis medio staminum tubo affixis carnosis crectis lanceolatis appressis deorsum in appendicem trilobum patentem productis, lacinia intermedia brevissima dentiformi. Anterae membrana terminatae. Masse pollinis basi affixae, erectae. *New Guinea*, Mr. Hinds.

Cordia subpubescens, Decaisne, Herb. Tim. 68. Specimina fructifera, fere glabra. *Tanna*, Mr. Hinds.

Plectranthus Forsteri, Benth. Lab. 38. *Feejee Islands*, Mr. Hinds, Mr. Barclay.

Clerodendron inerme, Br. *New Ireland*, Mr. Hinds.

Vitex Negundo. Linn. *Feejee Islands*, Mr. Hinds, Mr. Barclay.

Premna integrifolia, Linn?, *Feejee Islands*, Mr. Hinds.

Gmelina Asiatica, Linn. *Amboyna*, Mr. Barclay.¹

Solanum viride, Br. Prod. 1. 445? *Friendly Islands*, Mr. Barclay.

Solanum nigrum, Linn. *Friendly Islands*, Mr. Barclay.

Solanum Amicorum, sp. n., fruticosum, inerme, ramis sulcatis, foliis ovatis obscure angulato-sinuatis supra demum glabris subtus reti^ulato-venosis ad venas petiolis caule raris leproso-tomentosis, racemis lateralibus bifidis multicalycibus 5-dentalis, corollae profunde 5-fidae laciniis

lanceolatis acutis.—Valde affine *S. Sandtokensi*, Hook., Am., sed foliis majoribus subtus venis elevatis nutnerosi* reticulatis prima facie distinguitur. Racemi breves nw^{1*} flori, pedunculo communi 2-3 lin. longo ramis longiorib⁰⁸ pedicellis fere semipollicaribus. Calyx parvus, tomentosnft dentibus subulatis tubo brevioribus, sinubus truncatis. C_o* rolla extus lepidota, laciniis longioribus et acutioribus qua* in 8. *Sandwieensi*. *Friendly Islands*, Mr. Barclay.

Solanum inamm, sp. n., fruticosura, inerme, ramis tare* tibus tortuosis, juniorib⁰ts tomentos, foliis oblique oblong⁰* ovatis acuminatis integerrimis v. subsinuato-dentatis, sup» glaberrimis v. pube rare conspersis, subtus ubique rao[^] stellato-pubescentibus, racemis suboppositifoliis tomentos^{'''} calycibus angulatis 5-dentatis sinubus interdum &«^{*''''} accessoriis auctis, fructiferis parum auctis 5-fidis, coroU» tomentosB profunde 5-fidaj laciniis oblongis.—Hac et»» species *S. Sandwicensi* et etiam *S. tetrandro* affiois *^{''}. Racemi in specimine omnes simplices, rhachi demum P^{''''''} can, pedicellis 2-4 lin. longis apice incrassatis. CaJ[?] florifer parvus dentibus minutis, fructifer parum auctu^{''} laciniis ovatis. Bacca magnitudine fructus *SoUrni tub**^{0*} *Feejee Islands*, Mr. Hinds.

Cyrtandra latifolia, sp. n., foliis maximis oppositis («^{*''} «qualibus?) oblique ovatis supra junioribus hirtis *» * £ gÜbratis subtus ad venas petiolisque tomentos, cymis m^{*} tiflons longiuscule pedunculatis, calyce 6-partito, I^{''''''} Iato-lanceolatis corolla tubum ffiquantibus, coroU[®] subeequaliter 5-partito.—Caulis seu ramus crassus, sulcat^{''} tomento brevissimo rufescens. Folia ampla et lata, (*^{*''} pedale, 7 poll-latium, petiolo polUcari), juniora asqualia, sup^{ra} breviter hirtella, subtus brevissime et dense tomenWS* adulta (q_Uorum adest unum tantum cujusve paris) »emW^{''} nacea, supra viridia, et nonnisi pilis brevissimis raris g^{''} subtus ad venas tenuissime tomentella, inter venas ^{''''''} Peduncuh axillares, 2-3 pollicares. C_{yi}n« umbellefo[^] 3-5 radiat®, pedicello centrali simplici unifloro, ^f 2-3-chotomw. Bractea, m i n u t e . Calyx canescens, 4 ^

longus, laxis, laciniis demum ad basin solutis acutis. Corolla glabra, tubo incurvo basi postice gibbo, laciniis orbicularibus vix inaequalibus. Stamina inferiora subexserta, antherarum loculis parallelis, superiorum rudimenta minuta. Ovarium vagina conspicua basi cinctum. Stigma bilamellatum. Bacca oblonga. *Tanna*, Mr. Hinds.

Cyrtandra? calycina, sp. n., fruticosa? foliis oppositis, altero maximo petiolato oblongo acuminato subdentato, altero nano stipulaeforme sessili lanceolato-subulato, pedicellis axillaribus fasciculatis, calyce membranaceo laxo oblique bilabiato.—Habitu *C. frutescenti* affinis. Ramuli juniores et petioli squamis pilisve rufis obtecti, folium cujusve paris alterum 8-9-poll. usque ad pedem longum, superne irregulante dentatum, basi integrum anquatum, supra, glabrum, subtus ad venas ferrugineo-villosulum. Petiolus crassus, semipollicaris. Folium alterum petiolum folii majoris vix sequans, crassiusculum, carinatum. Pedicelli tenues, semipollicares, uniflori. Flores torsione pedicelli subresupinati. Calyx amplius, coloratus? labiis latis obtusissimis, superiore obscure trilobo, inferiore subbilobo. Corollae 8-9 lin. longae tubus superne amplius, limbus bilabiatus, labio superiore late amplo lato et breviter 4-fido, inferiore integro angusto (ad medium reflexo?) Membrana adest in fauce sub labio superiore inter stamina. Stamina 2 fertilia, corollae aequilonga, antheris oblongis, connectivo crasso loculis parallelis; steruim vestigia nulla. Ovarium vagina brevi cinctum, Placentis bifidis circimmatim revolutis, in medio ovario arete proximalis, lobis undique ovuliferis. Bacca exsucca, ovato oblonga, circa 3 lin. longa. Semina numerosissima, oblonga, testa castanea firma, albumine parco adhaerente. Embryo erectus, cotyledonibus brevibus. *New Guinea*, Mr. Hinds.

There are several points in which this appears to differ generically from some species of *Cyrtandra*, and the remarkable form of the calyx and corolla might furnish good characters. It however, closely resembles in foliage and habit some of the specimens distributed by Dr. Wallich under his No. 807, with the true *C. frutescens* Jack, a very different plant.

These specimens are in fruit only, and I am unable to ascertain the structure of their flowers farther than that they have not the calyx of *C. caldana*. On the other hand some Cyrtandrm with a very different habit have a membranous tubular calyx. Not having, however, good specimens of any considerable number of Cyrtandras, I have preferred publishing the species now described under that generic name, to attempting to divide the genus without better materials.

Besides the great inequality of the leaves of each pair, j^n this and many other Cyrtandrie, the two are not exactly opposite. The great development of the stem immediately under the large leaf of the pair next above, has thrown the small one of the lower pair so much on one side as to $\&^{ve}$ it precisely the appearance of a stipule by the side of \ll^* large leaf.

Ruellia reptans, Porst. ex Willd. Spec. 3. p. 37* ^{Herb 8}
reptans, radicans, glabriuscula v. pilis paucis in caule petiolisque vestita. $R_{am}i$ $fl_{ori}f_{eri}$ 4-6-pollicares, semel bisve furcati. Folia longe petiolata, ovata v. oblongo-ovata, obtus* grosse crenata. Pedunculi in dichotomiis 1-S-pol⁸¹⁸⁸ floribus terminalibus paucis sessilibus subcapitatis. Bract^e* oblonge v. lineares. Calyx 5-fidus. Corolla infundibuliform'f hmbi laciniis rotundatis subajqualibus. Stamina 4, *' dynama, inclusa, antheris oblongis, loculis ajqualibus. StigB* tenue, bifidum, basi minute nodulosum. Ovula in $q\gg\langle^{\wedge ue}$ loculo 6. Characteres fere *DipteraemtM*, generis vix • *Ruellia* distincti. *Tanna*, Mr. Hinds, Mr. Barclay.

Acanthacea, with much the habit of the preceding; \wedge evidently very distinct. The specimen is not in a state to determine, *New Guinea*, Mr. Hinds.

Boerhaavia diffusa Linn. *Friendly Islands*, Mr. Barclay-

Dismochfite mkrantha, DC. *Tarma*, Mr. Hinds, fl^{***} *Islands*, Mr. Barclay.

Celosiatargentea Linn. *Amboym*, Mr. Barclay.

Actmodaphne multiflora, sp. n., foliis subverticillatis 5-6- $'|s$ oblongs obtus_{IS} subtus glauco-caasiis glabrescentibus, $\&\gg\ll^*$ ferrugmeis, ramulis petiolisque glabris, florum fasciculis com-

positis densis lateralibus. Affinis ex char. Neesianis *A. angustifoliae* et *A. glomeratae**, sed folia minime acuminata. Specimen feemineum est, umbellis breviter pedunculatis in fasciculo numerosis 5-9-floris. Stamina sterilia hirsuta, apice glabra, exteriora spathulata, interiora ovata. Stylus liirsu-tissimus, apice sequaliter lobatus. Bacca piso major. *Tobie Island*, Mr. Barclay.

Lauracea, in fruit only. *New Guinea*, Mr. Hinds.

. *Ximenia Americana*, *Feejee Islands*, Mr. Barclay.

Cansjera leptostachya, sp. n., foliis ovato-lanceolatis longe acuminatis basi angustatis, floribus glabriusculis parvis, staminodiis late obovatis truncatis. Folia fere *C. lanceolata* at longius acuminata, basi longius angustata, vix marline undulata. Ramuli glabri. Spicse breves, graciles, vix minute puberulee. Flores multo minores quam in *C. Iiheedii*, fere globosi. Staminodia fere orbicularia, apice truncata et obscure tridentata. *New Ireland*, Mr. Hinds, Mr. Barclay.

Leucosmia Burnettiana gen. nov. *Feejee Islands*, Mr. Hinds, Mr. Barclay.

• Char, gen. LEUCOSMIA. Perigonium longe tubulosum, «mbo 5-fido, laciniis aestivatione imbricatis. Squamee ad faucem 5, laciniis alternse. Stamina 10, 5 adfaucem laciniis perigonii opposita, 5 paullo inferius inserta squamis opposita. Fdamenta brevia. Antheree lineares, versatiles, biloculares, loculis longitudinaliter dehiscentibus. Vagina brevis ovarii basin cingens. Ovarium biloculare, ovulis in quoque loculo sohtariis, ab apice anguli interioris pendulis. Stylus longus, f'iformis. Stigma crassum, oblongum, leviter emarginatum. J'nipa sarcocarpio tenue, putamine lignoso crasso bilocu- are dispermo. Semen pendulum, exalbuminosum, cotyledonibus crassis, radícula brevissima, supera.—*L. Burnetliana* f. Frutex (v. arbor?) glaberrimus. Folia opposita, exstipulata, breviter petiolata, ovata elliptica v. suprema fere orbicularia, brevissime acuminata, integerrima, subcoriacea, nitidula, penninervia, reticulato-venosa, 2£-3£ poll, longa. Flores in capitulo terminali breviter pedunculato circa 10, sessiles. Involucrum in speciminibus nullum, sed cicatrices supersunt

bractearum v. deciduarum v. abortientium. Perigonium gracile, basi et apice leviter ampliatum, extus glabrum, bilobum, lobis lacinis limbi crassis, oblongis, obtusis, 3-4 lin. longis, in alabastro valde imbricatis. Tubus perigonii hirsutus. Squamae faucis parvae, ovatae. Vagina orbiculata, glabra. Ovarium oblongum, leviter compressum. Drupa magnitudine nucis avellanae, compresso-globosa, rugosa, et interdum subdidyma, putamine lignoso-fibroso. Semen testa nigro-fusca.

This genus is evidently allied, both in habit and to *Phaleria* of Jack (of which Cuming's n. 73 from the Philippine Islands appears to be a species), but distinguished by pentamerous flowers, the scales at the mouth of the oblong stigma, and the drupaceous fruit, besides characters of minor importance. I have, at the request of Mr. Hinds, dedicated the species to Sir W. Burnett, Inspector-General of the Navy, a zealous promoter of the history, and much respected by the medical officers of the navy; regretting, at the same time, that a genus already existing under the name of *Burnettia*, precludes my fulfilling entirely Mr. Hind's wishes to dedicate one to Sir

Hernandia sonora, Linn. *Feejee Islands*, Mr. Hinds.

Omalanthus pedicellatus, sp. n., floribus foeniiformi, racemose, inferiore racemo 1-2 longe pedicellatis, masculis subglobosis, bractea solitariis, Similis *O. populifolio* Grah., sed gracilior. Racemi sesquipollicares, graciles, floribus numerosis, solitarie pedicellatis, 9-10-andris, pedicellus per anthesin 3-4 lin. mox vero pollicem longus. *Friendly Islands*, Mr. Barclay.

Acalypha hispida Willd. *Feejee Islands*, Mr. Barclay.

Acalypha grandis, sp. n., fruticosa (v. arborea) dioica.

• Since the above has been in type, I have received the number of the *Annales des Sciences Naturelles*, in which I find by Decaisne on the *Aquilarieae* as a Section of *Phytelepsis*, in which he reduces *Phaleria* of Jack to *Drymispmaum* of Reinwardt, and establishes two new genera: *Pseudais* for the *Dais coccinea* of Gaudichaud and *Gyrinopsin* for Cuming's, n. 1617, from the Philippine Islands. *Leucosmia* will be found to be intermediate between these two genera.

foliis amplis cordatis acuminatis, junioribus ramulis spicisque canescenti-pubescentibus, demum glabratis, spicis elongatis interruptis, foeminearum bracteis reniformibus dentatis. Rami lignosi; ramuli herbacei, in speciniitibus foemineis pube densa canescentes, in masculis glabriores. Petioli 3-4-pollicares. Folia semipedalia et longiora, latissime ovata, obtuse acuminata, grosse dentata, penninervia et basi 5-7-nervia, transverse reticulata, minute et creberrime pellucido-punctata. Spicae masculae 3-5-pollicares, interruptae, floribus dense-glomeratis omnino generis; foeminae sesquipedales, rhachi basi nuda, floribus superne approximatis. Bractese latse, deritibus acutis. Flores solitarii, sessiles. Stylorum rami tenues, siccitate purpurascens. Capsulae pubescentes. *Feejee Islands*. Mr. Hinds, Mr. Barclay; *Amboyna*, Mr. Barclay.

Acalypha Amboynensis, sp. n., fruticosa, monoica, hirtella, demum glabrescens, foliis amplis ovatis oblongisve acuminatis serrato-crenatis basi subcordatis, spicis utriusque sexus distinctis axillaribus elongatis tenuibus interruptis, involucris reniformibus lobatis vix capsulam excedentibus. Habitu praececedenti affinis. Folia minora, angustiora. Spicis graciliores, masculae et foeminae in eodem specimine. Bractes foeminearum multo minores. *Amboyna*, Mr-Barclay.

Mappa Moluccana, Spreng. Syst. 3 p. 878, (excl. syn. Rothii), stipulis oblique cordatis acutis, foliis orbiculari-ovalibus acuminatis integerrimis peltatis subtus punctatis ramulisque pubescentibus, bracteis cucullatis dentatis. *New Ireland*, Mr. Barclay, a male specimen.

Codiaeum variegatum, Juss. C. *Moluccanum*, Decaisne. *Tanna*, Mr. Hinds (with variegated leaves), Mr. Barclay (with green leaves.)

Rottlera acuminata, Juss. *New Ireland*, Mr. Hinds, Mr. Barclay.

Phyllanthus sp. n.? with female flowers only. *New Ireland*, Mr. Hinds, and another perhaps different, *New Guinea*, Mr. Hinds.

Glochidion ramiflorum Forst. ? *Tanna*, Mr. Hinds.

Sida sp. *Friendly Islands*, and another from *Amboyna*, Mr. Barclay:

Boehmeria sp. from *New Guinea*, and another from *New Ireland** Mr. Hinds.

Elatostemma sp. *New Ireland*, Mr; Hinds, and another, *Amboyna*, Mr. Barclay.

Ficus aspera, Forst. *Friendly Islands*, Mr. Barclay, and two species from *New Guinea*, Mr. Hinds.

Urtica affinis, Hook, et Am. Bot. Beech, p. <#• *Tanna*, Mr. Hinds.

Antidesma sp. with male flowers only, *Tanna*, M. Hinds.

Piper fragile, sp. n., fruticosum, scandens? subradicans, glabrum, dioicum, foliis lato-ovatis orbiculatisve breviter a... minatis basi cuneatis truncatis v. subpeltatis quintupune... coriaceis, spicis brevibus, masculis tenuibus, foemineis ai... dio brevioribus densis, baccis subconnatis. Ranii tere... subcompressi, v. leviter striati, rigiduli, ad nodos frag... internodiis 2-3-pollicaribus. Petioli subsemipollicares. . . B... pulas non vidi. Folia 2-3-pollicaria, superiora basi subinter... qualiter et brevissime cuneata, inferiora basi late et l<v1 cordata v. (in masculis solis?) breviter peltata, venis plerumque 5, quarum 2 saepius supra basin ortre. Pedunculi oppo... sitifolii, semipollicares. Amenta mascula pollicaria, tenu? densiflora. Bractcae peltate. Stamina 2, lateralia, filamentis brevibus crassis, antheris ovoideis bilocularibus extrorsi • Amenta foeminea vix semipollicaria. Bractee peltataj masculis minores. Ovarium sessile. Stigmata 5, sessilia, recurva, breviter linearia, acuta, crassiuscula. Baccse sessile^{8*} depresso-globosce, confertissimro et cum bracteis subconnatce^ nequaquam basi constricts. *New Guinea*, Mr. Hinds.

The specimens are so much broken that I could not ascertain positively whether the cordate or peltate leaves belong exclusively to the males as they appear to do. The species would be included in Miquel's 2nd section of the genus, in which dioecious species are included.

Mucropiper latifolium, Miquel, *Coram.* p. 36. *Feejee Islands*, Mr. Hinds. This genus is said to have hermaphrodite flowers, but I cannot find any ovaria in the male spik^{es} of Mr. Hinds' specimens, nor any stamens in a female specimen from Taiti. The *Piper psittacoun*, Endl. from Nor-

folk Island; another species of the same genus is also dic-
 eous as we U AS the following S:

Ma cropiper *puberuhm*, sp. n., foliis ovatis acuminatis basi
 r0t undatis subcordatisve 5-9-nerviis supra glabris demum
 b il ato-rugosis, subtus reticulatis pubescentibus, spicis fce-
 m ineis elongatis solitariis geminisve. Kamuli glabri. Petioli
 2-18 hn. longi, usque ad medium an^uste menibranaceo-alati.
 Folia 3-G poll, longa, pieraque 2£-4 poll, lata, longiuscule et
 a cute acuminata. Pedunculi petiolo breviores. Amenta
 60a muica 3-6 poll, longa, tenuia, densiflora. Squamce pel-
 tat*. Ovarium sessile. Stigmata 3, brevissima, divaricata.
 B- f^cae (siccitate rubrae) parvae, ovoideo-globosce, distinctae at
 baSI parum angustat@. Flores masculos non vidi. *Feejee*
Wands, Mr. Hinds, Mr. Barclay.

Canna *Indica* Linn. *Friendly Islands*, Mr. Barclay.

He! lenia? *pubiflora*, sp. n., foliis elongato-lanceolatis acu-
 mi»atis basi longe-angustatis glabris, panícula puberula
 (eb racteata?) ramis ultimis 2-G-floris, perigonio exteriori tu-
 buloso> interioris tubo exserto labio basi utrinque appendicu-
 lato profunde bifido laciniis bilobis, filamento apice breviter
 a ppendicuiato, stylo glabro. Folia 1-2-pedalia. Ligula obt-
 tUsa» 2-3 lin. longa. Paniculae terminalis rami primarii
 P au; ci, secundarii in racemos dispositi, breves, 2-6-flori. Pe-
 br cellh 1-3 lin< iongiB Bractee in speciminibus nullee. Flores
 - ev*ter puberuli. Perigoniuin exterius 4-5 lin. longus,
 J?Qe, trifidus. Filamenti appendiculum ovatum, reflexum.
 N^psula baccate, globosa, 5 lin. diametro, laevis, 2-3-sperma.
 T ?!*co» Mr. Hinds; *Tobie Island*, Mr. Barclay,
 j ^P"ua, sp. n. ? A, nutanti affinis, diversa panícula glabra,
 ab: io lanceolato-oblongo, basi obscure appendiculato. Flowers
 Ye^y imperfect in the specimen. *New Ireland*, Mr. Barclay.

Dendrobium (Spatulata) *Mirbelianum*. Gaudichaud, Voy-
 age, t. 38.

This plant, but ill figured by Gaudichaud's artist, belongs
 to a very curious and beautiful section of Dendrobium, of

by n<J account of th*»' nine following Orchidaceae has been communicated
 y Uf. Lindley.

which I have several species, including *I*), *undid at urn* R. Br. 5
D. macranthum Ach. Rich, and probably *Onychium affine*;
 Decaisne. The sectional name expresses one of its chief
 peculiarities, namely, the petals being lengthened into narrow
 spatulate bodies, giving the flowers an appearance still more
 insect-like than is customary in this order. Besides that
 circumstance the lip is united to the foot of the column into
 a pouch or horn, and the anther-bed has a horn on its back.
 They all have distichous leaves and a rigid raceme of strong
 flowers. At one time I thought they might form a genus,
 but I believe it is better to regard them as a mere section of
Uendrobium.

- *Dendrobium* (*Spatulata*) *antennatum*; Lindl. sp. n. »
 lanceolatis carnis obli^{emarginatis} ^{oppositifolio}
 brevibus sepalia acuminatis, petalis linearibus duplo lon-
 gioribus reflexis, labello trilobo, venis 5 elevatis rectis per
 as, lobo medio ovato acuto piano 3-costato.

J. * J. t. f. of this curio « Plant are two inches long, and
 scarcely half an inch wide. The leaves are succulent, brittle,
 and useless when fresh. A h, Guinea Mr. Hinds.

- *Dendrobium* (*Spathulata*) *veratrifolium*; Lindl. sp. n.,
 foveis, oblongis obtusis amplexicaulis 9-11-nerviis, racemo
 tertium elongato multifloro, sepalis undulatis acutis, petals
 spatulatis vix duplo longioribus, labello ob-
 longo obtuso membranaceo, venis tribus elevatis axi-
 duabus lobis lateralibus L. Ob-
 tusis intermedio oblongo undulato

A mes a foot and a half long,
 spatula shaped petals are an inch
 and more in length.

Dendrobium (*Eudendrobium*-Gras (Bl.) *bilobum*;
 obtusis apice subaequalibus
 minutis (solitariis?), sepalis
 obtusis, petals du J ^ \ ulatis, labello libero
 elongato ovato S ^ so ^ r laciniâ mediâ verru-
 costâ, cornu elongato obtuso.

A small inconspicuous species with
Isochilus linearis.—New Guinea, Mr. Hinds. * appearance of

Pendrobium (*Eudendrobium*) *tridentiferum*; Lindl. sp. n.,
 foliis oblongo-lanceolatis obliquè emarginatis, gemmis palea-
 ces floribus geminis, sepalis lateralibus ovatis carnis ob-
 latis Petalis lanceolato-oblongis acutis membranaceis, labello
 carnosissimo, tubo corollae lobis acutis lateralibus antrorsum curvis inter-
 medio ovato, cornu brevi obtuso.

A broad leaved species looking like *D. biflorum* to which
 it is nearly allied. It has fleshy flowers as large as those of
D. afterardi, but quite different in structure,

Dendrobium bifalce; Lindl. sp. n., caule tereti laevigato,
 foliis ovato-oblongis (vs. ovato?) coriaceo obovato acuto oblique emarginato,
 pedunculis longissimis rigidis nudis apice paucifloris, pedi-
 cellis racemosis erectis floribus triplo longioribus, petalis
 lanceolatis 3-nerviis membranaceis, labello unguiculato tri-
 partito supra unguem cristato duplici carnosâ bilobâ undulate
 aucto laciniis lateralibus linearibus obtusis falcatis inter-
 medio rotundo cornu obtuso incurvo. - oc

A very singular plant exists in an imperfect state in the
 collection. Its habit is different from that of any *Dendro-*
*bi*um I am acquainted with; but since this genus presents
 great diversity of habit, I cannot attach importance to that
 circumstance in the absence of a more complete knowledge
 of the structure of the fructification. In my solitary speci-
 men the main stem is gone, and I have only a couple of rigid
 peduncles proceeding from a common point, with a surface
 that of a small bamboo, and a foot and a half long. With
 it but separate from them, is a remarkably coriaceous
 leaf 6 inches long, and 2 inches broad in the widest part;
 but how it fits on the stem there is no evidence to show,
 though the flowers are inserted in a few-flowered raceme at the end
 of the branches; they appear to have been purple, and some
 pale yellow, and are about as large as those of *Aporum*
anceps. At the base of the middle lobe of the lip are two
 parallel sharp-ridged fleshy tubercles which occupy the mid-
 dle of a short unguis belonging to the middle lobe.

Vanda Hindsii; Lindl. sp. n., foliis distichis arcuatis

canaliculatis (pedalibus) apice oblique emarginatis et excisis, racemo horizontali 10-floro foliorum longitudine, pedicellis floribus 3-plo longioribus, sepalis petalisque obovatis unguiculatis crispis, labelli cornu brevi obtuso lobo intermedio convexo cuneato apice rotundato, lateralibus abbreviatis rotundatis hinc acutis explanatis.

This has quite the habit of *Vanda Roxburghii*, and its flowers seem to be of the same texture and size. Their colour cannot be judged of from the single dried specimen in Mr. Hind's collection, where, although well preserved, they are black.—*New Guinea*, Mr. Hinds.

Saccolabium quinquefidwn; Lindl. sp. n., foliis coriaceis distichis ligulatis (unciam latis) apice rotundatis oblique emarginatis, panícula ramosa ramis ascendentibus multifloris, floribus minutis, labelli quinquefidi lobo medio lineari obtuso lateralibus utrinque duobus acutis inaequalibus ascendentibus, calcare obtuso sepalis paulo longiore. *Carteretiapaniculata* Ach. *Iiich. Voy. Astro lab, sertum* t. 4.*

A plant with the habit of *Sarcanthus paniculatus*, but with extremely small flowers. The leaves are coriaceous, shining, about 8 inches long by 1 broad. The panicle is a foot and a half long, and fully 8 inches in diameter. There is no difference whatever between this and the common forms of *Saccolabium*. The genus *Carteretia* must therefore be cancelled.

Saccolabium fasciculatum; Lindl. sp. n., caule erecto distichè folioso, foliis ovatis amplexicaulibus obtusis oblique emarginatis, panícula nuda ramis simplicibus virgatis ad nodos apicem versus gemmas paleaceas floridas gerentibus, floribus e gemmis erumpentibus (parvis) ringentibus, sepalis lateralibus obovatis apiculatis supremo lineari oblongo concavo, petalis linearibus obtusis apice subdenticulatis, labello porrecto conico leviter arcuato, lobis lateralibus obtusis erectis intermedia triangulari carnosâ, rostello eldngato sigmoideo.

In foliage, this species has the habit of *Epidendrum elongatum*; but its inflorescence is quite peculiar. The stem, which is a foot and a half long, at its end becomes leafless,

and divides into several rod-like branches, each a foot or so in length. Their branches are too leafless, and towards their extremities they bear, around the flowers, clusters of membranaceous bracts such as we find in certain species of *Pleurothallis* and *Dendrobium*. From amongst these bracts emerge the flowers, which are small and rather fleshy.—*New Guinea*, Mr. Hinds.

hwnpinnatifida, Linn. *Feejee Islands*, Mr. Barclay.

ttoburghia sp., *Amboyna*, Mr. Barclay.

Dracoena sp., in a very imperfect state, *New Ireland*, Mr. Barclay.

Smilax without flowers, *New Ireland*, Mr. Barclay.

Plagellaria Indica, Linn. *New Ireland*, Mr. Barclay.

Cyperus rotundas, Linn. *Amboyna*, Mr. Barclay.

Fimbristylis setacea, sp. n., culmibus coespitosis setaccis basi vaginatis aphyllis glabris, spica solitaria erecta nuda lanceolata acuta, squamis oblongis acutiusculis dorso trinerviis Khris impunctatis, stylo bifido ciliato, achrenio obovato-oblongo, compresso niveo transversim undulato-rugoso. diagnosis *F. acicularis*, Br. paucis verbis differt. Culmi knuissimi 4-5-pollicares. Spicse albidae, iis *F. acuminata* multo graciliores. Stamina non vidi. *Amboyna*, Mr. Barclay.

Fimbristylis pumila sp. n., culmibus coespitosis filiformibus basi vaginatis aphyllis v. breviter unifoliatis glabris, spica solitaria erecta nuda oblongo-lineari, squamis oblongis acutis P&Uide fuscescentibus dorso uninerviis punctatis glabris SuWiandris, stylo bifido nudo, achrenio obovoideo punctato-^berculoso albido. Culmibus 2-3-pollicares, firmiores quam in *F. fetacea*. Vagina saepius in folium semi-pollicare producta. ^Pica parva, tenuis, pauciflora. Stamina saepissime 3. *Amboyna*, Mr. Barclay.*

Fimbristylis communis, Kunth., var. *pumila*, pilosa, semi-pedalis, j et ejusdem var. *elata*, glabra, 2-3-pedalis. *Amboyna*, Mr. Barclay.

Scleria Sumatrana, Retz. *Amboyna*. Mr. Barclay.

Panicum pillipes, Nees ab Esenb. in Wight. Cat. n. 2343,

probably already described under some other name, as it is not uncommon in collections from tropical Asia. *Friendly Islands*, Mr. Barclay.

Setaria glanca, Beauv. *Amboyna*, Mr. Barclay.

Cenchrus anomoplexis, Labill. *Friendly Islands*, Mr. Barclay.

Eleusine Indica, Linn. *Friendly Islands*, Mr. Barclay.

Cynodocton & Lappacea, Desv. *Friendly Islands*, Mr. Barclay.

Rottboellia calorhachis, Forst. *Tanna*, Mr. Barclay.

Andropogon Sorghum, Brot. *Friendly Islands*, Mr. Barclay.

Andropogon sp., very imperfect, *Tanna*, Mr. Barclay.

Voyage to St. Thomas, St. Kitt's, Antigua, &c.

Letter translated from the German, in the Regensburg Flora."

THE sea voyage affords me leisure for drawing up a slight report of my visit to the West India Islands of St. Thomas, Ste. Croix, St. Jean, St. Kitt's, and Antigua. My missionary labours consuming the greatest portion of my time, I have, of course, not much leisure for botany; still something was done; my wife being, as usual, a true helpmate to me; and I shall feel happy to share with my friends, as far as my stock allows it, the plants that we have preserved.

After a somewhat stormy passage, it was naturally delightful to sail so close along the Islands of St. Kitt's, Nevis, and others, that we could distinguish their palm-trees: our happiness was still greater, when we dropped anchor, on the 18th December, 1840, in the port of St. Thomas. The fine and lofty mountains shone in superb verdure, the handsome and cheerful turf spread before us on three hills, and when stepping on shore, each flower and grass was new to me. Musk, which is an ornament to our green-houses, grew along the roadside as weeds. The Cocoa Palm lines the high-ways, and the Sugar-cane is substituted in the fields for our corn. Every thing was different, and yet hardly strange to

Communicated by F. Scheer, Esq.

5 but I required time, to become domesticated in this sphere.

altitude of plants and flowers which greet one all at once afford indescribable pleasures; it is as if plenty had been sown down here by nature. Judge how delighted we were on our first walk to find a small hill, covered with *Mimosa sensitive*, prettily recoiling, as if frightened, at every step we made.

There are many Cacti and Aloe create singular impressions. One are literally inserted into other plants and shrubs. An *Opuntia*, with red and yellow flowers, and prickles which will pierce through boots, is used for enclosures, as hawthorns with betwixt some stretch out their arms so high, as to join the trees; the lower stem is covered with something overgrown with lichens. I had fancied that such forest gradually indurated, wood-like, and was, therefore, not a surprise on probing them with a knife, to find the fruit of several Cacti is eatable but tastes sweet and insipid. The Melo Cacti have a pretty appearance on rocks and walls; they are often larger than a man's head, and sped with a fine red tuft.

The West India Pine-apple serves also for enclosures, its serrated leaves rendering it quite impervious. The common Aloe (*A. graveolens*) is used for the same purpose, and I shall never forget the sensations experienced, on beholding, the first time, a long row of these in blossom. But I liked them still better dispersed singly on the hills, in a perfectly free state. When they are in flower, their blazing yellow blossoms look as if a stream of flames were poured out. I tired not with such a sight on these floral sovereigns; they have something peculiarly elegant and grand. The scape, bearing in its arms eight thousand flowers, is, at the base, about 4 inches in diameter, and rises to the height of 30 feet; when dead, being a substance something like decayed wood, it is used for lining insect-cases. It is preferable to cork, being softer, yet retaining the joins quite as firmly.

The Sugar-cane is the chief produce of all the islands

which I visited, and occupies the place of our corn fields. I arrived just in time to secure some of the bloomy which I could not have done later. Coffee is hardly grown; I saw only one plantation at St. Jean. The cultivated coffee is of excellent quality, and succeeds well in stony moist places, which are here abundant; but labour is too high, and, therefore, coffee is generally imported. From the same cause, the common fruits of this country are less seen than one would expect.

The delicious Pine-apple succeeds every where, and requires little attention; a large extent of soil, on which it might be grown, lies waste; and it is not abundant on the Danish islands; only in St. Kitt's and Antigua we eat it frequently. The fruits belonging to the Citron family are not to be seen on St. Thomas and St. Jean, some disease having affected the trees, which will no longer flourish here. I saw small* crippled trees, cultivated with much trouble. In Ste. Croix they are, however, common. The limes, preferable even to lemons, waste on the ground; even oranges, and shaddock^a as large as children's heads, were lying in masses under trees. Cocoa-nuts are hardly eaten by any one but the negroes, the European inhabitants seeming to care altogether little for indigenous fruit. At dinner, the tables are covered with European dishes; boiled prunes and preserve^d fruit, from the old world, are placed before you, and little is seen of their own. Thus, man longs every where for that which comes from afar! I must still make mention of the Cabbage Palms. Of these trees there are magnificent avenues on Ste. Croix, looking like gorgeous rows of columns, with splendid leafy capitals. The whitish-green trunk swells out in the middle; the top of the shaft is green, and most elegantly shaped. I never saw these palms without pleasing emotions. Unluckily, we can only carry home recollections of this and many other vegetable treasures. The finest plants and flowers admit least of being dried; and I was often obliged to throw away, full of sadness, things on which I had bestowed much pains.

My attention was chiefly directed to Cryptogamia; but, at first, I met with disappointment, all the islands I visited, St. Kitt's, being too dry. In early times the woods were cut down, and the hills are now covered with worthless stones are every where overgrown with lichens, also such as cannot be separated from them. This is good with those growing on the stems of trees. Of them I found only a *Barbula*, on damp stones; a *Grimmia*; a *Fissidens*, very similar to *viridulus*; and as *raniia*, something like *Marchica*; also an *Anthoceros* known to me. Ferns, also, were less frequent than expected; with much exertion, I only could detect ten amongst them an *Acrostichum*, probably *aureum*, but on account of its size, grows bracket-like, *Struthiopteris*, in some of the Lagunes, its fertile fronds, in the middle, are 10 to 12 feet high. It covers large forms extensive shrubberies. In Antigua, it grows in damp places, and high. But in St. Kitt's, my expectations in this respect were far exceeded by reality; and I will attempt to describe a few excursions which I made there into the splendid tropical regions. On the 10th of June, a lofty mountain, named *Netv Brunswick*, there is a so called pond, supplying the island with water, was to be ascended. Two friends to a plantation called *Boyd's Fountain*, and there put on our travelling clothes; namely, thin white jackets, &c. Even here, beautiful ferns were to be seen on damp walls. Soon after we were seen on damp walls. Soon So on the mountain, the horses would not go further, and we sent them back to the plantation. The mountain now was quite alpine, and we climbed upwards, on got acquainted with tropical nature, and hardly could trust my eyes, when beholding giant ferns as large as palms, and Calla-like plants as big as Bananas. Ferns pre-

ponderated, and I hardly knew what to seize first. I had a negro with a basket, but it was soon full. I also found here a beautiful *Machantia*. Perspiration absolutely poured down my forehead ; but as we ascended, the atmosphere became cooler and more European, and everything around us more and more moist. Musci and *Jungermannise* became abundant, and I almost leaped for joy at beholding in their own home old acquaintances, which I had hitherto only seen in pictures and herbariums. Even my companions were surprised, and observed, that by having their attention thus excited by me, they could not fail to acknowledge the beauties and wonders of nature. The trunks of the trees were covered with parasitical ferns; amongst which, some species of *Hymenophyllum* and *Trichomanes* were most elegantly conspicuous; between them were long pendant *Jungermannia*e. Our negroes preceded us, cutting a road; but, at last, we were forced to make use of the bed of the stream for our way. In this the stones were not so much overgrown with moss as is usually the case with us. Thus we arrived at last at the pond, which is plainly a crater filled with water.

Here vegetation had so completely gained the supremacy, that the whole was overgrown with a carpet of shrubs, grass, ferns, and *Lycopodia*. Notwithstanding the warnings of my companions, I ventured as far upon these as time would allow me, because I knew from experience, that there was no danger of sinking in. The *Lycopodium curvatum*, occurring here frequently as high as four feet, is particularly elegant, having the appearance of a very small fir-tree. ^{1^hC} surrounding heights are every where covered with the palm-like fern, and the cabbage-palm. Any one settling here, to clear the land, would collect great treasures. We took, standing, (it being too wet to sit down), a slight meal of bread, ham, and wine, to which the negroes added a few cabbage palms, cut down and prepared for the occasion.

It demands much self-denial to pass by so many botanical treasures; but time pressed, and our baskets were quite full. On our return, we had frequently to slide down the steep

es, thereby giving a pretty colouring to our *white* garments. It being late ere we quitted the mountains, some *st*asty negroes came to meet us, entertaining a fear that an *ac*cident might have happened to us. We changed *oUr* Besses at Boyd's Fountain plantation, refreshed our *w*ives with wine and water, and rode comfortably home. *T*he ladies were not a little surprised at the state of our *h*ite dresses, and could not be easily convinced that they *^*ere less valuable than the plants.

On the 15th of June, we made a still more interesting *Jour* up a mountain, called Mount Miseri, 4,000 feet high. *t*is said to derive its name from the circumstance of Colum*us*; on passing by this mountain in sailing by St. Kitt's, *na*ving called out, whilst pointing to a boil below his shoul*d* "Monsmiseri!"

We proceeded, in the morning, until we got to the steep *pa*st, where we left our horses. The somewhat cooler air *and* the shrubs and trees, similar in many cases to our own *re* called home to my mind, only with this difference, that *wh*enever I stretched out my hand, something new was to be *^*ot for my basket. As we ascended, Cryptogamia increased; *P*^und and trees were covered with ferns, one of which was *if* *se* arborescent. At the crater on the top we all sat down, *an*d enjoyed a prospect such as I had never before seen. In *front* of us, a pock towered boldly upwards, having withstood *ere* volcanic eruption, as well as every attempt of man to

as *^*and *&* It was abundantly covered with mosses, towards *wh*ich I *ook*ed with anxiously longing eyes. As a compen^{sation} *on* I found on the stone upon which I was seated, a *UtifU* and to me yet un^{known} *^* Stereocaulon. Towards the *left* we *loo*ked down into the crater, with its splendid and *most*ly perpendicular walls of rocks, the borders being *crown*ed by the *pr*oudly rising "*Lion's-head*?" which only a *few* bold *Venturers* have dared to climb. The view of the *ida*nd and *SCa* is indescribably *be*autiful, both in outline *ait* and *^*o on account of the splendid colouring, which gives to *tr*opical countries such peculiar charms.

Having reposed and refreshed ourselves, we commenced our wanderings down into the steep crater. It took us about an hour to reach the clayey bottom, covered with grass. Only on the sides are some hills still smoking and covered with sulphur, and a few puddles of boiling water. We had to force our way through underwood of *Mertermia dichotoma* (?), and had then the happiness, besides other things, to find a very pretty fern, which I consider new.

It took us at least two hours to climb up out of the crater, and was very troublesome. We did not reach home before the dark of night; our negroes were heavily laden with botanical booty, and we highly satisfied with the rich enjoyments afforded us by nature. This excursion was the jewel of my voyage, and it will be ever delightful to my memory.

We proceeded from St. Kitt's, by steam, to Antigua. This island agrees in botanical character more with the Danish West India islands. In St. John's, we got on board a vessel loaded with sugar, on which we returned to Europe. Whilst writing this, we are on the Atlantic ocean, becalmed, and in want of water—a great want for me, to whom it is an indispensable necessary. But a kind God, who has so far helped us, will not now suffer us to perish. He has the winds in his hands, and can open the windows of the heavens to pour down rains and waters. He preserved our lives, when storms howled and waves raged. He cared for our health under the burning heat of the sun. He will surely carry us back to our beloved and our children, whom we left in our fatherland. (Written in July, 1841).

J. CHRISTIAN BREUTBL.

Bethelsdorf, near Herrnhuth.

Notes on the Botany of H. M. Discovery Ships, Erebus and Terror in the Antarctic Voyage; with some account of the Twasac Grass of the Falkland Islands, by W. J. H.

(Two Plates.)

Since the days of the illustrious Cook, and of the distinguished men who accompanied that expedition, perhaps no voyage, undertaken for the purpose of scientific research, has ever excited so deep an interest in the public mind, or promised to yield such important results to navigation, and in the boundless fields of philosophical inquiry, as that of Captain James Clark Ross, in the South Polar regions, in H.M.S. «*EREBUS and TERROR.*» The nature of the service Anders it imperative that the main body of the information Elected, and discoveries brought to light during this promoted voyage, should not be generally divulged till the term of the expedition; but through the medium of the Admiralty, the Royal Society, and the Royal Geographical ***». and the British Association for the Advancement of Science, and I may add of the daily Journals, several deeply Cresting announcements have been already laid before the Public, and it is now ray agreeable task, with the sanction of the Admiralty, to make known to the botanical world some of the more important services rendered to that particular branch of science by the naturalists of this voyage.

When it may be asked, can be expected in the way of Botany, in those dreary regions of the extreme south, where the rigour of the climate and the striking diminution of vegetation, in latitudes corresponding with those of the northern hemisphere, where vegetation is still copious, appear to be an effectual barrier to the very existence of plants. Vegetable life is scanty, it is true, and the gallant commander of Ais expedition has pushed his researches into latitudes where every kind, even of aquatic vegetation, has ceased to exist, which is not the case in the north. There, far as

human perseverance has penetrated, the same officer performing the enterprize, plants have never failed. But the object of the present voyage was not solely to prosecute investigations in the extreme South Polar Regions. Magnetic observations had to be taken, and astronomical instruments fixed, in various localities in the temperate and even tropical portions of our globe, and various islands and continents have thus been visited where Flora is arrayed in a great diversity of forms, and where the naturalists of the ships could not fail to carry on their pursuits with pleasure and advantage-

It is, nevertheless, in those islands of the southern hemisphere, which encircle the South Pole, at various and generally very remote distances, of which the Straits of Magelhaens and Kerguelen's Island may be considered the northern limit, that the productions, though comparatively few, are the most remarkable, and from their isolated position, and geographical distribution may be studied with such advantages as no other parts of the world can offer. And, happily, we know that this important branch of Natural History has particularly engaged the attention of the officers of the "Erebus and Terror," and the results cannot fail to be important to that branch of science in which Humboldt has led the way.

It is not our object, or wish, on the present occasion, to notice, in a detailed manner, any of the botanical novelties discovered in this voyage; but rather to satisfy the public mind, that in a department of Natural History, which could only hold a secondary place in the great undertaking, much may be expected to appear, of high interest, when the voyage shall have been completed.

The following observations are wholly derived from the information given by my son, Dr. J. D. Hooker, Assistant Surgeon in H.M.S. "Erebus," the officer on whom the botanical researches expressly devolved. It is not for a parent to say how well he has performed that task: but it were injustice to withhold the fact, that but for the friendly aid afforded by the other officers of the expedition, and by Capt. Ross in particular, the botanical collections, the copious drawings made from recent specimens, and the knowledge

consequently acquired, would all be very limited, compared with what they actually are. A voyage of this kind is, in one Aspect, entirely different from inland travels; the scanty accommodation on board vessels of this description, where almost every inch of space is occupied by something connected with the chief objects of the expedition, being quite unlike what the naturalist meets with on shore: still, these difficulties have been, in a great measure, obviated by the kind consideration of the commander, who has granted every facility possible for the advancement of each individual department of science, by his own personal exertions, and the free use of his cabin. The collections which have already arrived bear ample testimony to the correctness of the statement.

We shall pass slightly over the countries whose vegetable productions are familiar to us, to dwell the longer on the more interesting and less known southern regions.

Her Majesty's Discovery Ships, "Erebus and Terror," fitted the Medway on the 25th of September 1839, and Proceeded to Madeira. To the chief botanist this was a new country, and though the season was mid-winter, he found the gardens rich with *Bananas, Vines, Daturas, Fuchsias, China-rose, Hibiscus and Heliotrope*, growing in the greatest luxuriance. A party was quickly formed to visit the well-known *Cerro*, one of the most romantic spots in the island, about 500 feet above the level of the ocean, and where, at a favourable season, many good plants might be found; but now, in these elevated situations, little could be seen but a few *Mosses* and *Lichens*, with the withered remains of *Sempelevia* and other succulent genera.

The stay at Ténériffe, where the ships did not even cast anchor, was so brief as scarcely to allow of a dozen plants being gathered, besides a few curious *Alga*. All was dried up and flowerless. From Ténériffe they shaped their course to the Cape de Verdes; and here, could some weeks have been devoted to the mountains, an extensive harvest might have been reaped. The several islands of

this group present entirely different features. San Antonio is covered with wood. Sal, is a salt plain : Fogo, a stupendous active volcano, its reputed height 7,000 feet. San Jago resembles a desert, with a fertile and mountainous interior, and as this was the only island touched at, and Porto Praya, its capital being 12 miles from the rich central part, hardly any thing could here be accomplished in the way of botany. From the little that was seen of the island, the productions of its plain seem to resemble the vegetation of the great Sahara desert; of its valleys that of the tropics ; while the mountains presented plants similar to what exist in the south of Europe, or the range of the Atlas; one hundred and ten species were secured in a good state, and about one hundred more were seen, but unworthy of being gathered. As the botany of the Cape de Verds is little known, and supposed to be peculiarly interesting, it may be well to state the opinion entertained by one of the officers, after remaining some days upon the coast, as to the best mode of proceeding in a climate, which has the character of being extremely unhealthy. A temperate and judicious traveller, he observes, might, in two months' diligent research, make a fine botanical collection in the country, by proceeding to the hills immediately after the rainy season, where he could employ his time in perfect safety, if he protects his person with a light parasol, and avoids over-fatiguing himself. Porto Praya ought to be his landing-place, and thence he might proceed to the town of San Domingo. The inhabitants of the country-houses, chiefly Portuguese, are most hospitable; food is abundant, and ponies, though bad, are very cheap. "No idea, whatever, of the interior, can be possibly obtained by the coast scenery, nor, for many miles round Porto Praya; for there is hardly a tree to be seen; grass and herbage are totally withered and dry; the very stones black and scorching from the heat of the sun. The thermometer generally rose to 86° and even higher, in the shade; and during the whole day, while on our excursions, we found it impossible to obtain the means of allaying our thirst, except by applying to

the poor negroes, (the population consisting of free negroes and a few Portuguese,) and they were invariably attentive and kind, offering oranges and Agua-ardiente, or assisting to extract the thorns and spines, that, piercing through the trousers and stockings, penetrated the flesh. Among the more interesting trees, a solitary *Baobab* (*Adansonia digitata*, Botanical Magazine, Tab. 2791 and 2792) was observed; not more than 60 feet high; but with a trunk 38 feet in circumference.

From Porto Praya the direction of the vessels was easterly to the desolate rocks of St. Paul, lying a little north of the equator, and admirably described by Darwin; they are few in number, about 60 feet high, and constantly washed by a tremendous surf. One boat was sent on shore, and another was intended to be despatched the following day with the Botanist; but the difficulty and danger of landing were found so great, that the captain wisely declined allowing the attempt to be made again. A *Sea-weed* inhabits the marine edge, but it does not appear that any plant, even a *Lichen*, is to be seen on the rocks themselves.

Until steering westward, there existed at one time, an idea of landing on the Brazilian coasts; but the course was then southerly till they made the little solitary island of Trinitaf in S. lat. 20°. This exhibited small patches of vegetation on the weather-side, which is flat, while the lee is very rocky and steep; so that the only spot where a landing could be risked was a rock, cut off, unfortunately, from the east of the island by inaccessible precipices. Nought but a Fern and a *Grass*, and one or two species of *Cyperus*, were to be obtained. Near the summit of the highest hills and under some cliffs, about 2000 feet high, were descried small Groves of trees,—apparently, for it was impossible to judge correctly, *TYee-Ferns*; while all along the shore lay the remains of prostrate, barked, white trunks, no living ones being

Adansoa speaks of one in Senegal, which measured 30 feet in the diameter of its trunk, and which he estimated to be five thousand years

•• The oldest organic monument/' says Humboldt, "of our planet/'

discernible even in such places, not even with the aid of ~~the~~ telescope. After an ineffectual endeavour, by landing at another point, to reach the higher portions of the island in search of this grove of trees, the great intervening distance and the ruggedness of the country compelled them to turn back, nor was it till the signal was given, that the party reluctantly went on board. After a voyage, rendered very tedious by beating against the trade winds, the expedition reached St. Helena on the 1st of February, 1840.

It must be a source of great regret to every botanist to know that this insulated rock, originally inhabited by a most peculiar vegetation, should have had its productions so completely changed by the destruction occasioned by cattle, and by the introduction of European and other plants, especially forest-trees, that these now take place of the native growth. On this subject, much valuable information will, no doubt, be laid before the public. In the gardens of St. Helena there exists the strangest mixture of Tropical, European, and even Australian and Chinese vegetation, that can be conceived. *Acacias*, *Casuarinas*, *Pittospora*, *Billardieras*, *Dammaras*, from New Zealand, and *Eucalypti* from New Holland, flourish along with the *Scotch Fir*, *Plane*, *Peach*, *Apple** *Pear*, and *Plum*; and there are *Scitaminea* from the East Indies, and *Aroidea*, with *Pine-Apples*, *Roses*, *Hydrangeas*, *Camellias* and *Teaplants*. An excursion to Diana's Peak, and other places, with diligent search on the way, afforded the means of making a tolerable collection of such native vegetation as yet lingers on the islands.

* On their way to the Cape, and within a few miles of *iU* the ships fell in with great masses of floating seaweed, all of one kind, a *Laminaria*, (*L. buccinalis*?) which had been torn up through the action of some great submarine force; and in several instances they counted, proceeding from one branching root, 6 great stems, the longest of which measured 24 feet, erect, smooth, and rather club-shaped, broadest above and fistulose; while from the summit of this again sprung the palmated blade or lamina, adding *S-S* feet to the

wh«te length. The quantity of parasitic and marine animals found among this seaweed was quite extraordinary, and added greatly to the collections. One plant alone afforded¹ parasitic *Alga*, and 30 animals of different kinds.

The near approach to the Cape of Good Hope called up fccplings in the mind of the young naturalist, which are best jessed in his own words, and can be only understood by O*^e who possesses a keen relish for the wonders and beauties of Nature, and takes a pleasure in imparting to others a SW of the knowledge and of the objects which he has himself attained by long and distant travel The productions of the Cape were, however, not wholly unknown to the writer, for the frequent botanical communications of one dear and v*^lued friend,* the discoverer of *Wardia* and other South African novelties, had rendered him familiar with many of the #^{Ve} getable productions of the colony, and, as it were, familiar-***i him with the localities where they grow. " I have heard Naturalists/' says our botanist, « complain of the tedium wh»ch attaches to a sea-voyage; but such persons cannot be 6w* naturalists, or must be suffering from sea-sickness, a *««e from which I have never suffered for an hour. I do *of mean to say that I should not have been better employed .lfd happier if studying botany at home, but I assure you, that my weeks fly away fast'; though, from my being a slow *orker, I have not much to show; and unaccountable as it **y appear to you, when we draw near shore, I feel quite **own out of my usual routine of occupation. I will own, ho*ever, that once my foot has touched *terra firm*, there is •^{so} it of magic connected with it, that makes me grievously loth to quit it for sea again. There are those peculiar emotions consequent on visiting new countries for the first time, Jhich are perfectly indescribable. I never felt as I did when Rawing near Madeira, and probably never shall again. fiv«ry knot that the ship approached, seemed to call up new

* The Hon. W. H. Harvey, late Colonial Treasurer at the Cape of Good Hope; but at that time absent on account of ill-health

subjects of inquiry, and it still is the same with each new land and even barren rock. So it was when we made the Cape. On descrying Table Mountain, I could have sate (and did sit) for hours, wondering whether this knoll was cover'd with *Heatlis* or *Rutacea*; if that rill produced the *Wardia*, or such a rock the *Andraa*; where were Ludwigsberg and Wynberg, the *Tree Ferns*, and all those objects which the mind associated with our mutual pursuits and friends at home. No idea recurs so often, or is so delightfully pursued, as that of telling my relations of all that I have seen: never do I view a new prospect but I think what pleasure it will give to scan it o'er again, as it were, in their society; mapping out the spots where my specimens have been gathered, pointing the scenery to one, and spinning to another the yams of incidents that have befallen during my excursions, while my untravelled friends will look upon me as * the monkey that has seen the world.'"

The botany of the Cape itself and of Table Mountain, which was the utmost extent of the young officer's rambles, is [^]too well known to render it necessary to dwell upon the sultry ^{ct} here, and we are approaching a country, of scanty vegetation ^{is} indeed, but replete with interest to the philosophical inquirer, from its size, 200 leagues in circuit, its position* (N. lat. 49° 20', E. long. 69° 30') so widely severed fro'¹ other lands, and its most peculiar, though limited Flora? namely, Kerguelen's Island, or Desolation Island. We ar^o not aware that any thing was previously known of its vegetable productions, save what is said respecting them in [^]aptain Cook's third voyage, where it is observed, " Mr. Anderson, my surgeon, who had studied Natural History, lost no opportunity, during the short time we lay at Christma^s Harbour, of searching the country in every direction. ^{is} insert his observations in his own words:—" Perhaps no place hitherto discovered in either hemisphere, under the same parallel of latitude, affords so scanty a field for the naturalist as this barren spot. The verdure appears, when at a utue distance from the shore, as if it would promise some herbage,

but in this we were deceived. For, on landing, we found that this lively colour was occasioned only by one small Plant, not much unlike a *Saxifrage*, which grows in spreading tufts to a considerable height up the hills. It forms a surface of a pretty large texture, and grows on a kind of rotten turf, into which one sinks a foot or two at every step. This very cined, might, in case of necessity, serve for fuel, and is the only thing we met with here which could possibly be applied to this use.

There is another plant, plentifully scattered about the boggy declivities; it grows to near the height of 2 feet, and resembles a small cabbage when it has shot into seed. The leaves about the root are numerous, large, and rounded, the lowest at the base, and ending in a small point. Those on the stems are much smaller, oblong, and pointed. The stalks often 3 or 4, all spring separately from the root, and run into long cylindrical heads, composed of small flowers. This plant has not only the appearance, but the watery acrid taste of the antiscorbutic plants, yet differing so materially from that whole tribe, that we regarded it as a production entirely peculiar to the place. We ate it frequently raw, and found it almost like the *New Zealand Scurvy-grass*. But it seemed to acquire a rank flavour by being boiled: which, however, some of our people did not perceive, and esteemed it good. It could be introduced into our kitchen-gardens, and would probably so improve by cultivation as to become an excellent herb. At this time none of its seeds were ripe enough to be gathered and brought home to try the experiment. Two other small plants were found near the brooks and boggy places, and eaten as sallad; the one almost like the *Cress*, and very fiery; the other quite mild. This last, and for curiosity; having not only male and female flowers, but what the botanists call *androgynous* plants.

A coarse grass, which we cut down for the cattle, grows in a few small spots about the sides of the mountain, with a small sort, which is rarer; and upon the flat ground a sort of *goose-grass*, and another small production

much like it. In short, the whole catalogue of species does not exceed sixteen or eighteen, including some *Mosses* and a beautiful *lichen*, which inhabits the rocks higher up than any other, nor is there the least approach to a *shrub* in the whole country!"

But to return to our voyagers. The "Erebus and Terror," having quitted the Cape of Good Hope on the 6th of April, 1840, spent from the 12th to the 17th of that month in crossing the Agulhas Bank, which afforded ample scientific occupation, in its immense masses of *Macrocystis pyrifera* (that enormous seaweed, supposed to be the longest vegetable production in the world, Sir Joseph Banks having judged that, in the Great Pacific Ocean, it attains an extent of 1,500 yards), and in the great variety of marine animals which this *Alga* harbored. On the 21st they passed to the southward of Marion Island, formed of flat terraces of volcanic rock, with high, cone-shaped, often red mountains, towering to a considerable elevation. Colonies of Penguins were on all the shores. The "Erebus" was hoisted with the intention of landing next morning, and they began anchoring in 96 fathoms, between Marion and Prince Edward Islands. The dredge came up, filled with white coral and thirty-seven distinct species of marine animals. Next morning, however, the voyagers found themselves driven so far

• This gigantic seaweed is found throughout the Great Pacific Ocean, and in the Atlantic from the equator to the 45th degree south latitude but its length may perhaps be greatly over-estimated, judging by observation made by M. Gaudichaud, the botanist to Freycinet's voyage. He says, that "when near Cape Horn and the Falkland Islands, the ship steered through wide banks of *Macrocystis pyrifera*. Two-thirds of each plant, obeying the laws of specific gravity, floated in a perpendicular position, not however attached to the bottom of the ocean: and this upright position has perhaps induced the belief that the extraordinary seaweed in question grew at an immeasurable distance from the surface.

† In the excellent Admiralty Chart of the South Pole all the here mentioned may be seen accurately laid down, together with the tracks of H.M. Discovery Ships in 1840, 41, and 42, till their arrival at the Falklands.

ward of the island, that it would have required too long a
 e to beat back; thus landing was rendered impracticable,
 Early on the 26th, after encountering some very severe
 weather, the westernmost of the Crozet group was descried,
 and but ^{the first} of May they hove-to at Possession Island;
 J* the wind was too strong (it must be remembered that the
 Jason was mid-winter in these latitudes) to allow of the
 P* being made without danger of the ships being blown
 off and having to beat up again, which must have occasioned
 many days* delay. The Island, indeed, seemed perfectly
 bare of S^{oil} but a few coarse tufts of grass, and a low-like
 stance that clothed the rocks and vallies—all was volcanic.
 On the 6th of May, the long-wished for Island of Desola-
 tion Or ^{La}erguelen's Island, was descried, and the ships first
 made M^{rs}hgh's Cap, to the westward of it; but the weather be-
 came so thick that it was necessary to keep off from the direc-
 tion of the land, for evening was approaching. On the 8th,
 they were blown eighteen miles to leeward of Christmas
 Har-^{bour}our; but before night, they retraced their way, and
 hove-^{to}* off the mouth; when again, heavy gales coming on
 drifted ^{near}* in two days, one hundred and fifty miles from
 the desired haven, and the 12th of May arrived ere they
 found themselves at anchor in the outer bay of this singular
 har-^{bour}our whence they had to warp up the head of it. A
 full representation of one side of the scene around them,
 which was most remarkable, is given in Cook's third voyage,
 The ^{outer} k^{as}*n *s a[^] out two miles in diameter, bounded by
 high cliffs of black rock, from which the land rises in succes-
 sive ^{ste}ges, till it terminates in table-topped or peaked moun-
 tains > 1,500 to 2,000 feet high; and the effect of this was
 more remarkable, from the nearly equal distribution of
 the K^{snow} and vegetation. <; Often as ^{have} sate > w s a y s
 iron-^{stone}ist, on the summit of the cliffs which hem in this
 bound bay, it was impossible to grow tired of watching
 the fearful surf, continually roaring and lashing against a mile
 of P^{rec}ipices, surmounted by high, snow-capped mountains,
 where never a gale blows from the south-west, which is contin-

ually the case at this season of the year, the wind is concentrated by the hills of this bay, and carried with redoubled violence into Christmas Harbour, where it spends its tern^{fic} fury, rendering, all our anchors and cables barely availab^{le} for securing the ship, and sometimes forbidding, for many days, any communication with the shore.

" The first plants to be seen, on landing, are, of course. *Sea-weeds* and *Lichens* on all the rocks; then come a long *Grass*, an *Agrostis*, a little *Ranunculus*, and more abundant y^{an} than either, a *Composite* plant, forming small turfy slopes an^d ledges, of a bright green hue, among a mass of black bog-earth, covered with a *Callitriche* and *Portulaceous* plan^{*-}. Conspicuous amongst all these, is " *the CABBAGE*/' throwing out its thick round roots, 1-2 inches diameter and exposed from a few inches to 2 or 3 feet, along the groun^d, bearing at its extremity, large cabbages, sometimes 18 inc^{es} across, of obconical or spatulate, rounded, concave, green coriaceous leaves, enfolding a white heart, which eats li^k coarse, tough mustard and cress. From the sides of t^{he} heads, issues one, or more, long leafy stems, bearing sue^h spikes of seed-vessels as my specimens, sent to the Admi^r-rality, will show. The root tastes like *Horse-radish*, the seeds like those of *Cress*; but the leaves are the grand fresh provision, and were so extremely relished by the sailors, t^{na} during the whole of our sojourn in that barren land, they were always boiled with the ship's company's beef, pork, or pea-soup. They taste to me very like very stale cabbage, with a most disagreeable essential oil, which resides in cavities in the parenchyme of the leaves, and which are very conspicuous on making a transverse section of the heads o^f leaves. This oil gives to this vegetable a curious anti-heartburn property. Altogether, I consider this cabbage a most invaluable anti-scorbutic, which few persons do not like, or cannot bring themselves to eat. Near the sea it grows in great abundance, and ascends to the tops of the hills, 1,500 feet high, where it is small and hairy, but retains all its properties.

"The next most remarkable plant is a little tufted *Umbelliferous* one. It forms long brown patches on the shores, banks and rocks; sometimes covering many acres of land with deep cushions, on which you may, from their elasticity, with comfort, though, at other times, you sink up to the middle. The tap-roots of old tufts strike many feet into the soil which its own self has formed (owing to its property of rooting annually upwards) from the withered tops of the Previous years' shoots, like *Bryum Ludwigii*. The flowers are scarce and very inconspicuous. It has no smell, nor any essential or other oil; but is remarkable as one of a group of *Umbellifer* peculiar, I believe, to the southern hemisphere, and there only found in exceedingly alpine or antarctic

Acmena is the next plant of frequent occurrence, growing in clumps, or creeping over the dried soil, like *Cmarum* at which it put me much in mind. All the above-mentioned species are nearly confined to the vicinity of the sea, as *Cabbage* and *Halorangeous* species alone being found at any height above its level, and all are frequently exposed to the salt surf, apparently with impunity.

At an elevation of about 300 feet above the sea, and also near the shore, I observed a small tufted *Silene* (?), two *Grasses*, one a little *Poland* the other a most beautiful (*Aira*?), with rather horizontal spikelets, on long peduncles the latter is certainly the most delicate and pretty. On this island, it grows in marshy places. On the banks of the two small streams between Christmas Harbour and West Bay a little *Juncus* occurs, and in the lakes a remarkable plant, which resembles *Subularia aquatica*, growing green perhaps a foot or 2 feet beneath the surface of the muddy bottom. There it flowers in the close umbriation of the calycine sequents and those of the

Plant here alluded to is probably a *Bolax*, and allied to, though different from the remarkable "*Balsam Boy*." (*Bolax glebaria*), of the Falkland Islands.—Ed.

corolla, protecting its stamens from the influence of the fluid. Each germen contains a small bubble of air, generated, of course, within the ovary. Winter seems to be its season of inflorescence; for I found it in blossom after a long search under a coating, 2 inches thick, of ice. So far as I have hitherto examined this plant, it seems to differ in character from any Natural Order; though, like *Limosella*, it may be nearly allied to *Scrophularina*, having also some of the peculiarities of *Lentibulariæ* and *Primulacea*.

" The seasons are evidently late on this island, and the winter comparatively mild. We have had frequent hail and snow-storms, but these seldom lasted more than a few hours on the low ground, the sun, wind, and rain soon removing the snow, with apparently slight injury to vegetation. There was but one strictly aquatic plant, and one entirely confined to dry land, all the rest, so far as I could discover, preferring a moist and peaty soil. Of *Jungermannia* and *Mosses* there was a considerable number of species, all belonging to alpine or arctic forms; especially the genus *Andraea*, and another approaching *Scouleria* in characters. The *Laciniæ* appear to form a much larger component part of the vegetation of Kerguelen's Island than is the case, comparatively, in other parts of the world; especially when it is remembered that, from the absence of trees, there can be no parasitic species. The rocks, from the water's edge to the summit of the hills are apparently painted with them; their fronds, adhering so closely to the stones, that it is only with difficulty they can be detached; in other cases, they seem to form part of the rock, which, from its excessive toughness and hardness, almost defies any attempt to procure specimens as shall be at all satisfactory. At the tops of the hills they assume the appearance of miniature forests on the black rocks, and nothing can be prettier than the large species, with broad black *apothecia*, which covers all the stones at an elevation of from 1,000 to 1,500 feet. A smaller kind, like a little oak-tree, grows in spreading tufts (also upon stones), and is of a delicate lilac colour. Near the sea, the plants of

this tribe are generally more coriaceous; especially a yellow one, that there forms bright patches on the cliffs. In the caves, also, on the coast, a light red species is so abundant as to tinge such situations with that hue, and many other sorts inhabit the rocks and their crevices.

"*Sea-weeds* are in enormous profusion; especially two large species, the *Macrocystis pynfera* and *Laminaria racemata* (?). The former forms a broad green belt to the whole island (so far as seen), of 20 or 30 yards, within 20 feet or 30 from the shore. Here the branches are so entangled, that it is sometimes impossible to pull a boat through the mass; and should any accident occur outside this girdle of sea-weed, its presence would form an insurmountable obstacle to the best swimmer's ever reaching land. On the beach, the effect of the surf, beating it up and down, affords a very pretty appearance, but not so striking as is the view, from a high elevation, of the Bay, with this olive-green band running round it. The sea-birds, when on the water, always fly over or dive under it, to re-appear on the other side. The *Laminaria* hangs down from every rock within reach of the tide; its digitate fronds, of a very thick coriaceous consistence and of great weight, are perpetually in movement from the lash of the surf, and yet, thanks to their slimmess and strength, always uninjured. It protects thousands of *Littorina*, that would otherwise be exposed to the attacks of the Petrels and other sea-birds. To collect our food of *Patella* was often hard labour, as we had to remove the tough and heavy masses of this weed to get at them."

Such were the first impressions, made upon the botanist, by the vegetation of Kerguelen's Island, which a two and a half Months' stay gave pretty good opportunities of investigating; and the specimens sent home to the Admiralty testify that the voyage was not idly spent. That it should have been practicable to have gathered them, with flower and fruit in the very middle of winter, shows a great peculiarity in the climate. The latitude of this island, in the Southern Hemi-

sphere, is as nearly as possible the same as that of our Channel Islands in the Northern ; and these, though far more limited in extent, produce, as stated by Mr. Babington, about eight hundred and forty species of *janogamous* plants: whereas, in Kerguelen's Island, though the Flora was doubled by the researches of the " Erebus and Terror/" the number of species does not exceed thirty-two, while the proportion of *Cryptogamic* plants is very great; from which circumstance a very rigorous climate might be inferred. Such is not, however, the case: the winters, though stormy, are not so severe as to destroy the power of vegetation, or even materially to retard inflorescence. The paucity of plants must be accounted for from other causes.

We have reason to know that the peculiarities of soil, climate, volcanic action, &c. of this remarkable spot, as affecting its vegetable productions, are fully discussed in the journal of the botanist of this expedition, and some highly interesting results are deduced. We have no desire to anticipate that information, but are unwilling to withhold the following remarkable fact. "Cook visited this island in December, the very height of summer, when he met with only eighteen species of plants (as before stated) including *Cryptogamia*: of these he mentions five flowering plants in blossom. Of these five, I have, in May, gathered three, abundantly in flower, and two others, the *Cabbage*, and, I suppose, the *Callitrichoid* plant, just running into seed. Of these five again, two remained in bloom till July 20th, and none but the *Cabbage* had, till that time, fully shed its seed. Hence it would appear that *few* of the vegetables had performed their most important function, before the middle of winter." Winter botanizing in these antarctic regions, is, however, no sinecure, as the following extract will show.

" During my stay at Kerguelen's Island, I devoted all my time to collecting everything in the botanical way. The Captain kindly took off all restriction, permitting me to go on shore whenever I liked. My rambles were generally solitary, through the wildest country I ever beheld. The hills were

always covered with frozen snow, and many of my best *Lichens* and *Masses* were obtained by hammering at the icy tufts, or sitting on them till they thawed. The days were so *nort, and the country so high, snowy and barren, that I never could go to any great distance from the harbour, though * several times tried for it, by starting before daylight. As fe* as I proceeded, the vegetation did not differ from that of the Bays. A boating excursion was undertaken to explore to the southward of the island. I volunteered to accompany it, but was advised to wait for a second, and my superior officer, the surgeon, went. The party returned after some days, without having accomplished anything; the officer who led them found it impracticable for loaded men to travel by land, over rocks, round bays, and through snow-drifts; and *hen they took to the boat, the furious gales almost drove them out to sea. I went several boating excursions, and on On^e was dismasted and nearly swamped, so Capt. Ross [^]ould allow no more to be sent. Two *Lycopodia*, (one, a ⁸plendid species,) and a *Fern*, were on this occasion added by Mr. M'Cormick to my collections/

^coal and fossil-wood also abound in this most singular country, the latter was found lying in immense trunks, ^ltedded in the solid basaltic rock!

The botanical productions of this large island may be thus blamed up. There were gathered in all, about one hundred ^{and} thirty plants, and in the following proportion. " One *Fu**gus, one *Chara*, thirty-eight species of *Alga*, and thirty ^{of} *Lichens*, ten of *Conferva*, one *Marchantia*, and ten *Junger-toannue*, twenty-three *Mosses*, two *Lycopodia*, and a single *Fem*, ^{fi}ve *Grasses*, and one *Juncus*.—One species in each of the following Natural Orders,—*Amaranthacea*: ? *Crucifere*, *Ranunculacea*, *Composite*, *Poriulacea*, *Rubiace*, *Haloragee*, *UtobeUifer*<B, *Rosace**, and *Caryophijlece* ? Of two plants it [^]fts not possible to define the affinities.

¹ did my best to collect every thing that Kerguelen's Island afforded, not neglecting the most insignificant plant,

often walking on the beach, gathering sea-weeds, my feet in the water, and wet to the skin with the dashing surf; I left not a hole unsearched, or stone unturned, and on those days when violent gales and snow-storms forbade all communication with the shore, I spent my time, and happily* too, in drawing, making analyses, and describing the specimen^s which I had brought on board. There is some danger, however, that inaccuracies may have crept into my work, for the rolling of the ship often obliged me to hold on, while thjui employed, and to have my microscope lashed to t, i e t a b . e which renders dissection, under the glass, peculiarly d* th- cult."

A *Ward's case** was brought away, filled with all the plants that could be found, all dug up and packed by the same active pair of hands as made the above mentioned drawing^s and descriptions. The Captain had kindly harboured this box in his cabin during the continual foul weather; but, un- fortunately, just before reaching the next port, (Ho har- ton, Van Dieman's Island,) a fine day induced him to sc^t

• The dreadful weather which the ships encountered in the inhospita^{ble} Antarctic Regions was highly unfavourable to the preservation of j»^{vi^} plants; which it has been most earnestly the wish of the Commander send to the Royal Botanic Gardens of Kew. With difficulty the *Kerg^{len's Island Cahbaga}* was kept alive till the expedition reached Van Dieman Island, when it was prudently planted in the Governor's garden, and sooⁿ sprouted. Seeds were transmitted to England, but though treated with the greatest care, and tried in several places, they showed ito symptom^s of germinating, though they looked good to the eye. Perhaps they were heated in passing through the Tropics; for other seeds, carried on by t^{he} officers, and kept for twelve months, vegetated on being set at the Filklan^d Islands; but again, these growing plants did not survive the voyage to England. There is no plant that would have given us greater pleasure to have introduced to our Gardens, for, by cultivation, there is reason^t to believe it will prove a valuable esculent. Farther, it belongs to a perfect^y new genus of *CrucifenB*, which Mr. Anderson, the Surgeon and Botanist^t in Capt. Cook's third voyage, designed (according to his MSS. deposited in the British Museum,) to have dedicated to Sir John Pringle, President of the Royal Society, and an eminent physician of the day.

the plants on deck, when a sudden tempest ensued, which not only blew the ships off the land, but did the valued case considerable damage.

Van Dieraan's Island, from its vast extent, presents a wide field for the naturalist, and though Labillardiere, Brown and Cunningham have laboured there, an ample share yet remains for future investigators. But as our object is mainly with Antarctic vegetation, we shall merely observe that what with the collections of the "Erebus and Terror," and those made by the unwearied exertions of Ronald Gunn, Esq., during many years, and placed at our disposal, there exists in this country ample materials for a Flora of that most interesting colony, such we trust as will form a part of the Publication of this extended scientific voyage.

dreadful weather, had, however, to be endured, between the 30th of July, when the ships quitted Kerguelen's Island, and the 16th of August, when the river Derwent received them. They had ran a thousand miles a week for three successive weeks, and were just in sight of Van Dieman's Island, when that gale, which did so much injury to the plants in the Ward's case, came on and drove them out to sea again, carrying one poor fellow overboard, and often sweeping the decks fore and aft. Happily the "Erebus" proved herself a most admirable sea-boat, riding like a bird on the waves, and when struck and washed by the great seas that broke over her, only staggering a little, till a port was knocked out, by which the immense body of water was suffered to escape.

Nearly three months were spent in Van Dieman's Island, and on the 12th November, 1840, the "Erebus and Terror" sailed down the Derwent, on their way to the extreme southern regions of our globe, amidst the enthusiastic cheers of the people of Hobarton, and accompanied for 30 miles by his Excellency, Sir John Franklin, of whom it need hardly be said that he has taken the deepest interest in the success of the voyage, and, assisted by the inhabitants generally, rendered our countrymen's stay in that colony peculiarly agreeable. On this memorable cruize, one of the grand objects of

the expedition was fully accomplished, that of ascertaining the precise bearing of the South Magnetic Pole, and though it could not be supposed that such a voyage should be rich in vegetable productions, and although these were almost wholly derived from two islands; yet, their character is highly interesting. Our bold voyagers penetrated as far as 78° S. latitude, 7 degrees farther than Capt. Cook was able to accomplish, and nearly 4 degrees beyond the no less enterprising Weddell; they discovered, and ran along a vast extent of new continent, covered with everlasting snow, yet presenting to the view mountains of vast magnitude, from 9, to 12,000 feet in elevation, and one of them an active volcano!

On the 20th of November, eight days after quitting the Derwent, and in S. lat. 51° long. 166° , the ships reached Lord Auckland's Islands, where they remained till the 1st of December. This gave ample time for botanical investigations, and the opportunity was not wasted. About one hundred and twenty species of plants were added to the Herbarium (exclusive of *Alga*,) and most copious notes and drawings were made from the recent specimens, together with minute observations on their distribution according to altitude, &c. Some remarkable genera grow at Lord Auckland's Islands, and two *Ferns*, which, from their caulescent stems, though they are small compared with the tropical *Tree-ferns*, may almost be called arborescent. Among the *Mosses*, are three undescribed species of *Andraea** a fine *Conostomum*, *Bartramiu*ty two *Hookeru*B, *fy*c. A bird's eye view of the principal island presents about an equal distribution of wood, shrub and pasture-land; but with the mountains nowhere rising to such a height as to be destitute of grass to their very summits.

On landing, what may be considered the maritime zone, extending from the beach to the border of the woods, a very narrow belt, afforded *Ranunculus*, *Cardamine*, *Stellaria*, two *Acana*, *Portulaca*, *Lobeliacea*, *Callitrichea*, *Bulliarda*? and three *Composite*, two of which are also found on the hill-tops* *Gentiana*, *Myosotis*, *Polygonea*, *Veronica*, *Plantago*, *Amaranthor*

Celastrus, *Poa*, *Urtica*, *Pteris*, *Stegania*, and two *Orthotricha*. The woody zone almost immediately commences, and contains *Myrtaceae*, *Araliaceae*, *Coprosma*, *Ozothamnus*, *Epacridea*, *Veronica*, *Orchideae*, *Carex*, and a nearly allied genus, two *Aspidia* with an arborescent caudex, two *Asplenium*, *Grammitis*, *Poly-Podium*, with many *Mosses* and *Jungermannia*, occupying the trunks of trees, and coating the earth in dense tufts, insinuating themselves into every vacant space and crevice, and at their decay, together with the fallen foliage of *Dicotyledon* plants, forming a rich damp vegetable humus. It is hard to say, in this zone, whether the trunks of trees, the *Ferax* or the plants of the lower Orders, occupy the greatest space in the forest. The most arborescent kinds are the *Veronica*, the *Araliaceae* plant, the *Myrtaceous* and the *Epacricus*, and these are often so dense as to exclude the sun's rays from the ground. The predominance of *Ferns* extends for about 300 yards from the beach.

Next to the trees comes a shrubby belt, not indeed clearly defined, for it contains many of the trees of the lower region, the arborescent *Veronica*, however, wholly excluded) though stunted forms, mixed with a curious *Schizaa*, the *Coprosma* of the higher levels, a large *Lycopodium*, a blue-flowered *Wonka*, &c. This bushy region contains vacant spaces of black, almost naked earth, in which are imbedded the dead roots of existing species of trees. Why the soil in such situations should remain thus bare, is not easily to be accounted for, but their appearance is highly peculiar, being often spotted by a white *Lichen*, and occasionally exhibiting Plants which are either peculiar to it, or very scarce elsewhere as *Gentiana*, the *Schizaa* above-mentioned, *Astelia*, *Drosera*, an *Epacrideous* shrub like *Empetrum*, and a plant of *Stylidium*.

The upland or subalpine district then follows, consisting of a ft open space, chiefly clothed with a species of *Bromus*, a *Wockloe*, and in some spots two *Umbelliferous* plants in dense Patches, an *Araliaceae* one, a *Ranunculus*, some *Composite*; but no bog-plants like *Sphagnum*, *Juncem*, *Drosera* (of which

the solitary specimen discovered was unfortunately lost. *Stylidia*, *Cheilanthes*, *Lichens* and other plants, while the few woody species are wholly concealed in the glens.

Above this again comes the *Alpine Region*, wholly confined to the summits of the hills. No other is equally distinctly marked as to botanical limits, probably owing to the existence of several long low ledges of rocks, which are basaltic, and some of them columnar, and which produce a peculiar vegetation, partly indeed subalpine* but the following plants do not appear to descend below them, except indeed the two *Composite* above-mentioned, which, like the *T/Trifolium* and *Rose-root* of Europe, seem to be both alpine and maritime. *Ranunculus* two species, *Carmine*, *Accena*, *Geranium* (1) *Potentilla*, *Araliaceae*, *Gentian**** *Plantago*, four *Composite**, *Epilobium*, two *Junci*, *Hierochloa** *Agrostis*, *Lycopodium*, *Amarcraea*, *Didymodon*, *Conostylinum*, *Bartramia*, *Bryum*, *Polytrichum*, with many other *Mosses* and some *Lichens*. In Lord Auckland's Islands an *Asphodelus* plant is very abundant, holding the place of *Narthecium* in our northern hemisphere; it grows from the seashore to an elevation of 800 feet above the level of the sea, and is extremely handsome, forming a conspicuous feature in the landscape from its great profusion; which is indeed so remarkable in some places, that at the distance of a quarter of a mile, the ground seems spangled with gold through its yellow blossoms. These, moreover, exhale a slight but agreeable fragrance. Three species of *Veronica* are also showy, especially the maritime one, owing to the abundance of its flowers, which make the tree look as if powdered. The blue of the alpine species is very intense, and sometimes is a bright blue azure. The *Sea-side Gentian* is as lovely a plant as can be imagined, with most delicate inflorescence and foliage that has a waxy appearance. Two of the *Composite* were among the handsomest productions of the island. Notwithstanding, however, the beauty of these and some others, the general aspect of the vegetation is sombre and of a much browner tint than even in Van Dieman's

land. The prevalence of the *Myrtaceous* plant gives a lurid to the landscape. Of the fine *Dracopfajllum* only the younger leaves are green, the older ones turn red and brown, and then drop off in immense numbers; so that on penetrating the woods they are gloomy in the extreme, from the prevalence of fallen foliage, and the general absence of the cheerful rays. Few of the plants are fragrant; the *ppkodelous* plant above-mentioned is, also the white-flowered *ronica*s whose scent resembles that of our *Jasmine*, while the alpine *Hierochloe*, like the species of our northern hemisphere, diffuses a most delicious odour. Of fetid plants there are a few, among such the *Coprosmas* stand pre-eminent; the *Araliaceae* too are disagreeable, and so are the *Gentians** in drying.

After quitting Lord Auckland's Islands, the expedition visited Campbell's Island, in S. lat. 52 $\frac{1}{2}$ ⁰, and anchored in the Harbor. Here they remained only three days, but made the best use of their time in collecting the vegetable *Trod* Actions, which, as may be inferred from the geographical attention, are, in many respects, similar to what prevail in the group they had left. Campbell's Island is, however, much smaller and very rugged, its mountains attaining a height of 1,200 feet; yet some additional species were gathered, especially *Mosses*. The two caulescent *Ferns* are abundant here also. "The valleys were, unfortunately," writes the botanist, "completely devastated down each side of the island where we lay, by fires that had been kindled by the sailors. The windward side of the island presented many anomalies. In particular, it may be mentioned that probably owing to the heavy south-west gales, it is totally devoid of every thing approaching [to a shrub, and many plants which, on ascending the leeward side of the island, are only seen on arriving at the summits, here descend to within a hundred feet of the sea : such as the little *Borastions* plant (*Myosotis?*), several grasses, &c: thus the sides of the island exhibit very different distributions, from local circumstances."

On leaving Campbell's Island, 17th December, the Expedition bade farewell to terrestrial vegetation; and, when about the parallel of Emerald Island in 57° , but at some distance from it, they passed some *Sea-weed*, this proved the last trace of vegetation of any kind that was seen. On the 28th, in lat. $62^{\circ} 40'$, the first of the icebergs came in sight, and henceforth these were their constant companions; and on the 2d of January, 1841, they procured a piece of rock from off one of them. The latitude of Captain Cook's farthest south was passed on the 11th, and at 2 P.M., th navigators caught the first glimpse of an immense range of snow-capped mountains to the southward. On the 12th, in lat. $71^{\circ} 49'$, long. $170^{\circ} 52'$, they landed for a few minutes on an island off the coast, all snow, with no trace whatever of vegetation. It cannot even be stated that the remarkable substance, *Red Snow*, so common in high northern latitude as also in South America, and respecting the animal or vegetable structure of which, naturalists are as much in doubt ever, exists in the extreme southern regions. On the 14th, having attained lat. $74^{\circ} 23'$, long. $175^{\circ} 55'$, they beat Weddell, the individual who had reached a higher southern position than any other; and on the 27th, in lat. $75^{\circ} 47'$ and long. $168^{\circ} 58'$, they effected a landing, with the utmost difficulty, on a little island, entirely clad with snow, save on the perpendicular cliffs where it cannot lie. The coast was lined with ice, but interspersed with fallen masses of stone, rocks, and sand, and it was impossible to advance a yard into the interior; but far as eye could reach and glasses could range, not a particle of vegetation existed.

It was on the following day, January 28th, in lat. $76^{\circ} 57'$ long. $169^{\circ} 25'$, that our countrymen first descried that active volcano, which could not fail to form a spectacle the most stupendous and imposing that can be imagined; whether considered in regard to its position, 77° S. lat., or in reference to the fact that no human eye had ever gazed upon it before, or to its elevation of 12,600 feet above the level of the sea. What increased the wonder is, that it is but one of a stupen-

chain of mountains, a portion of a new continent, of vast but undefined extent, the whole mass, from its highest Point to the ocean's edge, covered with everlasting snow and ice; the sun (at that season) never setting, but day and night exhibiting the same spectacle of the extremes of nature's heat and cold. In mentioning such a phenomenon, I may be allowed to make the following extract from my son's letter:—"The water and the sky were both as blue, or rather more intensely blue than I have ever seen them in the tropics, and all the coast one mass of dazzlingly beautiful peaks of snow, which, when the sun approaches the horizon, exhibited the most brilliant tints of golden, yellow and scarlet; and when to see the dark cloud of smoke, tinged with flame, rise from a volcano in a perfect unbroken column; one jet-black, the other giving back the colours of the sun, sometimes turning off at a right angle by some current of wind, and stretching many miles to leeward! This was a sight, so surpassing every thing that can be imagined, and so heightened by the consciousness that we have penetrated, under the guidance of our commander, into regions far beyond what was ever deemed practicable, that it really caused a feeling of awe to steal over us, at the consideration of our own comparative insignificance and helplessness, and at the same time an indescribable feeling of the greatness of the Creator in the works of his hand/' Such a scene must be reckoned an ample compensation for the absence of all vegetation.

On the 29th the expedition was suddenly obstructed in its southerly course by an object scarcely less wonderful, a Perpendicular barrier of ice, of unknown extent, whose face presented a wall of 160 feet in height. To this Captain Ross gave the name of the Victoria Barrier: it runs in an easterly direction from Mount Erebus, as the volcano was called, in the 78th degree of south latitude. This huge rampart they did not find from the 170th parallel of East longitude to nearly W., hoping to find a passage to the south, but none appeared; and at length, owing to the lateness of the season and the impossibility of obtaining safe shelter for the ships

during the winter months (no small proportion out of the twelve), they took a northerly course, and on the 7th of April cast anchor, for the first time since leaving Campbell Island early in December, off the Government Paddock, Hobarton, Van Dieman's Island.

A short time only was here allowed for the needful refreshment and repairs, when the "Erebus" and "Terror" sailed for Sydney, where numerous excursions were made and plants collected, though few of these could have the charm of novelty and after much kindness received from Messrs. M'Leay (father and son), they then pursued their course to the Bay of Islands, New Zealand. This country presents a good field for the naturalist, but unfortunately, the destination of the ships was restricted to the Northern Island, to which the researches of the botanist were consequently confined. Here resides one of the most amiable and hospitable of men, Mr. Wm. Colenso, of Piauhy, who has studied plants with great success, and sent home rich collections of the vegetable productions of the island. He accompanied the scientific gentlemen of the expedition in their excursions, and has received such a stimulus from the society, that it is not too much to predict he will use his best exertions to obtain plants from every part of this highly interesting group of islands. And thus, by his means, in addition to what has been effected by Sir Joseph Banks, by Forster's voyage, by the late excellent Menzies (who chiefly botanized in the Southern Island), by the brothers Cunningham, and by Dr. Dieffenbach, Mr. Edgerly, our good friend Dr. Sinclair, and the officers of the *Erebus* and *Terror*, there is already collected a full mass of material for a *Flora of New Zealand*,— a Flora, the more called for, now that the Northern Island and the northern portion of the Middle Island are becoming so thickly colonized.

The second voyage to the extreme south was commenced in November, 1841, when the vessels weighed anchor, with

• Some of the many discoveries of this gentleman are published in *Utacones Planarum* (the late Nos.), and in the *London Journal of Botany**

the design of proceeding to the Chatham Islands, in lat. 41° S., and long. 176° W., but the weather proved so thick and heavy, that to reach them was impossible, although H.M.S. *Adventure* had been appointed to meet the expedition there, and receive their despatches for England. Foiled in this intention, they proceeded due south, passing Bounty Island and Attipodes Isle, until they were entangled in Pack ice of immense extent, between lat. 62° and 68° , from the 18th of December, 1811, till February 2nd, 1843. After this, their difficulty reached a little higher southern latitude, namely 78° . than where they had been checked the preceding year, and more to the east, when they were brought up by the same impenetrable Victoria Barrier. So late in the season, it was hopeless to search for their quarters, and they returned northerly to the parallel of 60° , when they took an easterly course, doubling Cape Horn, and on the 6th of April, 1842, reached Berkeley Sound, in the Falkland Islands, the first land that had greeted their eyes since quitting New Zealand, a period of one hundred and thirty-eight days, the whole of that time having been passed under sail, or in the Pack ice, or among Icebergs. Indeed, none but those employed in this voyage can at all appreciate the difficulties and hardships that were endured, in which it is to be hoped that this little notice may record some of the perils which have attended this Antarctic exploring voyage, we give the following extracts from a letter published in the *Athenaeum* of March, 1843, which bear all the stamp of a faithful narration, and may tend to convey a faint idea of them.

“From the Bay of Islands, if it had been Captain Ross's intention to proceed as far as 150th degree of west longitude, and thence south, the winds were at first favourable, rather fine, though occasionally thick fogs came on, during their continuance, obliged us to be constantly beating gongs, and tolling bells, to keep company with the *Erebus*. On the 13th of December, we reached the parallel mentioned, and proceeded south, encountering Pack ice in lat. 62° and long. 147° W., which was con-

siderably to the northward of where we made it last year. We pursued our way through it very well, till the 23rd, when the ice became thick and heavy, and we were unable to go on, except a few miles now and then, by boring and shoving along with poles. We crossed the Antarctic circle on the 31st, both ships made fast, at the same time, to one another, saw the old year out and the new year in, on the ice between the vessels; and on the evening of the 1st, had a ball there, and kept up the dancing till three in the morning. So you see that, while blocked up by frost on every side, we had some fun; but that was the first and the last of it. We can off occasionally, but were obliged to make fast again.

On the 18th of January, we cast off, and on the 20th, encountered a very heavy gale with a tremendous swell, which rendered our situation for thirty-six hours truly perilous; it was more like the effect of an earthquake, than being tossed about by the sea; the immense blocks of ice threatening it were, to grind us to powder. Indeed, no ordinary ship could have stood it for an hour. Soon after the commencement of the gale, the *Erebus* had her rudder rendered useless, by the head of it being wrung, and ours was completely torn from the stern-post, although the fastenings were the same size as those used in line-of-battle ships. There were two ships in an unknown sea, drifting about at the mercy of the winds and, I may say, of the ice, without being in the slightest degree able to assist ourselves. Fortunately? the gale moderated and the swell went down so rapidly, that next day we were enabled to make fast and repair dancing. We had a spare rudder, and after great difficulty, succeeded in shipping it, although only half so secure as it was before. We experienced no other damage of consequence; a great deal of copper was stripped off, though some of it was to the thickness of that generally used; also, everything that the least protruded from the sides, was torn away. However, in a couple of days, we set all to rights, and were enabled to proceed; and to our great delight, on the 2nd of February, got into open water, having been upwards of six

weeks in the Pack; this was in lat. 68° . and long. 160° . W. Herewefound the edge ofthe Pack trend to the westward; at this time, the season was far advanced, and as, in the preceding year, we had been obliged to commence our operations on the 10th of February, so Captain Boss did not think proper to re-enter the Pack, but proceeded along the edge to the westward. We went as far as 187° W., and then to southward and eastward. On the 20th, we experienced a gale, but in open water; still, it was bad enough, not only because of the wind but the spray coming over us was frozen erepreaching the deck, so that every thing soon became a mass of ice; coils of rope, and all, were covered several inches thick, and most of our running-gear about the bowsprit was carried away by the weight of ice formed on them.

At midnight, on the 21st of February, we came in sight of a berg, right ahead. After half an hour's beating at the frozen ropes, we managed to get the ship round, but the Erebus missed three times; however, we sustained no damage, and again made for the south. On the 23rd, we came in sight of the grand Victoria Bamers, and as the day was fine, we stood within a few miles of the pole, reaching $78^{\circ} 10'$ S. lat, long. 102° W., navigating farther than we did the year before. Under all circumstances, this was more than we expected; for after being detained so long in the Pack, and the season closing so fast, we had little prospect of attaining so much; and although we had not discovered any land, all the magnetic and other observations are very satisfactory, and the position of the pole more fully verified. Not being able to proceed to the eastward, we were compelled to begin our retreat, which we did by leaving the Pack edge.

On the 5th of March, we re-crossed the Antarctic circle, and saw but a few icebergs. On the night of the 12th, or the morning of the 13th, for it was a little after midnight, the night being pitch dark and stormy, with a heavy sea, in lat. 60° ., we were running east, when suddenly we found ourselves close to

chain of huge icebergs; and in hauling up to clear the (each ship doing so on opposite tacks), we came unavoidable and, as it proved to be, exceedingly fortunate contact, striking most violently; our starboard bows met. ship carried away jib-boom, cat-head, anchor, yard-arms, boom, and a boat. But the loss experienced by the "Erebus" was much greater; her bowsprit close off to the bows, top-mast, cat-head, anchor, and a number of small spars gone. Nothing but their extraordinary strength prevented but ships being cut down to the water's edge; as it was, our consort smashed our "strengthening pieces outside, while her bulwarks forward, were levelled with the deck. All the time we were foul, we continued helplessly drifting towards the icebergs, and thought ourselves inevitably lost; but on the ships clearing, we saw one part of the bergs darker than the rest, and happily it was an opening. Immediately after clearing the other ship, we were rushing close past an immense iceberg, and passed between two of these huge masses through an opening not more than twice the breadth of our vessel, the foam caused by the sea against them, breaking over us on each side !

I have neither time nor inclination to dwell on the events of that dreadful night, which it even now makes me shudder to think of; but, some day, if it please God, through whose merciful interposition we were saved, I will give an account when sitting over the fireside. I suppose no naval annals in the world could record such a narrow escape, however, we *did* escape, and what was more fortunate, without the loss, on this occasion, of a single life. The crippled state of the vessels prevented Captain Ross from performing all he had originally intended; which was, after reaching lat. 60°. long. 125° W. (a spot calculated by Colonel Sabine as that of maximum intensity, but which surmise has proved to be incorrect), to have again proceeded south, if possible, as far as Cook's *ne plus ultra*, and then to this place. As it was, we made the best of our way, and with the exception of losing one man overboard, off Cape Horn, arrived here

(Berkeley Sound, Falkland Islands), in safety, without an individual on the sick list in either ship, on the 6th of April.¹ As might be supposed, the cruize above described could afford no opportunities for botanizing, but the time was improved by examining the New Zealand plants that had been collected. One curious fact, however, attracted the attention of the naturalist, namely the existence and vegetation of two species of *Alga*, in the open sea and at an immense distance from land. Almost every previous voyager has noticed the famous *Sargasso weed*, though to this present day, it continues matter of dispute whether its enormous patches are propagated in the water, or at the bottom of the ocean. Very singular is the case with *Macrocystis pyrifera* and *Laminaria (rasillifera ?)*, the two kinds of *Sea-weed* in question, which extend, in the southern regions, to the limits of the Antarctic circle; farther south, by two degrees, than any other vegetable production whatever. The former, *Macrocystis*, is the most abundant and was, at first, regarded as a good sign of the vicinity of land. It was, however, seen in all the latitudes which the Expedition traversed, from 35° to the immediate neighbourhood of ice, many hundreds of miles from the shore, in scattered masses, and these so large, fresh, and green, that it was impossible to conclude that either they had recently been torn from their native habitat, or that they were undergoing a slow death and a sure one. On several occasions, specimens were picked up, generally with great accuracy in those tempestuous latitudes, and they were found, on examination, to be, in every respect, similar to such plants as were gathered in the bays ashore; not only growing with the same vigour, but increasing; the ends of the fronds being furnished with delicate, broad, young, green leaves, of all sizes, separating after the manner so correctly described in Harvey's *Cape Flora*. The enormous distance from any land, proved by the tracks of former voyagers and that of our Antarctic navigators, and the slowness of the currents near the places where these specimens were col-

lected, show that a very long time *must* and that ages *may* have elapsed since these floating portions left the parent plant. This *Weed* did not make its appearance close to the ice, still less in that open water which exists to the southward of the Packs. An accurate list was kept of the ship's position and dates of the time when it was found, and big^{ly} curious it was to note how uniformly the plant seemed to fail when the temperature of the water fell below 32° or 3-⁰ in whatever latitude that might be, and how it appeared to avoid the icebergs; 63¹° is the highest south latitude at which it was seen.

The currents that transport these weeds, are very low indeed; probably *ivind-currents*, which, with the *send* of 11 sea, must have wafted the original parent stock from the southern portions of New Zealand and the smaller islands appertaining to it, as far as Cape Horn. Its propagation in the water is apparently exceedingly tardy, and may possibly be effected by the agency of marine animals, which swarm about the patches of this and the *Laminaria*, their sole vegetable refuge in the higher latitudes. No roots whatever have been traced in such circumstances, nor do they seem essential to its life and increase. After separating out a single plant, perhaps thirty fathoms long, one end was invariably found green, and the other gradually more and more encrusted with *Flustra*, *Serpulce* and *Bicellaria*, *Sponges*, &^c till it terminated abruptly; the cellular substance of the stem being quite exposed,* not covered with anymore condensed parenchyme, but apparently bitten off; while here and there, along the stem, there were often pieces taken out, apparently by some molluscous animal.

One of the officers of H.M. schooner *Arrow*, a very intelligent individual, has stated it as his opinion, founded on the examination of many specimens, that as the *Macrocystis* grows large, it finally weighs up the stone which was its moorings, and then the whole plant goes off to sea, which, as he conceives, explains the reason for so much being found alive in the ocean.

The other *Sea-weed*, the *Laminaria*, was not found so common on "the high seas;" and when it did occur, was generally seen running out into long branches.

Mariners who had thus been the sport of winds and waves, tossed about among icebergs and in the Pack, exposed to great severity of cold in the midst of an Antarctic summer even the stern scenery of the Falkland Islands, and in winter dress, would have its charms and its comforts, here they came into the still and peaceful waters of Berkeley Sound, a long and deep inlet of the sea, at the head of which is the capital of the colony, and indeed, the only village in it, and where, happily, the arrival of a new Governor, Lieut. Moody, R.E., with a well-selected library, offered attractions to the officers. The needful repairs were made to the "Erebus" and "Terror," which were hauled ashore for that purpose, and an interesting statement of the occupation of the officers is given in the "Guernsey" newspaper, of Sept. 15th, 1842.

Captain Ross and the Antarctic expedition are now here. Two ships came in contact when endeavouring to escape an iceberg in the seas of the South Pole; and they will stay with us positively five or six months, to repair the vessels, and to make observations. Capt. R. has erected an Observatory at the old French Fort, built by Bougainville. A most interesting series of observations is carrying on, which will be of great value to the scientific world; those on the pendulum are noted every quarter of an hour. Astronomical observations are also carefully taken by the officers. Thermometers are placed both above ground and under it 5 my own (it is the Governor who writes), along with my barometer, are doing duty with the rest and have the honour to be registered also. The Anemometers, showing the direction and force of the winds, will add much to the valuable information recorded by Capt. Sullivan, R.N., respecting these islands; and the Pluviometers are also carefully noted. The present month (May) is equivalent to the Guernsey November. A

tide-gauge is placed by the jetty. Also an excellent magnetic observatory, where the dip, intensity, and variation of the needle are carefully registered by these able and practiced observers; the officers relieving one another in regular succession during the performance of this duty. And never do I meet with such devotees to science. Captain Ross's little hammock swings close to his darling pendulum, a large hole in the thin partition allowing him to view it any moment; while Captain Crozier's hammock is just alongside. The floor of this room is mother earth, from our dearth of timber.

"At my request, the Captain has been so kind as to add to these observations another series, to ascertain the rate of evaporation in these islands; and Hooker, the botanist, has obligingly drawn up a report on the *Grasses*; our prevailing *Graminea* being considered as unknown in Europe.

"The splendid *Tussack Grass* is the gold and the glory of the Falklands, and it will yet, I hope, make the fortune of Orkney and the owners of Irish peat-bogs. Every animal here devours this grass with avidity, and fattens upon it in a short time. It may be planted and cut, like the *Guinea grass* of the West Indies. The blades are about six feet long, and from two to three hundred shoots spring from one plant. I have proved, by several experiments, that a man can cut one hundred bundles in a day, and a horse will greedily eat five of these bundles in that time. Indeed, so fond of it are both horses and cows, that they will devour dry *Tussack* thatch from the roofs of the cottages, in preference to good grass. About 4 inches of the root tastes like the *Mountain Cabbage* (Palm). It loves a rank, wet, peaty bog, with the sea-spray dashing over it, and wherever the waves beat with the greatest vehemence, and the saline spray is carried farthest, there the *Tussack Grass* thrives the best, provided also it is on the soil it prefers. All the smaller islands, which help to form the Falkland group, and some of them are as large as Guernsey, are covered with it, and it is nutritious all the year round."

To the naturalists of the expedition, there are other charms in the animal, vegetable, and mineral productions of a group of Elands, two of which are of considerable extent, one of them 130 miles long by 80 broad, and the other 100 miles by 50. Their position is interesting, too, as regards the proximity to the southern extremity of the great American Continent, which, it is very clear, has materially influenced, as might be expected, their vegetation. Situated between $52\frac{1}{2}^{\circ}$ and 54° south, and $57^{\circ}.20'$, and $61^{\circ}.46'$ west long, the Falklands lie about 1,000 miles S.S.W. from the estuary of Rio de la Plata, and 240 miles N.E. from Terra del Fuogo. It is true that several botanists had already visited Falkland, the only island in the group that could be investigated on the present occasion, and I believe the only one that has been at all explored. Pernetty appears to have been the first person to collect the plants of the Falklands. He accompanied Bougainville, when the latter attempted to colonize the islands, and described many of the vegetable productions. In 1725, an interesting memoir was presented to the Academy of Science at Paris, by M. Gaudichaud, entitled "*Flore des Îles Malniines*." This was the fruit of that disastrous shipwreck of the French frigate *Uranie*, on the Falklands, by which the officers and crew were compelled to remain there during a period of three months. M. Gaudichaud had an arduous task in rescuing from the stranded ship, an herbarium formed during the voyage, of 2,500 species, which had been immersed in water in the hold, till the paper was reduced to a pulsty mass, from which the specimens had to be extracted, sheet by sheet. It was an agreeable relief from this irksome and disheartening occupation to gather the products of these little-known islands. The Flora above alluded to, enumerated one hundred and twenty-eight species, including *Cystopteris*, of which from forty-two to forty-six were considered new.

The superficies of this group of islands, says M. Gaudichaud, « may be roughly calculated at about two hundred to

two hundred and twenty square leagues. Part of the coast is bordered with rocks and dunes, exhibiting towards the interior some mountains of moderate elevation, and Part covered with lakes and marshes. During the winter, which is long and very severe, snow falls to a depth of many feet. The surface-soil is composed of a spongy turf which begins where the coast-sand ends, and stretches uninterrupted over the mountains and the level lands. This soil is most unfriendly to cultivation, and French, Spanish, and English colonists have successively given up the attempt in despair and forsaken these islands. Still there are plants which affect peaty lands, and grow here abundantly. Not a tree is seen, the only approach to it being a shrub, the *Veronica decussata* which attains a height of 6 feet, but is extremely rare; it was originally detected by Commerson, in the Straits of Magelhaens, and named, in his MSS., *Hebe Magellanica*. The aspect and foliage resemble the myrtle. Among larger plants of the Falklands are *Ciliotrichum amelloides*, a syngenesious shrub, about 3 feet high; the *Festuca flabella* (or *Tussack Grass* mentioned above), whose fine fan-shaped leaves are nearly 6 feet long, and which entirely covers the islets; and finally, *Pernetia empetrifolia* and *Empetrum rubrum*, under-shrubs of moderate stature, already found by Commerson in the district of Magelhaens. The other plants seem as if they all had been levelled low, so rarely does one species rise, in the least, above the rest. They generally form compact, close, grassy tufts, very unpromising for the botanist. The prevailing tribes are *Lichens*, *Ferns*, *Mosses*, *Cypracete*, *Graminea*, *Composite* and *Ranunculacea*. *Alyx* can hardly be considered as belonging to these islands, though they abound in the bays; they are marine produc-

- This shrub is confined to West Falkland.

t In Jersey, where this shrub is not uncommon in gardens and grows about three or four feet high, it is called *Box-Myrtle*.

&ons, and have no affinity with the growth of the soil. It is ^{Very} Angular, that neither *Leguminosa*, *Labiata*, *Boraginea*, or *Chenopode* <e> groups which prevail in almost every part of the world, exist in the Falklands. Seven species of *Graminete*, together with three *Cyperacea*, and four *Junci*, are found in such profusion, and form such dense tufts, as to engross nearly all the soil, to the great exclusion of other Plants. When this thick grassy turf is separated, a prodigious quantity of *Lichens*, *Mosses*, *Lycopodia*, *Marchantia* & some other *Cryptogamia*, with several *pfuenogamous* species, may be seen beneath it, mingled with small suffrutescerent plants, whose stems are weak and creeping.

When the periodical return of winter puts a close to this annual vegetation, the water which remains in the soil in a sponge, preserves from entire decomposition those numerous plants which die, and their woody portions form a mass, which yearly adds to the amount of peat-bog. We may be allowed to conjecture that in these islands, as is the case in other parts of the world, the vegetable remains, by their gradual and imperceptible accumulation, will finally fill up the lakes."

In the following year, namely 1826, a very similar memoir appeared in the 4th volume of the *Mémoires de la Société Asiatique*, under the same title, *Flores des lies Malouines*, and drawn up by the still more unfortunate M. J. Dumont d'Urville. This accomplished traveller and naturalist, as is well known, had but recently returned from a second adventurous voyage in the Antarctic regions, having escaped all the dangers attendant upon such hazardous undertakings; but, on a little excursion of pleasure in the environs of Paris, and his whole family fell victims to that most awful accident on the railroad of Versailles, in May, 1842. In the voyage, when the materials for his *Flore des Malouines* were collected, M. d'Urville commanded the "*Coquille*," and on the 18th of November, 182-, cast anchor in the bay of *La Soledad*. "What a descent!" he says, "does the

botanist make, who from the shores of Brazil, is suddenly transported to the flats of the Malouines ! To those immense forests, countless shrubs, and impenetrable thickets, which had perpetually arrested his steps and gaze, succeed bare hillocks, and boundless plains, not a tree, or even a real shrub, breaks the uniformity of these vast solitudes, the traveller, assailed by wind, rain, and hail, has often to traverse many miles before reaching the slightest shelter; the earth itself, as uniform as its vegetation, presents a jutting rock among its valleys, nor any of the hollows which are so common in wild and uncultivated regions. Notwithstanding, however, this extraordinary nakedness, there is a country where the soil is so thickly clad with a dense, though low, covering; for almost all the indigenous herbaceous plants and little shrubs, are provided with creeping roots and off-sets that strike into the ground, by which they are firmly fastened to the soil, and woven one among another,—a wonderful provision of nature, doubtless intended to protect vegetation from the destructive power of those tempestuous winds so prevalent in these latitudes.

" A stay of twenty-six days, and twelve botanizing excursions, afforded one hundred and eight distinct species of flowering plants; and I shall hardly suppose that more than a quarter part of the productions of the island can have escaped my notice, or that more than one hundred and forty species, or thereabouts, can exist on the Island of Soledad for my researches were very diligently pursued. The circumstance, too, that M. Gaudichaud, a skilful and close observer, only found, during his stay of nearly three months, eleven plants which I had not gathered, confirms this opinion: out of these eleven, the *Azolla* and *Rumex acetosa* are only cited by him from memory, while the *Veronica decussata* was given him from the other island, thus reducing the difference between us to eight. On the whole, therefore, the Flora of these islands may be said to be richer than a first glance would lead one to suppose.

.^c In spite, too, of the hundred degrees of latitude which sever this island from Europe, there are many points in which their' botanical productions resemble each other, as numerous examples will prove,

"The gigantic Grass (*Festuca flabellata*, commonly called *Tussack*) which covers three-fourths of the Isle of Penguins and all the sandy dunes of the Bay of La Soledad, and whose enormous tufts look, at a distance, like a thick-set copsewood, has much affinity with our *Dactylis*. On the same dunes grow *Apium graveolens*, *Statice cespitosa*, *Triticum junceum* (}) and *Lolium perenne*. The *Arundo pilosa*, *Avena redolens*, *Aira flexuosa* and *Festuca erecta* constitute, of themselves, an excellent pasturage of great fertility, and cover an extent of many miles. On first observing *Cerastium vulgatum*, *Alsine media*, *Sagina procumbens*, *Senecio vulgaris*, *Veronica serpyllifolia*, and *Rumex Acetosella*, I inclined to the opinion that they were imported by man; but, afterwards, the great profusion and distance from cultivated spots to which they grow, made me consider them indigenous; for it is hard to believe that winds or birds can have transported the seeds; and these European plants were, moreover, almost all seen by Commerson about the Straits of Magelhaens, nearly fifty years ago, with the addition of *Cardamine Maritima*, *Tofieldia bursa-pastoris*, and *Primula farinosa*.

^{cc} Many of the most prevalent European genera are represented in these islands by species which strongly resemble those of the Old World; and of the eighty genera of plants which constitute the Flora, there are only between fifteen and twenty which are not common to the European continent. These are *Oreobolus*, *Gaimardia*, *Astelia*, *Callixene*, *Sisyrinchium*, *Drapetes*, *Nanodea*, *Calceolaria*, *Nassauvia*, *Baccharis*, *Perdicium*, *Oligosporus*, *Chilotrimum*, *Nerteria*, *Azorella* and *Saxifraga*. In a word, the affinity is so considerable that I should almost think a botanist would feel himself more strange if transported suddenly from Morbihan to the shores of the Var, than if set down on the Malouine Islands.

Nature, so fertile and varied under the Equator, becomes more uniform in northern regions, and having apparently lavished all her types on the vegetation of the tropics, is reduced, so to speak, to assign similar genera to the most widely-severed portions of our globe.

« The majority of plants, inhabiting the Malouines, have been found also by Commerson, near the Straits of Lemaire, and by Forster on Tierra del Fuego; thus leading to the supposition that these islands once formed a part of the great South American continent. The soil is everywhere turfy below, and so spongy as to imbibe moisture with great rapidity and leave the grassy surface dry. This turf is & thicker in the interior than near the sea-shore, and has frequently such abrupt perpendicular edges as resemble the work of man. These natural ramparts are not uncommon on the high grounds, often rising to an elevation of 4 or 5 feet above the surrounding land, and their formation is a subject of difficult explanation. They afford a most desirable shelter from the winds to the numerous herds of wild goats. Streams of fresh and pure water everywhere intersect the islands; and though they are marshy at the brink, the compact and firm nature of the vegetation prevents the earth from being seen, or the feet of the traveller from sinking. There are fine lakes in the plains, and basins of water on the very summit of the mountains. Water is everywhere abundant, but most of the plants are of a resinous nature, or furnished with a varnished surface, which protects them from the effect of so much wet. The dry nature of the plants was shown by the facility with which I preserved my specimens, notwithstanding the cold weather and the rains which never ceased to fall during the whole time of our anchorage at the Islands, between the 18th of Nov. and the 18th of Dec, corresponding with May and June of our hemisphere.

" This residence was long enough to show how fearful are the winds in these islands, and how admirably fitted the vegetable productions of the soil are to resist their violence.

AH those plants whose stems rise a little above ground, are flexible, and bow beneath the blast, while the chief part are of Lilliputian growth, and form such dense and interwoven Masses, that the very soil must flee away in dust, ere they could quit their position. Nothing can be more singular than the enormous tufts of *Eolax*, which at first are no bigger than molehills; but, by the constant addition of new shoots, well in all directions, and attain a height and breadth of some feet. A resinous and strong-smelling substance continually exudes from all parts of these plants, and is perceptible a considerable distance. If carefully examined and Analyzed, it is probable this gum might be found to possess some valuable properties."

M. d'Urville visited Mount Châtelux, 17 miles distant in a straight line from his ship. "Two days were devoted to this excursion, in each of which we walked for fifteen hours; and this long walk gave us a good opportunity of examining the nature of the island, the result of which was that the farther you proceed inland, the less varied is the vegetation, once past the dunes, marshes and rocks, which have each some peculiar plants, and the country stretches for miles in uniform plains, solely producing the three Grasses mentioned above, and a few thinly scattered tufts of the *Bolax**. When the ground rises again, the variety becomes greater, and on the summit of Mount Châtelux, I found almost all the species that had been seen in the lower situations, though reduced to half or a third of their usual dimensions, except, indeed, the *Bolax*, which grew as strong as elsewhere, though Ringing out of the entirely naked rock. Five plants alone appeared peculiar to these elevated spots; a beautiful *Asplenium* (*A. mohrmdes*); the curious *Nassauvia serpens*; *Cenocorypha qermicularis*, white as snow; and two minute plants which grow in the closest tufts, *Dracopis muscoides*, originally found by Commerson in the Straits of Magelhaens, and a new *Valeriana*, which I named *sedifolia*. The beautiful *Montanoa Magellanica* is rare on the plains, but abounds among

the courses of quartz stones that may be seen on the mountain sides ; while *Usnea melaxantha* carpets the surface of these huge blocks, with its fronds varied of yellow, fawn and black."

M. d'Urville increases the number of Falkland Island species to two hundred and seventeen, of which ninety-seven belong to *Cryptogamia*.

In 1841, Mr. Wright returned from a mercantile voyage to the Falkland Islands, where he very laudably employed his leisure time, during the summer months, in making a successful collection, which was presented to me ;* among them are some species that had not been previously found on the Islands; and still more recently, a few specimens, gathered there by Lieut. Robinson, and communicated to me, by the Admiralty, afforded a *Hamadryas*, a very fine *Draoia*, and a *Gleichenia*, which appear to have been overlooked by former collectors.

After these and other researches, it is hardly to be expected that much was left for the botanists of the "*Erebus* and "*Terror*" to discover; especially, seeing that their stay was a wholly in the winter months. Yet, notwithstanding the disadvantages, the number of species of flowering plants, when the last intelligence came away, on the return of the expedition from Cape Horn, amounted to one hundred and seven, gathered by one individual. Of *Cryptogamia*, as may be supposed, there is a much greater proportion, and many of them are extremely beautiful; and copious notes and drawings were made of both, which cannot fail to be of great value.

The "*Erebus* and *Terror*" came to anchor in Berkeley Sound, on the 5th of April, 1842, the commencement of winter. The purser went ashore and returned after nightfall, but was entreated to bring on board a specimen of some vegetable production of the country. He grappled in the dark, and

* Several of the plants have been published in the 6th vol. of the *Phytarum Rariorum*.

obtained a plant of *Shepherd's Purse!* "But," said the disappointed botanist who had made the request, "I hope for better things to-morrow." A letter, dated Berkeley Sound, East Falkland, August 28th, 1842, proceeds thus :

"Our stay in this Island has afforded me time for investigating its botany as fully as the wintry season and stormy weather will permit, and I would vainly hope that little has escaped your notice. Some of my specimens are imperfect, owing to the time of year, and I have only gathered such because they may yet be determined at home; or if not, they may add one or two to certain *Natural Orders*, whose geographical distribution is a subject of much interest to me. Among the *Lichens* I have had a fine field here; some of them, especially the rupicolous species, are particularly handsome.

"The collection ready for sending home, contains numerous specimens of every tribe of plants found in the Falklands, with the exception of the *Alga*, which here attain gigantic dimensions. My notes are rather copious, both on the plants themselves, and their distribution in the various parts of the Island. All the plants enumerated by Gaudichaud as having been found by himself and others, have come under my notice, except three or four.

"*Mosses* are now, and only now, showing fructification; many of the species I have only found in a barren state, especially among the *Pleurocarpi*.

"There are of *Andraea*, two sp. Of *Sphagnum*, one (or what might be called three). *Grimmia*, two, in fr. *Trichostomum*, one (Oary friend) (*r. wnescens*), barren and very scarce. One *Vrthotrichum*, resembling the Kerguelen's Island maritime species. *Didymodon*, two or three. *Dicranum*, two. *Camptopappus*, one. *Tortula*, two. Three *Brya*, in fruit. *Funaria*. *Bartramia*, two, in fruit. *Polytrichum*, two, barren. Several *Hypna*, and two *Hookeria*, all barren. About ten species of *Jungermannia*, two *Marchantia*, and a *Riccia*. There are about thirty species of *Lichen*, and among these, *Usnea melastomata*, which is quite different from the yellow Kerguelen's

Island *Usnea*, being larger and more handsome; some beautiful species of *Sticta* and *Roccella*, and several *Cladonia*.

" My *Sea-weeds* are not examined, and I shall send none of them home till I have done so. There are three species of *Macrocystis*, and several *Laminarice*, here taking the place of the *Sargasso*, of milder climates, some lovely *Floridea* and the *Ballia*, one of the commonest sea-weeds here, and of large size. I do not doubt its being the *Sphacelaria calm*cha* of Agardh.

" *Marine Confervoids* species are abundant, many of them being covered with an odious-looking green slime, formed of one or two kinds. There are also several fresh-water species.

* *Fungi* are scarce. On our first arrival, two large and a yellow *Helvetia* (?) were common, but I neglected to gather them, and when the cold weather set in, they immediately vanished. I have, however, requested my friend, Lyall, of the * *Terror*,⁹ to collect them when the spring begins, at which time we shall be absent at Cape Horn, and have provided him with a bottle of spirits for the purpose. The other *Fungi* are two small *Agarics*, a *Lycoperdon* and a *Peziza*.

^a Of *Ferns* I possess two *Lycopodia*, two *Stegania*, the handsome new *Aspidium*, very rare, and gathered last winter in the stream of stones described by Darwin, and a *Gleichenia* kindly given me by the Assist-Surgeon of H.M.S. 'Arrow', but which I have never seen alive.

« Since beginning this letter, I have taken a long walk to visit *Uranie Bay*, where the French navigator, Freycinet, lost his ship, 'L'Uranie.' Leaving our anchorage, I proceeded to the south end of the upper extremity of this harbour, along a slaty beach, overhung with low cliffs of clay-slate, covered with *Gunnera*, *Acoma*, *Oxalis enneaphylla*, *Cardamine glacialis*, *Nassauvia Gaudichaudii*, *Homoianthus echinulatus*, with here and there bushes of *Empetrum rubrum* and *Chilichum amelloides*, and many smaller plants, some of them roan-

llie, as a fine *Statice*, a little *Psylliwn*, and **four or five** curious forms of *Umbellifera*, as the *Bolax*, which forms large overhanging semi-circular mounds, and the little *Azorella lycopodioides* and *filamentosa*, a new *Caldasia* and a most singular *Hydrocotyle* (?) with fistular simple linear leaves. The shore is covered with entangled masses of two species of *teacrocystis* and other *Sea-weeds*. A *Sticta*, one of the most beautiful of *Lichens*, forms large leafy patches among the passes, of several sorts, while the barren rocks are covered with *L. geographicus*, a noble *Roccella*, sometimes nearly a foot long, and other fine *Lichens*, which completely whiten them where they are most exposed to the light.

" The holes and crevices are full of *Mosses* and *Jungermania*, a *Riccia*, two *Hookerice*, two *Bartramia* and others. It has been the first fine day we have enjoyed for a long while, and the plants are just beginning to sprout. *Viola Magellanica* and the *Oxahs* are showing their leaves, and the tufts of grass look green at the base, especially the fine *Hieracium* (?), of which the old leaves, drying in the sun, smell delightfully. The poor *Birds*, whose breeding-season has commenced, are revelling in the change of weather. The *American-Ducks* flock along the water, so tame that any one may come within a yard, as they are pluming themselves and uttering their wheezing clack-clack, presenting a curious contrast to the restless shy *Black-backed Gull*, which watches them from over-head, and whenever the poor *Duck*, after a while, emerges with a fine sea-animal in his bill, this pirate *Gull* darts down and seizes the morsel, before the original *Carrier* has had time to draw his breath. Little *Sandpipers* are running and chattering along, and every here and there, the beautiful *Kelp Goose*, with her spotless white *Gander*, appears sitting on a rock, and picking choice specimens of *Porphyra*. A smaller *Gull*, with black head and beautiful rose-coloured breast, has the habits of a *Tern*, perpetually screaming and suddenly dropping, with wings erect, on the water, with a little splash, to pick up some incautious shrimp.

" Leaving the beach, the upland grounds are low and flat, intersected by small valleys and slow streams, running deep in the boggy earth; the *Arundo Alopecurus*, forming an excellent pasturage for cattle, covers all the bogs, and the *Bog* grows in large hassocks on the drier tracts. Here one constant companions in the *Caracara Hawks (Polyborus)* which follow the stranger everywhere, perching close upon the ground, frightening the poor rabbits out of their forms, and narrowly watching every motion. Nothing grows so high as the grass, though now and then tufts occur of *Empetrum* and a little *Arbutus*, accompanied by *Cornularice*, *Cenomyces* with red *pyxidia*, and *Cetraria*.

" The valleys, again, are full of bushes of *Chilotrachelium*, *Trichostomum lanuginosum*, *Sphagnum*, and a few *Mosses*. Presently a *Snipe* gets up, or a flock of *Thrusters* or the beautiful red-breasted *Starling* (?) twittering and chattering from bush to bush. The *Upland Geese* are pairing and geese though they be, an experience of five months during our stay here, has taught them to fly away, instead of sitting still to be shot at. The long creeks, which run up from the Bay, have their banks covered with slimy confervoid *Alga*, and here the little *Teal* swim and whistle in flocks while the *Black and White Oyster-catchers* keep poking their long red bills into the ooze; and busiest of all, the beautiful *Chionis* stands, scarcely heeding you, while the low water affords him a feeding-time.

" The hills are all quartz; and, wherever that formation presents itself, it may be recognised by the turf containing patches of the *Astelia*, *Caltha appendiculata*, *Oreobolus obtusangulus*, *Gaimarda australis* and *Myrtus Nummularia*. The fine *Stegania* grows only near quartz-rocks, which, though so dry and hard, are rendered perfectly beautiful by the *Usnea melaxantha*, forming a mimic forest, accompanied by other foliaceous and crustaceous *Lichens*. Uranie Bay is of sand, with sand-hills at the back, like the Denes of Yar-mouth, in Norfolk; among these grows a fine *Grass*, with

two beautiful *Senecios*, and large patches of a *Tortula*, like *ruralis*. It was among these hills that Freycinet encamped his crew, and a sketch, which I have copied from one that was done at the time by an English sailor of the party, and which belongs to the Governor here, represents the scene. In *Veddel's* Voyage you will find some particulars of this kind faster. The sand is of the purest snowy white, against which the sea appears of a brilliant blue. Large beds of *Alp* cover the rocks outside, and have now hidden the wreck of the '*Uranie*,' of which no sign appears, but some copper and a few iron watercasks on the beach.

At the back of the sand-hills are several pools of water, in which I gathered Gaudichaud's *Limosella* and *Myriophyllum*; though I have been hunting ever since I came here for the '*dzolla*,' in similar situations, not a trace of it has met my eyes. On the beach lie huge trunks of *Sea-weeds* perhaps the *Urvillea*, branched like a tree; sometimes a foot in diameter, and often 12-14 feet long. A horizontal section of the stem presents oval concentric rings, answering to successive periods of its growth. These rings are composed of cells, containing a viscid fluid, which evaporates as the trunks dry up till these, shrinking excessively, become harder than horn. It is singular that the *Usnea*, perhaps the largest form among *Lichens*, presents a still more striking analogy to *exogenous station*; so remarkable that I think it must be noticed everywhere. A horizontal section of any of its stems or lateral branches, exhibits a distinct cortical layer, of a yellow colour and coriaceous consistency, loosely attached to an inner corky layer, which sends medullary rays through a hard red horny axis, to meet a central corky pith. Except that these layers are all separate forms of cellular tissue, they are, in every respect, analogous to the *Bark*, *Wood*, and *Pith* of a tree. I think that the red horny tissue expands over the *asporangia* of the thallus, and gives off the *peridia*."

The most interesting and useful vegetable production of the Falklands is undoubtedly the *Tussack Grass*; a name evi-

dently given to it, from the immense tufts or *tussacks* formed by the plant; nor, indeed, is the appellation wholly restricted to this valuable esculent grass, but it is also applied to a species of *Carex* (*C. trifida* of Cavanilles), which grows in » similar manner; a circumstance which gave rise to an important error: for specimens of the *Tussock Sedge* were put into the hands of the Botanist, that a description might be forwarded to the Colonial Office, and accordingly a description of the *Sedge*, which, indeed, in its young state, is eaten by the cattle, was transmitted instead of the grass. The error was quickly detected, and, at the Governor's request, a full account, with a drawing and corresponding specimens, were received at the Colonial Office, and these have been obligingly placed in my hands, that they may be added to this brief notice of the botanical results of the expedition, A correct acquaintance with this *Grass* is the more important, because, as is well known, the great value of the Palklands to Britain arises from the vast numbers of cattle, (sprung from the original stock left many years ago by the Spaniards) which feed and fatten there, and with which, vessels touching at those islands can be readily supplied. Also, because the nature of the soil and climate producing this grass gives every reason to believe that the shores of a vast extent of England, Scotland and Ireland, would suit it equally well; more especially the Western coasts of the two latter countries- Indeed, public curiosity has already been strongly excited at home upon this topic by the mere newspaper reports, to a degree which is perhaps only known to the writer of this article, who, from the deep interest he naturally feels "in all that concerns the Natural History results of this expedition, and from his connexion with the Royal Botanic Gardens at Kew, has been overwhelmed with applications for seeds and plants of *Tussack Grass*, from the proprietors of unprofitable sandy and peaty soils throughout the British Dominions. To all, his answer has been, that, as yet, no living plants or seeds have reached

Europe, which is, unfortunately, the fact. Already, too, from the best sources, a very excellent account, with a plate presenting the tufts of this grass, has appeared in the *Gardener's Chronicle* for March 4, 1843; a work so deservedly encouraged, that, through its medium, the *Tussack Grass* is, by name and general aspect, rendered familiar to almost every one.

Merrett, who, as above stated, accompanied Bougainville & the French ship, *La Boudeuse*, in 1766, would seem not to have fallen in with the finer tufts of this grass; if indeed it be not the *Carex trifida* of which he says, "We were half a league distant from two flat islands, which, at first view, appeared as if covered with small copse-wood; but, as we afterwards discovered on landing, it was but tall Bullrushes or Cornflags; they grow, each of them, about 2\ feet high, and afterwards shoot out a tuft of green leaves, to nearly as much height more/

Bougainville's own notice of the plant is far more correct: All the sea-coast and islands are covered with a plant, which has been erroneously termed a Cornflag; it is, however, a species of grass, of the most beautiful green colour, and growing to a height of 6 feet. It forms a hiding place for the sea-lions and sea-wolves, and served as a shelter to ourselves during our wanderings. A house may be formed of it in a very short space of time; the inclined stems, when fastened together, serving as a roof, while the dried straw makes a tolerably good bed. With this plant we also thatched our dwellings. The root is sweet and nutritious and preferred by beasts to any other food."

The Botanist, M. Gaudichaud, who accompanied Freycinet in his Voyage round the World, after enumerating the remarkable plants of the Falkland Islands, thus speaks of the *Tussack Grass*. « Finally, there is one production of still higher interest, because it furnishes abundance of nourishing food all the year round, and this is the great Grass, *Festuca Roburcula*, which covers two thirds of the Isle of Penguins,

and the other islets in the French Bay, and moreover, according to the statement of M. Orne, may be seen in equi-
 profusion on the shores of all the Falklands. The plant
 grows from 4 to 6 feet high, its leaves are sheathing and
 compressed. The inner portion of the stem, to the height of
 5 or 6 inches above the root, is white and soft, crisp, agree-
 ably flavoured, somewhat resembling Filberds, and very
 wholesome. This substance consists of the inmost sheathing
 bases of the central leaves and stalks closely compressed, and
 encased within each other. The taste is perhaps most like
 that of the highly esteemed *Mountain Cabbage Palm*.⁹

Mr. Wright brought home a similar account of the *Tussack*
Grass, and assured us that its young shoots are boiled and
 eaten like asparagus. He also showed us specimens and
 a drawing of the tufts of this Grass, as they appear in the
 islets; From this drawing the woodcut was made for the
Gardener's Chronicle, and the editor of that work has had the
 kindness to place the block in our hands, to be used on the
 present occasion. By far, however, the most interesting
 account of the *Tussack Grass* is that given in the Report
 mentioned, which was sent by the Governor, Lieut.
 Moody, R. E., to the Colonial Office.

"During several long rides/" he says, «into the country,
 I have always found the *Tussack* flourishing most
 in spots exposed to the sea,* and on soil unfit for any
 plant, viz. the rankest peat-bog, black or red. It is
 to observe the beaten footpaths of the wild cattle and horse ;
 marked like a foot-track across fields in England; "tending
 for miles over barren moor-land, and always terminating
 some point or peninsula, covered with this favourite fodder
 amid which one is almost certain to meet with solitary
 bulls, or perhaps a herd of cattle & very likely a troop of

* "The wild west coast of Ireland would exactly suit this grass."

t "The poor soil, above described, covers about one fourth of the
 face of the country and is the worst of all, as to herbage."

horses, just trotting off as they scent the coming stranger from afar. To cultivate the *Tussack Grass*, I should recommend that its seed be sown in patches, just below the surface of the earth, and at distances of about 2 feet apart; it must afterwards be weeded out, for it grows very luxuriantly, frequently attaining a height of 6 or 7 feet. It should not be grazed, but cut and reaped in bundles. If cut, it quickly shoots up again, but is much injured by grazing; for all animals, especially pigs, tear it up to get at the sweet nutty-favoured roots. I have not tried how it would be relished if made into hay, but cattle will eat the dry thatch off the roof of a house in winter; their preference to *Tussack Grass* being so great that they scent it a considerable distance, and use every effort to get at it. Some bundles, which had been stacked in the yard at the back of Government House, were quickly detected, and the cattle from the village made, every night, repeated attempts to reach them, which occasioned great trouble to the sentry upon duty."

The same Report contains also Dr. Hooker's description of the *Tussack*, which I here transcribe, and to which I have unwisely added a figure and analysis, also sent home by the same Botanist. Dr. Hooker speaks of it under the name of *Styruca flubellata*, and it is certainly the plant so called by Linnæus (who described it from Commerson's specimens, Bothered by the latter Voyager in the Straits of Magelhaens,) and of the French Naturalists; but he correctly refers it to the genus *Dactylis*, and suggests that it may probably be the *Dactylis caspitosa* of Forster. A comparison with the original plants, though very indifferent specimens, deposited by Forster in the Banksian Herbarium, prove that Dr. Hooker is quite right in this idea. Forster found the plant growing at New Year's Island, near Staten Land, and says of it that the *Magelhaenic Shag*, (*Pelicanus Magelhaenicus*), commonly builds its nest upon the top of the great tufted bases of this plant, which are often two feet high.

DACTYLIS oaspiTosA. (Tab. IX. X.)

Panicula spiciformi densa interrupta valde compressa, locustis brevissime pedicellatis late ovatis 4-floris, glumis subaequalibus, palea inferiore puberula apice bifida breviter anstata, culmis validis compressis foliisque longissimis distichis glaberrimis.

Dactylis caespitosa. Forster in *Comment. Goett.* 9. p. 22-MBd. fa PL v.l. p. 407.

Pestuca cespitosa. Rom. and SchulL *St/st. Feget.* v. 2-P-732. Kunth, *Agroslogr.* p. 408.

Festuca flabellata. Lam. *Encycl. Bot.* t. 2. p. 462. Gaud, in *Ann. des Se. Nat.* v. 5. p. 100., and in Freyc. *Voy Bot.* * 409. D'Urv. in *Mém. Soc. Linn.* v. 5. p. 603., and in *Freyc. Voy. Bot.* p. 36.

HAB. New Year's Island, Staten Land, Forster. Straits of Magelhaens, Commerson. Hermite Island, Cape Horn, D. Hooker. Falkland Islands, in the neighbourhood of the sea, on peaty, rocky and sandy soil, very abundant:—not seen inland.

This remarkable *Grass* is perennial, and forms, with its densely matted roots, crowded but isolated hillocks, or tumuli, 3-6 feet in height, and 3 or 4 feet in diameter, from which the leaves and stems spring. *Roots* fibrous, the fibres very tortuose. *Stems*, or *culms*, numerous, rising from the hillocks, erect, branched or divided only at the base, 3-4 feet long, smooth, compressed, leafy, pale yellow, abounding in saccharine matter, and when young, esculent, even for man. *Leaves*, the lower ones very long, not unfrequently 5 to 7 feet, exceeding the length of the stem, 1 inch broad at the base, and gradually tapering to an acuminate point, the upper side is channelled from the involute margins, from above the middle they are curved downwards, or are even pendent; the stem-leaves are gradually shorter upwards, erect, the sides involute, their colour a pale glaucous green. The *sheath** are, like the stem, compressed, smooth, striated, cleft **

the top of the *ligule* very thin and membranaceous, rounded, a little longer than broad. *Panicle* a span or more long, tense, so much so as to form a slightly interrupted (not continuous) *spike*, 2 inches broad, compressed, obtuse;—the branches short, erect; the rachis angled. *Spikelet* (or *Locusta*) composed of 3-4 florets, of a pale yellow-green colour. The *calycine glumes* are lanceolate, acuminate, longer than the spike of flowers, slightly keeled, shortly ciliated on the back, 3 lines long, the margins a little involute, and as well as the apex, membranous and transparent, the superior one a little longer than the other, 3-nerved, the nerves ciliated. The *lower glume* or *palea* of the corolla is ovate, concave, compressed, sharply keeled, bluntly trifid at the apex, with the middle one of the three teeth the longest and somewhat incurved and awl-shaped, 5-nerved: the lateral nerves above evanescent, the margins scariose, the keel and nerves ciliated; the upper one much shorter than the lower, and with a double keel, 2-nerved, emarginate at the apex, except the 3 nerves, which are ciliated and green. *Hypogynous scales* broadly obovate, obliquely 2-lobed, the lobes ovate, acute, their margins laciniated, they are membranous, transparent, and only a little shorter than the ovary. *Stamens* 3. *Anthers* pale yellow. *Ovary* nearly ovate, glabrous. *Styles* elongated, approximate at the base. *Stigmas* plumose, *Caryopsis*, or *fruit*, elongato-ovate, or almost cylindrical, slightly trigonous, of a pale yellow colour, and smooth.

References to the plate, and analysis of *Dactylis caspitosa*. T. IX, X. Fig. 1. spikelet of flowers, / . 2. single flower, / . 3. Stamens, pistil and hypogynous scales, / . 4. one of the hypogynous scales, / . 5. pollen-granules:—more or less magnified.

The opinion of the writer of the foregoing description is, with proper attention to its propagation and locality on the coast, and preservation from being entirely eaten where it already abounds, the *Tussack Grass* would,

alone, yield abundant pasturage to as many cattle as there is ever likely to be a demand for on the Falklands.

The same writer proceeds to inform us that the immense abundance and luxuriant growth of this Grass, render it quite a striking feature in the landscape. The roots form great balls, which even rise 5 or 6 feet above the ground, and the long leaves, springing from the culms, hang down all round in the most graceful manner. The heaps or « tussacks'' grow generally apart, but within a few feet of each other, the intermediate space of ground being quite bare of vegetation, so that in walking among them, you are perfectly hidden from view, and the whole *Tussack ground* forms a complete labyrinth. (*See the adjoining Wood-Cut*).

The experiment of cultivating this valuable Grass promise^d to answer well in the Falklands; where, in the Governor's garden, it was coming up strongly from seed, drilled in rows, like Turneps. It must, however, be taken into consideration, that for *Tussack* to thrive in this country, the plant must so far change its habits of the Southern Hemisphere, as to forget that our winter is its summer, and vice-versa.

D'Urville says that the Penguins build their nests and hatch their young beneath the shady tufts of this grass.

The same despatch to the Colonial Office, in which the above description is given, contains also a letter from the botanist of the Antarctic Expedition to the governor, in which another grass, among the many valuable *Graminea* which the Falklands produce, is particularly noticed. This is of scarcely inferior importance to the *Tussack*, and being much more universally diffused over the islands, it must be far less particular as to soil and situation! It is a kind of *Fescue-Grass*, the *Festuca Ahpecurus* of D'Urville (*Arundo Alopecurus*, Gaudichaud). In the Report presented to Govr. Moody by the botanist, and transmitted to Lord Stanley, it is stated: "Another grass, however, of far more extensive distribution than the *Tussack*, scarcely yields to it in nutritious qualities, ~~It~~ covers every peat-bog with a dense and rich clothing of

Tussock Grass of the Falkland Islands, from the original drawing in the possession of Sir W. J. Hooker.



green in summer, and a pale yellow, good hay during the winter season. This hay, though formed by nature without the operation of mowing and drying, keeps those cattle which have not access to the *Tussack* in excellent condition, as was proved by the beef with which our hunting party was supplied, for four months, the Discovery Ships. No however rank, seems too bad for this plant to luxuriate upon, and as was observed during a surveying excursion, which has been made to Port William, although the soil on the districts was very unprolific in many good grasses, flourish on the clay-slate, and was, generally speaking, of the worst description, still this *Fescue-Grass* did not appear to be affected by the difference, nor did the cattle fax down large tracts of such pasturage.

" The numerous troops of horses, too on the flank of Wickham heights, can procure little other fodder; those of Mount Lowe and Mount Vernet must depend entirely. Should the *Tussack* disappear from any part of the Falklands where stall-fed cattle are kept, it might be advisable to treat this *Fescue Grass*, as hay in which process its nutritious qualities would, doubtless, be much better secured to the animals during winter, by gathering them till nature has evaporated all the juices. *when converted into hay, it might also answer well, *when converted into hay, seems likely that the wet nature of this grass, together with the damp situations where it grows, would prevent creatures from thriving upon it, if restricted to a diet; and at all events, newly imported flocks should not be suddenly removed from dry food to what is of so very succulent a nature/'

The Governor states in another despatch to the Colonial Office, that two Americans who wandered upon the land for fourteen months, lived upon the roots (P¹⁰ their young shoots from among the roots) daily, and formed huts of the cushion-like base, rolling one to the small way or opening when night came on.

The species of Phaenogamic plants that came under the notice of the Botanist during the winter-months spent at the Falklands, are thus enumerated in his letter; the names being, of course, subject to future revision. The numbers correspond with those in the collection.

1. *Hieracium* (*Melica Magellanica*, Des Rouss.)
2. *Agrostis*, *Aira*.
3. 4. *Gunnera Magellanica* (*G. Falklandica*, Hooker, Ic. Plant. t. 489, 490). The embryo has a superior radicle in a Pendant seed.
5. *Portulacaceous* plant, *Colobanthus*, Bartling and Endlicher, closely allied to *Spergula apetala* of Labillardiere from Van Diemen's Land.
6. A magnificent *Carex*, the "false Tussack" of the Falklands, probably *C. trifida* of Cavanilles.
7. *Trisetum*?
8. *Gaimarda australis*, the natural order very doubtful.
9. *Triticum*.
10. *Arundo Alopecurus*?
11. *Agrostis*.
12. Ditto.
13. Ditto.
14. *Poa*.
15. *Festuca*.
16. Ditto.
17. Ditto.
18. *Agrostis*.
19. *Festuca*.
20. *Agrostis*.
21. *Empetrum rubrum*, "Diddie-Dee" of the Marionists.
22. *Callixene marginata*.
23. *Arbutus* (perhaps rather a *Gaultheria*) *microphylla*?
24. *Nanodea muscosa*.
25. *Myrtus Nummularia*, used as tea.
26. *Crucifera*.
27. *Cardamine glacialis*, D.C.
28. *Arabis Macloviana*, of the Plant, t. 498 (*Brassica*, Gaudich.).
29. *Pernettya empetrifolia*.
30. *Atriplex*.
31. *Ranunculus*.
32. *Statice cespitosa* Poir.
33. A plant unknown to me, but found also in Berguelen's Island.
34. A singular umbelliferous plant, paving the fructification of *Hydrocotyle*, but with fistulose leaves.
35. *Caltha sagittata*.
36. *Ranunculus hydrophilus*.
37. *R. bitematus*.
38. *Stellaria debilis*, Gaud.
39. Specimens of *Myriophyllum*, showing that *M. elatinoides* and *M. & natum* are one and the same.
40. *Bulliarda moschata*, Gaud.
41. A *Scleranthaceous* plant (*Mniarum biflorum*).
42. *Wiliotrichum amelloides*, Cass. (Ic. Plant, t. 485).
43. *Ho-*

Probably a species of *Cranteia*, Nuttall, of North America, and identical with *C. attenuata* from Buenos Ayres (Hooker and Am. in Contributions to a Flora of South America.—See Hooker, Bot. Misc. vol. 3, p. 34). I possess a third and very distinct species, from the Andes of Quito, sent by Dr. W. Jameson.

moianthus echinulatus (Ic. Plant, t. 491.). 44. *Abrotanella emarginata*. 45. *Nassauvia Gaudichaudii*. 46. *N. serpent**
 47. *Smedo vulgaris*. 48. *S. candican8*. 49. *Chabrea graveolens*. 50. *Aster Vahlü* (Ic. Plant, t. 486). 51. *Macrorhynchus rrunilus*, DC. 52. *Taraxacum*. 53. *Chevreufia hj^{c0}, podioides*. 54. *Composita?* 55. *Baccharis 3-dentata*. 56-
Gnaphalium affine. 57. *Senecio lit tor alls, var. lunatus⁵⁸*.
Azorella hjcopodioides, Gaud. 59. [^]4. *filamentosa ?* (not o^f Lamarck, nor of Ic. Plant, t. 591). 60. Bo/aa? Ofefosria (ic^f Plant, t. 492). 61. *Caldasia*, probably *Azorella daucoides o^f* D'Urville; but a true *Caldasia*. 62. *Celeri {Apium graveolens}*.
 63. An Hydrocotyloid plant, perhaps [^]ore/to *Ranunculus** IVUrv. 64. #M6M« [^]oirfes (Ic. Plant, t. 495). 65. Ferorrifj *serpyllifolia?* but the stem furnished with minute hoo^{ke^t} pubescence. 66. *Caltha appendiculata*. 67- *Gentiana Mag^{gel-}* fowica. 68. *Calceolaria Fothergillii*. 69. Oa?fw^{phyl^e} [^] (Ic. PL t. 449); this is an esculent, its foliage, as that of • *crenata* from Chili, makes excellent tarts and jellies. 7[^]- *Lit-* *torella ?* 7-3. *Rumex*, perhaps *Acetosella*. 74. A hig^{^y} [^]j rious and 1 think new genus of *Qrucifer<R>* with long *un^{it-} to the seeds. 75. *Gunnera* (vid. No. 4). 76. *Viola macula^{ta}* (Ic. PL t. 499). 77. [^]oerca *adscendens*. 7*- *Nerterta* »• [^]re«*a ? but very different from the Bay of Islands' p^{hⁱ} 1^v
 79. *Gatom trifidum ?* 80. *Primula*, not distinguishable fron^t *P. farinosa*. 81. *Praia repens*, 82. *Lysimachto*, p^{r^oba!^{\y}} /., rpe?w, D'Urv. (Ic. PL t. 536); but this, again, is possibly too nearly allied to *Anagallis*. 83. *Actena lucida** var. JH^{o^s*#}
 84. *Sagina*, near *S. procumbens*. 85. *Arenaria media*. ⁸⁶ *Cerastium viscosum*. 87. *C lineare*, of Gaudichaud, if^{not} o^f Persoon, but too close to *C. arvense*. 88. *Stellaria media**
 89. *Poa awwwa*. 90. *Carea?*. 91. Ditto. 92. Ditto. 93- *Oreobolus obtusangulus*. 94. Jwwc* *grandiflorus*; the solitary-flowered species should form a separate group, (thi^s is *JMarsippospermum* of Desvaux, and Hook. Tc. PL t. 533). 9⁵, *J. Magellanicus*. 96. *J. Scheuchzerioides*. 97- Lwjrwfa iito/[^]- *cwus*. 98. *Sisyrinchium fiiifolium*. 9[^]. *Chlorata?* |⁰(¹).
Eleocharis. 101. Ditto. 102. [^]sfe/itf *pumila*. 103. [^]^[^]

OF THE ANTARGIIC VOYAGE.

¹⁰1. *Tussack*, (*Dactylis ccespitosa*, Forst.) 105. *Gnaphaliuin*
~~consortium~~
~~um.~~

^c As the ships remained a few days at the Falkland Islands, after their return from Cape Horn, it is to be presumed that further additions were made to the collection, since the early ^aUnimer was approaching; indeed, the botanist says, on one occasion: "I this morning took off my hat to the first flowering specimens of *Viola metadata* and *Calceolaria Fothergillii*."

We have now only briefly to notice the botanical results contained in the latest and very recent intelligence that has been received from the "Erebus and Terror," namely a Voyage made from the Falkland Islands to St. Martin's C^oye, Hermite Island, which lie westward of Cape Horn, ^wh^och noted promontory they consequently had to double, ⁿow for the second time, in order to attain it. By the naturalist, indeed, this visit could not fail to be hailed with peculiar pleasure; for, although situated in a higher, or more southern latitude than the Falkland Islands (nearly 56° of south latitude), or, indeed, than any spot, yet explored by the expedition, possessing aught of vegetable life; yet it was well ascertained to be a forest land, and that this forest was composed of two species of little known, yet highly beautiful *Beech-trees*, the one having deciduous and the other evergreen foliage. A third and still more interesting evergreen tree (for a tree it may be called, seeing that it attains a height of 40 to 50 feet), is the once celebrated *Winters Bark*, (*Drimys Winteri* of Forster). By its first discoverers, its virtues were highly vaunted; but soon the bark of *Canella alba*, being much more easily procured, was substituted for it, and our antarctic *Drimys* is now unknown in the practice of physic.

To accomplish this voyage, the ships, with a portion of the officers, left Berkeley Sound on the 6th of September, the spring of these southern latitudes, and arrived at their place of destination on the 21st of the same month. Hermite Island may be considered the most southerly spot on the globe where any thing like arborescent vegetation is to be found; and this

circumstance is perhaps attributable to the proximity of the island, through the medium of Tierra del Fuego, to the southern extremity of the continent of America, which abounds in forests, the seeds from which may have been carried by birds, or wafted by winds and waters. The particulars of the peculiar productions of this country have not yet been transmitted; for the latest accounts were written soon after the return of the "Erebus and Terror" to the Falkland Islands on the 13th of November, and the time destined to examining and determining the specimens was during the ensuing voyage to the ice; but the following hasty list of the phaenogamous plants, gathered during their brief stay, has been communicated.

" 1. *Misodendron punctulatum*, Banks; but the character of the fructification is at variance with that of Pöppig in Endliche's Genera. 2. A most curious little saxifrageous-looking plant and with the habit of *S. bryoides*; the leaves are singularly bicuspidate, the fruit is superior, 2-celled and has two styles, yet it does not look like the capsule of a Saxifrage. 3. *Stortice*, on the hills, where the snow has just left the ground. 4. *Scleranthea*? probably a *Mniarum*. 5. *Pernetia*, which ascends to the tops of the hills, 1750 feet. 7- Something quite new to me, not found in flower, but it has since shown blossoms in the Ward's case,—not yet examined. 8. *Azorella*? 9. *Gomposita*? 10. *Abrotanella*. 11. *Azorella lycopodioides*. 12. *Festuca*. 13. *Empetrum rubrum*. 14. *Carex*, very small. 15. *Caltha*, or an allied genus, near *C. appendiculata*; the leaves 2-lobed, lobes incurved and conduplicate, and fringed at the margin, reminding me of the leaves of *Dioruea*; there

* In my Herbarium are specimens of this plant from Forster's Collection, given me under the name of "*Oxalis Magellanica*" Forst. Impertinent as is the description of *O. Magellanica*, it is quite impossible it can apply to this plant, which belongs to the same group of *Caltha* as *C. appendiculata* and *sagittata*, so far as the appendages to the leaves are concerned; but these leaves are, otherwise, highly curious. The plant appears to grow in dense tufts, 2-3 inches high, thickly clothed with leaves and sheathed by the exceedingly large membranaceous stipules, two or three

besides, the same little ear-like appendages at the base. 1. & *Misodendron*, in flower, different from No. 1, having three stamens instead of two. 17. *Caltha appendiculata*. 18. Our friend Menzies' * *Viola 3-dentata*? 19. Several forms of *Arbutus* (*Pernetia*) *mucronata*, for it is a very variable plant. 20. *Azorella*. 21. *Oreobolus obtusangulus*. 22. *Veronica decussata*. 23. *Gunnera*, the same as the Falkland Island species (*G. Falklandica*, Ic. Plant t. 489, 490). 24. *Nummularia*. 25. *Juncus*, 26. *Sisyrinchium*? very

the size of the leaf itself; they are petiolated, and at first sight might be taken for the closed leaves of *Dionaea* being orbicular, fleshy, simply cut into two parallel lobes, which are fringed at the margins, and folded the one upon the other, exactly as in the well-known *Fly-Trap* of America. On these lobes being forced back, however, they are found to enclose the two curious appendages of the base (like those of *Caltha appendiculata*. See Delessert's *Icones*, v. 1, t. 43. and *C. sagittata*. See *Cavanille's* *Icones*, t. 414), notwithstanding that these lobes are themselves almost as large as the leaves; so that, when opened, the leaves are in reality 4-lobed, the lesser ones closely applied or folded upon the face of the larger ones, and these two folded again laterally upon themselves. The smaller lobes, or appendages, as well as the larger ones, are equally dutifully ciliated, and the inner faces of all are, besides, concave and minutely papillose. I shall propose for this plant the name of

Caltha (*Psychrophila*, DC.) *dioneaefolia*; minuta, densissime caespitosa, ramosa, foliis petiolatis orbiculatis carnosis bilobis lobis couduplicatis appendiculisque appressis* pulcherrime setoso-ciliatis intusque minutissime papillois, stipulis membranaceis maximis, pedunculo unifloro vix foliis longiore, sepalis 5 ovato-oblongis, staminibus 5-9, ovariis sub-3.

HAB. Tierra del Fuego, *Forster*. Herraite Island, at the southern extremity of Tierra del Fuego, / *D. Hooker*.

* It was only on returning to the Falklands from Cape Horn, and just previously to writing the above, that Dr. Hooker had received intelligence of the death of his venerable friend Mr. Menzies, for whom he, in common with all those who knew his worth, entertained a great affection. Many notices of the stations of rare plants in distant regions did Mr. Menzies give to our young botanist before his embarkation, and the news of the decease of such a friend could not fail to touch him deeply, while traversing seas which had been visited by that amiable man fifty years before, when on his voyage round the globe with Capt. Vancouver.

small and curious, with singularly compressed fruit.* 27-
Colobanthus? 28. *Plantago*. 29. *Deciduous Beech* {*Fagu**
Antarctica of the London Journal of Botany, v. 1, t. 6), fl. * •
 30. *Acarna*. 31. Variety of *Catiha sagittata*. 32. *Cerastium*-
 33. *Primula*, probably identical with that which is found in
 the Falkland Islands. 34. *Juncus grandiflorus*. 35. *Grand-*
nea. 36. *Drimys Winteh*; the wood of this tree has a glandular
 tissue, as in the Pines, and the genus *Tamannia*. 37-
Berberis ilicifolia). 38. *Berberis* (with foliage quite entire, as
 in *B. microphylla*, Forst., but verrucose flowers, like those of
B. ruscifolia. 39. *Escallonia serrata* (Ic. Plant t. 540). 40.
Hahragea. 41. *Buttiarda*. 42. *Ericacea*, but undetermined 5
 habit like *Pernetia*, but fruit a dry capsule, and the calyx
 wholly inferior and not in the least fleshy. 44. *Donatia Ma-*
gellanica. 45. *Pernetia*. 46. *Compodta*. 47. *Nanodeamus-*
cosa. 48. and 49. *Composite*. 50. *Thalktrum?* 51. *Fagus*
~~*Forsteri*~~ (London Journal of Botany, v. 2, t. 8) ?. Probably
 among the specimens there may exist the *F. betidoides* of
 Mirbel (M6n. du Mus. d'Hist. Nat. v. 14, p. 469, t. 25, PL ⁶
 in text, and *F. dubia*, Mirb. in the same work, and vol. PL 47 * >
 t. 26, in text, PL. 7 ₅ which that author himself believes to be
 only a variety of *F. betuloides*, and there is good reason to
 believe this is identical with the *F. Forsten*, or *Betula Antarc-*
tica, Forst.). 52.—?. 53. *Ranunculus biternatus*. 54. M>-
gukula! one specimen only with fruit, and a withered corolla
 upon it. 55. *Leptinella?* 56. *Galium*. 57. *Oxalis*. 58.
Drosera. 59. *Cardamine*. 60. *Apium*. 61. *Chiliotrichum*.
 62. *Azorella filamentosa*. 63. *Pratia?* 64. *Acem?* ^{65#}
Gunnera. 66. *Cineraria leucantha?* 67. *Cineraria?* ^{68*}
Tussack {*Dactylis caspitosa*) in full flower. 69. *Graminea**
 70. *Undnia*. 71. to ?6. Different Grasses, with only the
 withered remains of last season's flowers. *IJ.Torresia*. 7 &
THticum. 79-*Gaimarda Australis*. *SO. Astelia pumi/a*. *Si.*
Tetron dum Magellanicum (Ic. Plant, t. 534). 82. *Oreobolus*.
 83. *Callvvene*. 84. *Juncus*.

* This was found by Mr. Wright in the Falkland Islands.

^cThe *Cryptogamite* are far more numerous, and I have paid particular attention to these, because others Naturalists can collect phaenogamous plants, while few will be disposed to devote that minute attention necessary for the investigation of this Class. It has been an object with me to gather as many species as possible of each Natural Order, being extremely anxious to ascertain the proportion which the Natural Orders bear to each other in their respective Antarctic longitudes, and to each other in their own localities : as a matter of primary importance in the elucidation of Botanical Geography, and as evincing the effects of climate upon the Vegetable Kingdom, several of the tabular results I have already hastily drawn out show a delightful accordance; nor do I know of any result of this expedition which has given me so much pleasure as to find how beautifully certain groups rise in the scale as we proceed south, proving the accuracy of the late Mr. Brown's views. As we advance in the Antarctic Regions, *Fungi* disappear and *Lichens* increase. Among the *Mosses* the *Pleurocarpi* diminish in proportion to the *Aerocarpi*; as does the relative number of *Pleurocarpi* which bear fruit, to those which are barren; *Cyperacea* decrease, and *Dicotyledones* bear a smaller proportion to the *Monocotyledones*."

Our latest tidings of the Antarctic Expedition were dated the Falkland Islands, Nov. 30th ; about a fortnight after its return from Hermite Island, and on the point of proceeding, it was expected, again to the south, in Weddell's track; where, we trust, to visit some of the New South Shetland group, where a Grass (*Aira Antarctica*) published by us in the "^cIcones Plantarum/" was found, and which is perhaps the most southern phaenogamic plant yet known to us. However, to the departure of the "Erebus" and "Terror," two very large Wardian cases were despatched to the Royal Botanic Gardens of Kew, filled with plants, the one the productions of Hermite Island, Cape Horn; the other containing the plants of the Falkland Islands, which latter was filled by the kindness of Mr. Lyall of the "Terror."

The boxes encountered a most stormy passage, but it is with infinite pleasure I can state that several of the most interesting among the plants have arrived in good condition and bid fair to prove great acquisitions to our Gardens, and I trust I may say to our Forest Scenery; for among those that have reached their destination in the best state, are healthy young trees of the beautiful Evergreen Beech (& *Forsteri*), the Deciduous Beech (*Fagus Antarctica*), and Winter's Bark (*Drimys Winterti*). So far as I know, the first of these have never been introduced alive to this country, before; while the latter is so rare that, I believe, previous to the present importation, the only plant of *Winter's Bark* that existed in Europe, is the fine specimen, 12-feet high, in the Royal Botanic Gardens of Kew. Now, all the and several herbaceous plants in the Collections, such as *Gunnera Falklandica*, *Caltha appendiculata*, *Berberis* with its fine holly-like leaves, as the name imparts, and flowers larger than those of any known species of the *Pemettia*, *Lomaria Magellanica*, *Asplenium Magellanicum* promise to do well. Many other plants had been in the Cases, but did not survive the voyage: as young plants of the *Tussack*, a great number of the fine *Mosses* and *Jergmannite* of *Tierra del Fuego*, especially the noble *Jrochum dendroideum*; these all perished. Already the duplicate living specimens are dispersed, far and wide, among many friends of the Royal Botanic Gardens, and every exertion will be used by the recipients, and by ourselves; to increase the stock of these interesting strangers. It is lamented that the season of the year (winter) did not allow of perfect seeds of the *Tussack* being sent; but the Governor, in his letter to Lord Stanley, has promised to collect and forward ripe seeds, and has suggested that the Grass worthy of trial, not only on the coast, but even in an inland situation, such as *Chat-Moss*; and the success, which has attended the germination of the seeds in Governor Moody's garden in the Falkland Islands, is certainly encouraging-

Although, as already noticed, our letters from the officers of the expedition bear date only to Nov. 30th 1842, we have re-

^ ived information by a more recent arrival from the Falklands,
 ftat the Erebus and Terror did not proceed to the south till
 after ^ first week in December, when, summer having com-
 menced, we may confidently hope that the Botanists reaped
 *good harvest of flowering plants. It is believed that it was
 Capt. Ross's intention to proceed in the direction of Capt.
 Weddell's route, in order to verify his statements : in which
 case there exist many interesting groups of Islands in the
 way, which we trust will be visited. What success may have
 attended the navigator's approach to the Pole in that direc-
 tion it is vain for us to conjecture. Of one thing we feel
 sure that the gallant commander will perform all that a
 British navigator can do, and that the same spirit animates
 every officer and seaman attached to the Expedition. Should
 no further discoveries be made than have already been
 effected by this Voyage, yet these, we have reason to know,
 when the results shall be published, cannot fail to add to the
 glory of this nation, high as it already stands, in all that
 concerns maritime discovery and scientific research.

Royal Botanic Gardens, Kew.

May 25, 1843.

While correcting for the press the last sheet of the above
 notes, the joyful news has reached England of the safe arri-
 val of the Antarctic Discovery Ships at the Cape of Good
 Hope, on the 4th of April, after a third cruize in the dreary
 South Polar Regions, where they were brought up on the
 5th of March, 1843, by the heavy. Pack ice, in lat. 71° 30',
 long. 15° W. This point was a few miles to the south of
 any previous navigator but Weddell (themselves excepted),
 and, several degrees* nearer the South Pole than had been

* The only account within my reach of the last Voyage of D'Urville
 (the Expedition of the Astrolabe and ZèUè) is given in a volume published
 at Paris, 1843, entitled " *La Polynésie et les Isles Marquises.*" There it
 is stated that "the two ships," just mentioned, were at Port Famine, Pata-
 gonia, and as the month of December had arrived, it was high time to
 proceed towards the Pole. Weddell was the individual whose steps they

attained by the brave but unfortunate D'Urville, during his attempt to follow in the same (that is Weddell's) track.

wished to follow. Cook, in 1775, had met with ice in the 60th degree; Powell, in 1721, had been unable to proceed beyond 62; Biscoe had attained 63 with difficulty, while Weddell declared that he found open water as high as the 71st degree. The ships accordingly sailed in the same direction and through smooth seas; but, on the 18th of January, an iceberg eighty feet high, was suddenly seen ahead of the *Astro la*. These floating masses became more and more numerous, and on the 22nd, in lat. * about' 65 degrees, an immense barrier was descried stretching all along the line of horizon. It would be difficult to conceive the magnificence of this threatening spectacle; in which the eye continually seems to descry some striking work of architecture; as if gothic cathedrals of the richest sculpture, or groups of glittering obelisks and temples gigantic as those of Ellora, or perhaps vast quarries of sparkling marble, or an immense city, bristling with edifices, all as if viewed through the vapory and confused mist of dawning morn.

" Had not this scene been replete with perils, the eye might have gazed upon it with delight; but the danger was too pressing, with the foe in full view. For several days, the ships coasted this eternal wall, in hope of detecting some aperture, and every where it presented the same firm and formidable appearance. Many times the ships were entangled amidst enormous glaciers, till on the 3rd of February, a barrier, 200 toises broad, cut off their return to the open sea. What was the terror of the crews, and how earnestly did they labour to extricate themselves with levers, saws, and hatchets! By dint of ropes and manual exertions, the ships were, in five days, hauled into a narrow lane between the iceberg and the wind becoming favourable, they hoisted all sail and made a noble and successful effort; and alternately pushing and being pulled, though at the risk of flying into a thousand shivers, they gained the open water. Thus safe, though much damaged, the vessels escaped from a week of appalling confinement.

"This convincing proof seemed to forbid any exposure to new perils on the faith of Weddell. But loth to quit these latitudes with only disappointment, M. D'Urville pursued the line of the barrier for three hundred miles, and only quitted it when accumulated ice blocked off his passage. He then returned upon the Orkneys and the eastern shore of New South Shetland, completing their geography; and being anxious to ascertain the true nature of those snowy peaks to which whalers had assigned the names of Palmer's Land and Trinity, and which had also been variously called by Forster, Biscoe, and Morrell, he made for these

A brief sketch of this last cruize will be the more interesting, because, on this occasion, probably owing to the frequent occurrence of islands, and the comparative proximity of the South American continent and the Falklands, vegetation, such as it is, and requiring almost the eye of a botanist to detect its existence, was detected in latitudes far more southerly than during either of the two previous voyages.

The Expedition quitted Berkeley Sound, East Falkland, on the morning of the 17th of December, 1842, and making all sail, ran to the southward, with fresh breezes, gales, and much misty, foggy weather, till the 24th, when the position of the ships was a little eastward of Clarence Island, though the thick atmosphere prevented the land being made. On that day the navigators fell in with the first berg and much rotten ice, and saw some birds, the white *Chionis* of the Falklands, which are always a sure sign that land is near. On Christmas day, the same cheerless weather prevailed, though it must be remembered that the 25th of December is the midsummer of the Southern Hemisphere: snow-squalls and furious winds from the S.W. assailed them; but the evening becoming clearer, many icebergs were discerned, and the first white *Petrel* gave intimation that the Pack-ice was at hand,

at the known points. Approaching the land in a different direction from any Previous navigator, our French commandant explored it for a hundred and twenty miles, between 63 and 64 degrees south and 58-62 degrees west of Paris and found its coast everywhere crowned with numerous peaks, and covered with unmelting ice. To the largest portion of land was assigned the name of Louis Philippe; the smaller ones received various appellations. During the progress of this fatiguing service, the season became late, and scurvy having seized the crews, it was necessary quickly to quit these dreary regions, and regain one of the ports of Chili. When the ships reached Conception, forty men on board the *Zelee* were unfit for service; and though only fifteen were sick in the *Astrolabe*, yet the disease was making progress, and the Commandant himself began to show symptoms of it. Careful medical treatment, a salubrious regimen, and the air of land, quickly banished this scourge, and brought health back to the countenances of the navigators, so that when they cast anchor in the Bay of Valparaiso, the number of scorbutic individuals was reduced to three."

for these beautiful birds are never seen away from the immediate edge of the Pack 5 and the ships accordingly fell in with it the same night. First passing through some heavy streams of ice, they made the Pack, running east and west, very heavy and formed of large pieces of rotten ice. Many bergs were floating about, apparently quite out of their element (if such an expression is allowable), for they were much broken up and partially melted, looking very different, indeed, from the huge, hard, tubular masses which the navigators had been accustomed, during their two previous cruizes, to meet with. The fogs continued so dense, that, though the surf was heard dashing over the ice, and thus apprizing the voyagers of the proximity of danger, it was impossible to see anything. On the 28th, the icy hills of Palmer's and Louis Philip Islands were announced by the increasing coldness and closeness of the air, and several large barrier bergs, and much loose ice, floated in all directions. Many birds, large Finer Whales, and shoals of a smaller species, speckled black and white, were observed; and what deeply interested the Botanist, as occurring in such a high southern latitude, the ships passed two much battered patches of *Sea-weed*, apparently belonging to the genus *Macrocystis*, but which it was impracticable to pick up. The land came in sight that evening. It is described as consisting of low hills, nearly covered with snow, with several islands lying off it, and terminating to the northward in a bluff, which is both further to the southward and eastward than the Pointe Franyaise of D'Urville. The aspect is by no means fine or imposing, the land being low and of a rounded outline, apparently but a few hundred feet high, partially bare of snow, and presenting huge glaciers here and there. Icebergs were very numerous, often blocking up the view of the horizon, and the sea was full of loose ice, much of which was stained brown, with those infusorial and confervoid remains, found abundantly by former navigators.

Many seals and penguins frequented the ice in this place, and the "Terror," passing several islets on the coast, was

tabled to pick up a piece of sea-weed, which the surgeon of that ship gave to the botanist on board the "Erebus" by whom it was ascertained to be a singular new *Sargassum*, analogous to, but distinct from, a species previously found on Lord Auckland's Island; and he thus describes it:—

Round pinnatifid, its segments 1½ inch long entire round, Vesicles axillary solitary, and the diameter of a small grape, receptacles crowded together, shortly pedicellate axillary. Colour chocolate brown. Length 3 feet, sparingly branched, dissections of the receptacles are made from the recent plant, and will be sent home.⁰ This sea-weed is probably allied to the *Fucus decurrens*, of Turner's *Historia Fucorum*, and is mentioned by Webster in the Appendix to Forster's Voyage,* under the head of Deception Island, one of the South Shetland group.

Two days were spent in endeavouring to get down to the south-eastward, but snow-storms and heavy Pack-ice rendered this hope fruitless, so that on the 30th, the "Erebus" went her best bower cable, and bore up for the land again, which was approached somewhat to the south of where they had neared it, four days previously. The mountains were here of greater elevation, with several peaks, which were calculated at about 3,000 feet high, and all apparently of volcanic origin, though not active at the present day. Enormous Glaciers might be seen, running along some parts of the coast for many miles, terminating towards the sea in icy Precipices. On the little islands near the land, the snow was often melted; and though low, many of them presented remarkable craters, with numerous and very large icebergs floating round them. Several gulls, terns, cormorants and other sea-fowl were noticed here.

The last day of 1842 was fine and clear, enabling the voy-

* The *Fact*, or *Sea-weeds*, were few and unimportant; the most common was found floating. It was of a pale chocolate colour, stem and branches «c. The mode of reproduction appeared to be from a cluster of buds, appended to the terminal branches."—Forster's Voyage, vol. ii, Appendix, P* 301,

agers to steer to the southward, through openings in the ice with a strong tide or current, and in the evening they deserted a most singular crater-shaped, conical island, to the southwest, backed by what appeared to be other low islands, quite bare of snow, and these again, surmounted by many mountains of considerable elevation and tabular form, covered with snow and ice. What seemed separate islands, however, proved a continued land; and as it was thus impossible to be penetrated, the ships lay-to, among very thick ice; to their disappointment, were wafted northward, along the surrounding bergs, by a tide (?) which required all their efforts to resist, and to maintain their position. #

New Year's Day was also fair; the ships were then made fast to a large piece of ice, with the view of preventing pressure and keeping them from drifting too far. The icebergs were large, and much more like hummocks in their character than is general, appearing as if they had been broken up and consolidated again, full of holes, and covered with soft and cherous snow. Many birds were hovering about the ice, among them, a few King Penguins, weighing (50-70 pounds), with *Hawk-Gulls*, *White Petrel*, and four or five other species of *Petrel*. A heavy northerly gale came on the next day, accompanied with mist and snow, and the ships cast off from the floe and got into a little pool of water, in which they beat about among ice, their object being to get into the bight, and the small crater-shaped island, which they were enabled to do on the 6th, when the weather again became clear, and the sun, to their great delight, shone forth. The

botanist landed on the little island, and found it a most angular spot. He gathered upon it what he calls the ghosts of 18 cryptogamic plants, but there appeared no trace of phœnigairic vegetation; and except one or two of the *Lichens*, the species were extremely scarce. Of *Mosses* he found four kinds, one coming into fruit; and eight *Lichens*; among them, *Parnelia*, the rest being crustaceous, except a tremelloid one; a green species of *Protococcus*, and *Ulva crispa*, apparently identical with the European species found in Hoss's Islet, as stated in the list of Captain Parry's plants: tous, unless the *Red-snow*, spoken of by Forster, should prove the real so named, plant of the Arctic regions, this *Wya crispa*, with *Desmarestia aculeata* also gathered, are the only vegetable productions common to both extremities of our globe, and it would be interesting to ascertain what are the intermediate countries which they inhabit. *Asperococcus bullatus*?, or a very nearly allied species, identical with what is found at Cape Horn, with the remains of *IridtBa*, (also a Falkland Island species, *I. micans*?) and *Oscillatoria*, or *Calothrix*, complete the list. The Botanist says, that though his specimens, the best which circumstances enabled him to procure, are but such poor scraps, that it was almost difficult to identify them, yet he felt it a great consolation, after so long a cruize, to gather any plants in regions far more southerly than vegetation had been supposed to inhabit. "I have prepared," he writes, "drawings of all the plants, one is a very beautiful and scarce little Lichen, a *Parmalia* of a golden yellow colour, with black scutella, which I should like to name after my kind godfather.* The *White Petrel* breeds in the cliffs, and there was a large colony of *Cormorants* and *Penguins* near the sea. I collected

* Little aware that the decease of this estimable man, and elegant scholar, the Rev. Jas. Dalton, late Rector of Croft, in Yorkshire, like that of the venerable Menzie, had recently taken place. Mr. Dalton paid particular attention to the *Lichens*, as well as to the *Mosses*, though he was well acquainted with phaenogamic botany, and with the *Carices* in particular.

specimens of these birds and their eggs; also of the rock and of every thing I could find, without taking my eyes from the plants, I ascended the hill as high as was possible, but could not reach the summit, for we were only allowed a few hours upon the island, and I dared not waste time in making such attempts. As it was, we were not half sufficiently long there to accomplish what I could have wished, for the difficulty I experienced in detecting any vegetation at all, convinces me that much may have eluded my researches, that perhaps double as many plants might have been gathered if I could have staid to seek for them. The *Sargassum* noticed, does not appear to grow on the shores."

The afternoon of the day during which this island was visited found the officers and crew with the less agreeable employment of towing the ships off the land, by the help of all the boats, for the winds were so light and the tide ran so strong that it was difficult for the vessels to hold their own. *At night a fresh breeze springing up, enabled the navigators to pass with difficulty through the very narrow channel, which separated the promontory from the chain of icebergs. This land appeared near inspection, to be an exceedingly slender cape, and covered with snow, with steep banks dipping down to the sea, and with extraordinary cracks and fissures, with its top covered with little cones and craters, apparently formed of a mass of brown volcanic mud, which had cracked while in the process of induration and through which the vents had protruded. Or possibly, this land might be composed of a mass of scooped-out fragments ejected from the little craters, which has been worn into perpendicular escarpments towards the sea, by the action of the tides, and the fissures are caused by the snow melting. The voyagers were much struck by the singular aspect which these isolated pieces of land, quite bare of snow, as of vegetation yet so very near an ice-bound continent, present. The weather continued so thick for three days, that the two ships were enabled to keep company by firing guns and beating gong. On the 9th, as the gloomy atmosphere and thence, closing round >

tendered voluntary progress impossible, and the tide drifted the "Erebus" towards a large stranded berg, the boats were lowered and she was towed off, and after running between two icebergs, she was made fast to a large floe, her position having, even then, to be constantly shifted as the ice turned round. This state of things continued till the 11th, when they cast off from the floe and made for a space of clear water between the Pack and the land, which they reached and then observed a barrier of ice or glacier, presenting a wall which much resembled, though it was on a smaller scale, the barrier ^{encountered} by the Antarctic expedition in lat. 78°. It ^{is} described as meeting the steep shore quite abruptly and ^{forming} a slanting line to the loftier land and mountains forming a sloping wall, perhaps 70 feet high. The bergs which are seen in its vicinity, cannot have formed a portion of it and been broken off, as they are considerably loftier than itself and aground much further from the shores. Far as the eye could reach, this glacier skirted the coast to the south east, the tide running very strong at its base and coloured of a burnt sienna hue by the infusorial and confervoid substance. On the 13th, at 2 P.M., the tide hurried both ships along the lee-ice, (or ice lying to leeward), a most troublesome and unfortunate circumstance, for the ice is, of course, much ^{the} waviest and most closely packed to leeward, and when once a ship gets entangled with it, she cannot sail out. The only mode of extrication by which a vessel can regain the open water windward, whence she came, is to warp out, by fastening lines to the hammocks on the ice, and bringing them to the capstan, gradually, against both wind and ice, heaving her head between the pieces. Several warps require to be out, from different parts at a time, and are hauled on, or brought to the windlass, capstan or winch, according to circumstances. All hands, on board must strain at this work, which cannot be pursued if there is much wind. As it was, five minutes sufficed to carry the "Erebus" into the lee ice on the 13th of February, and three hours were required to get her out again. The "Terror" being a quarter of a mile farther in, was not

clear till next morning, all her men, of course, on deck, and fourteen hours of severe labour were spent in extricating her from this dangerous situation. The same scene of labour and peril was repeated the next two days with increased detention.

But so continued and so fatiguing were the baffling difficulties with which, day after day, and often during many nights, the persevering commander of the expedition and his officers were tried, that we cannot continue to particularise them, and shall sum up their month of January of this year (equivalent to our July) by saying that the time was spent generally near the Pack edge, in fruitless endeavours to proceed towards the south; sometimes beating about in pools of water, and sometimes made fast to floes, with the agreeable diversity of weather afforded by gales of wind, snow-squalls, fogs and misty rain. If they endeavoured to penetrate the pack, which barred their southerly progress, they were beset with the ice and lost much time in getting out, and if they bore away, then the current and the course of the floating bergs took them to the north, the direction which of all others they sought to avoid. On the 4th of February a heavy swell from the north-east indicated the proximity of clear water and by dint of tacking and heaving to they cleared the loose ice, and hoped, by going rapidly to the east, to reach Weddell's track, which Captain Ross trusted to find either quite open, or but little intercepted by ice. The prevalence of westerly winds in these latitudes favoured this supposition. But, as if disappointed point their main object, the expedition was now directed to encounter such a succession of easterly gales, right in their teeth, as they had never met with in all previous experience of Antarctic navigation. The build of the "Erebus and Terror," which one of their officers term "our round-nosed ships," was peculiarly unfavourable to making way against head-winds, and when they had attained a latitude, but a few miles to the south of where D'Urville had been foiled, they found the same heavy Pack-ice blocking up Weddell's homeward passage. Already the increasing darkness

◦the night, forbidding any progress during those hours of obscurity, rendered it impracticable to enter the Pack-ice, even had it been slack enough for them to do so\ and the Captain had, therefore, no choice .but to follow the edge of the Pack, keeping, if possible, to the* southward of the French track, and wherever an opening might present itself, he intended to att^{empt} following it in the direction of the Pole.

Until the 22nd, the Pack was accordingly traced, but on the next day, the ships lost sight of it\ and glad to be making any way to the south, they joyfully began running S.E. clear water, with bergs only, and no Pack-ice in view. For, though the rapidly lengthening nights, and the absolute Necessity of risking navigation in the dark, if any progress at all^{was} to be made, were enough to daunt the courage of those who knew something of the dangers which beset these dreary seas, yet such was the reluctance of Captain Koss and his officers to give up before accomplishing all they wished, that, even at this late season of the year, they persevered in pushing onwards. On the 28th of February they re-crossed the Antarctic Circle, after having experienced another month of most unfavourable weather; for, except one day, it had snowed more or less throughout the month of February, and the sky was constantly obscured with clouds. The temperature, during this high summer of the South Polar climes, varied between 27° and 35°. When the wind blew from the north, coming over the warmer ocean, it invariably brought a thick and foggy atmosphere, the warmer vapours being condensed by the colder sea^{at} this latitude. To this weather the Antarctic Regions are always subject. No great extreme of cold is experienced during summer, and still less any heat, either in the air or the sun's rays, intercepted, as these latter constantly are, by the fogs. • The weather is never genial, and the moon and stars barely, if ever, appear at night, when darkness comes on: probably no climate can be more uncongenial to vegetable life, or to what may be termed the *enjoyment* of human existence either. To add to these discomforts, once a week on an average,

gales of wind are sure to blow, and then, when the ships are in open water, the heavy seas are such as to forbid anything being done with comfort, as the vessel rolls, her bulwarks under water, and all hatches battened down.

Thus time wore on, in fruitless labours, till the 3rd of March, when that rare event, a calm, took place, enabling Capt. Ross to sound, or rather to try for bottom, with 4000 fathoms (24,000 feet) of line. It consisted of 250 fathom of 1-inch rope, and 3.750 fathom off inch, with a weight of p^s iron of 1 cwt.

On the 5th the weather became very thick with snow-squalls, and many Petrels and much berg ice ^{*ere} seen. In the afternoon of that day, the ships again m^{ct} the Pack-ice, and bore up in lat. 71° 30', among the ice, which was very heavy, stretching in every direction far as the eye could reach. The rapidly falling barometer also indicated a gale, -which was the more to be anticipated as the wind had been tolerably moderate for three or four days; and since the proximity of such tremendous masses of ice was very dangerous in the event of a storm, the ships hoisted a press of sail and endeavoured to clear ^{the} Pack and icebergs, which the falling snow rendered it diffi^{cult} for them to descry and avoid. On the 7th, the gale and the snow-squalls continued, and the most intense anxiety ^{V^{ve}} vailed, because of the masses of ice which floated all around. The « Erebus," too, was clogged in her movements by her consort, the ^{ft} Terror/' a much worse sailer, which was very heavily pressed at all to keep up, as the former went divm[©] and tearing through the water. Yet to have parted company might have caused the destruction of one or DOth vessels and their noble crews. No alternative remained bu^t to quit these fearful regions, and, accordingly, on the 9th, t^{he} ships were finally put about. At this time, night commence^d at 8 P.M., and dawn at 4 A.M., and when there was a moon, the state of the atmosphere prevented its showing any lig^{ht}*

On the 11th of March, the Antarctic Circle was re-crossed ; and the navigators began a rapid northerly passage*

amid many very large icebergs, which it required incessant caution to avoid. On the 16th, the moon was seen for the first time during many months.

The course was now directed towards the land, laid down in the charts as Bouvet's Island, or Cape Circumcision, discovered by a French captain, Bouvet, about the middle of the last century, and ineffectually sought for by Captain Cook himself, and by the ship which separated from him, and was commanded by Captain Furneaux. The masters of two of Enderby's ships, the "Swan and Otter," are said to have seen this land in 1808, and they describe it as high, completely covered with snow, and unapproachable for many miles, because of the Pack Ice.

On the 19th, in lat. S. $54^{\circ} 31'$, long. W. $2^{\circ} 25'$, a heavy southerly gale came on, accompanied with gloomy snow showers. Passing among Icebergs, they approached the position assigned to Bouvet's Island but the thick weather, and tremendous surf running, prevented the possibility of describing any thing. At midnight the "Erebus" passed immediately to windward of a large mass of ice, and struck against a smaller piece, supposed to be from a berg close by. It was afterwards discovered that the "Terror" had come suddenly on an iceberg at the same time as the "Erebus," but happily saw the danger soon enough to bear up, and then ran close to the surf, which was beating over all within a half a cable's length of the cliff. The light of the "Terror" had been observed to shoot ahead of the other ship, and though the reason of this manoeuvre was not visible, yet it was rightly guessed to proceed from the vicinity of extreme Peril. To have remained longer in such a situation, with the view of seeking for land of but doubtful existence, would have been madness; and Captain Ross, assured that he must have passed close to the position assigned for it, gave orders to bear away for the Cape of Good Hope. The tremendous gales before which the Discovery Ships now ran were only uncomfortable, for the construction is such, that in open

water, where there are no icebergs, no seas can possibly* humanly speaking, harm them.

On the 24th, in latitude, 50°, 30', two patches of the *La**0 naria* were observed floating, but the state of th^c se* rendered it impossible to pick them up. The eyes of the voyagers were greeted on the night of the 27* wl* the sight of the stars, which had not appeared since the ships had left New Zealand, in November 1841. Such is the climate of the cheerless regions of the southern hemisphere! The Botanist writes, on the 24th of March* " I am just called on deck, for the captain has been sounding for temperatures at various depths, and has brought up a stock of the *Laminaria*, which I believe to be the same as one of the* two species from Cape Horn- *like the *Sargasso weed*, this *Laminaria* grows and increases a sea. The Stem (the root is gone) is cylindrical, an about 6 inches long^ lamina not bigger than one hand, divided into twelve laciniee, 6-14, and even 20 feet in length, plane, varying in breadth from 2 in^{cs} to a foot, very coriaceous, composed of a cortex of den^{se} and, when dry, horny tissue, and a single row of h^{ori-}zontal cells of very large size. Colour o^{le-ye}l¹ ^ olive-brown, or green, the older portions thick, wrin^k and dark, the younger parts brighter yellow, and sl^{ender}, more tender and flatter, none of the apices entire. The southern *Laminaria*, which, being among the giants of the aquatic vegetable kingdom, ought to be well known, app^{ar} almost entirely misunderstood. This plant, for instance, whic I believe to be the *Laminaria*, or *ffUrvillea*, *uuiHs*, referred to the *Laminarue* both by Greville and Endlicher, certainly does not agree with the characters laid down by the former author, (vide p. 24 of his *British Alga*). A sketch, which I made of ^ at Cape Horn, shows the sporules to be contained in distinct receptacles, embedded in the cortical substance, and appeal* ing, on a transverse section, like a string of beads immediately under the surface \$ they open by pores and emit a mass of

mucus, with spores most distinctly furnished with a pellucid *limbus*. These receptacles are scattered by thousands in the *surface* or cortical layer, and when their contents are ripe, *they* stain the hands of a rich brownish-black. As the weed *dries* the contraction of the tissue expels the spores and *mucus*; which, on hardening, form myriads of little black *tubercles* on the surface; and then alone is the fructification *conspicuous*. AH this is precisely as in *Rimanthalia*; except *that* the central substance of this plant consists of large *transverse* cells. Greville, quoting Bory in confirmation, calls a part of the stem of the latter *fronda*, and the *thongs* he considers as *receptacles*: but, as far as I can see, his receptacles are precisely analogous to the *keiness* of the *frond* of this *D'Urvillea*, (or *Laminaria*, whichever it may be). Further, I suspect the frond of the *Himanthalia* to be an abortive bladder, analogous to the trumpet of the *Ecklonia buccinalis*; for Greville *says* the fronds are, at first, cylindrical and pear-shaped; then *they* *fall* *into* *an* *oblong* *shape* become plano-concave. Not being familiar *with* the structure of the British, or true species of the genus *aminaria*, I cannot tell whether the *lyUrvillea* in question *should* belong to *Fucoidea*, or *Laminaria*: but assuredly, so far as published characters avail, to the former.

^{4C} When we reach the Cape of Good Hope, it is my intention to seek carefully for seeds of *Ecklonia*; for I incline to believe that, together with *Himanthalia* and *IFUrviUea*, it will form a very pretty group of *Algm*. If the thongs of *Himanthalia* are receptacles, so must the laminae of *D'Urvillea* be; but I can see no reason why either should be considered *as* such. The sporules and their cells are quite analogous to the *nose* of a *Fucus* or *Sargassum*, where they are contained *in* *what* are undoubtedly receptacles. Thus the transition will be very simple, through *Ceystosria* and *Halidrys*, where the *leaves* are gradually transformed into pods. This weed was *much* infested with barnacles/

On the 30th of March, the ships were fast approaching the Cape of Good Hope, with a mild air and soft

wind. The whole time occupied in the last cruize, spent in such tempestuous latitudes, and icy seas, that nothing new in the way of Natural could be discovered; and accordingly, our young turalist, who declares that mental occupation afforded him sole relief from the anxieties and *ennui* incident on voyage, had devoted himself to examining, and made finished drawings of many of the plants found at former The *Mosses*, which were collected in the far southern region particularly engrossed his attention; and taking the learned Brown's Appendix to Ross and Parry's First Voyages model, he made full descriptions of them all. says, "The genus *Andraea* puzzled me exceedingly occupied many days, during which I examined several hundred specimens, I do hope my drawings are scrupulously accurate, for I invariably compared them with descriptions made on the spot at the time of gathering the mosses. I consider the mosses to have generally received three examinations. Where there is so much novelty, I may occasionally erect varieties into species; but in such a field, I trust some allowance will be made for any errors. All the *Gymnostoma* of the South terebinthoid in habit, as Brown first remarked of the *Gymnostomum fasciculata* &c. I have placed them, accordingly, at the end of *Brya*. The general arrangement I have adopted is that of Arnott, as modified by my father, (Sir W. Hooker), in Lindley's work on the *Natural Orders*. There are hardly any novel genera, the object being rather to place the plants in their true position and relation, than to give them new names, and then leave other botanists to squeeze them in wherever a place found among their congeners. There exist many beautiful analogies among the groups of *Mosses*, but it is difficult to characterize the genera properly. *Gymnostomum nitens* split 5 for there is hardly a genus of *Acrocarpi*, to which each of the species does not bear more affinity than to its congeners, in the present arrangement,

"The other drawings I have made will be found in

attempts, especially the *Lichens*, which are the first I ever
 w^ed in this Tribe. The descriptions are full. There seems
 t^o n^ae a sad deficiency of tangible generic characters in this
 f^amily, except among the larger kinds. The green *globules*
 w^hich form a *stratum* at t^he *base* of *ff*a [^]*sc*i⁹ iⁿ a^li those
 s^pecies which I have examined, are not noticed, so far as I can
 fⁱnd, by any Botanist. I have also drawn the *Sargassum* of
 Reception Island and the *D^o Urvillea*. The Flora of the Falk-
 lands has claimed some of my attention, but I have bestowed
 most pains on an introductory paper on the *Geographical*
 Dⁱstribution of Antarctic plants, distributing their relations to
 th^ose of the Arctic regions, and the analogies which exist
 b^etween the Antarctic Polynesian and American Floras.

Circumstances have prevented my doing much during
 thⁱs³ cruise among the marine animals. I lost all my gauze
 among the Pack ice, from the water being full of little
 p^ortions of ice and where there has been open sea, the gales
 b^lowing and a heavy swell running prevented the possibility
 o^f* Using the tow-net. I hope to pursue my drawing diligently
 oⁿ* the passage between the Cape of Good Hope and England,
 and to study all the plants of the Cape and Rio which I can
 pick up while we stay at those Ports. But I have forgotten
 almost all that I ever knew of Tropical Botany, or even
 garden flowers, not having seen so much as a Rose since
 fitting New Zealand, almost two years ago.

^{cc} I often think of the Ward's Case which I sent home
 f^rom the Falklands last November; and I hope the *Beeches*,
 especially, may have reached England alive. They were in
 s^uch fine order when despatched! But, without seeing the
 w^ondrous *Beech* of Fuegia no one can form any idea of the
 e^l*egant beauty of its budding leaves, I trust these trees will
 J^oin at Kew. Next to a good *Arboretum* at the Royal
 Gardens, I should like there to be a Fern-House. The
 ***oble Tree-ferns*, huge *Acrosticha* and *Steganics*, with the
 ^*ymenophylla* creeping on the ground, would be a splendid
 Novelty. And *Ferns* are very easy of transportation. The
 m^or^e I saw of the *Filices*, the more I was convinced that

their geographical distribution chiefly depended on an uniform and moist temperature, such as is generally found in islands. All the Magelhaenic species that inhabit the Falklands, acquire there a harsh and coriaceous consistency, from the vicissitudes of temperature and of the hygrometric state of the air to which they are exposed. The Kerguelen island *Stegania* I believe to be the most Antarctic of ferns, though its position as to latitude is far lower than that of *Dia* others."

Happily and usefully, as above detailed, was the expedition occupied in the interval between quitting the ice and arriving at the Cape of Good Hope; where, as already stated, the ships came safely to anchor on the 4th of April, 1843.

Thus, by the undaunted skill of the most accomplished Navigators and through a merciful Providence, such a series of investigations has been carried on, for three successive summers in the South Polar Regions, as cannot fail to prove of inestimable value to science in its various departments and to maintain, for the British Navy, that pre-eminent rank which it has so long held among the nations; and during times of peace, engaged in extending the boundaries of useful knowledge, promoting navigation and commerce, and prosecuting geographical discoveries through the remotest regions of our globe.

During this long and hazardous voyage, of four years' duration, much of it pursued through unknown seas, and amid perils and privations of no ordinary character, disaster has never entered the ships, nor have any casualties taken place beyond what must be expected in every protracted cruize, under the most favourable circumstances. One poor fellow washed overboard in the tremendous seas between Kerguelen's Island and Van Dieman's Island, and another in the awful hurricane described as occurring on the night of the 12—13th March, already mentioned in this article, are believed to be the only deaths: and a single officer and sailor invalided and sent home from the Falklands, but both, now,

happily recovered, comprise all the sufferers by accident or illness.

A month's stay at the Cape of Good Hope, was anticipated, which, it was hoped, might yield some good herboriz-ⁱⁿ& and an agreeable meeting with Dr. Wallich, Director of ~~the~~ H. E. I, Company's Botanic Garden at Calcutta, and ~~now~~ at the Cape for the benefit of his health; unless, indeed, ^{at}*nat gentleman should still be on his tour in the interior, ^{his}*s society would afford some compensation for the absence of Mr. Wilmot.*

From the Cape, St. Helena was to be the next place Visited, and then Rio; so that, we trust, ere autumn has dosed, these enterprising and successful Antarctic Voyagers *H be welcomed to their native shores.

Contributions towards a FLORA OP BRAZIL, by GEORGE GARDNER, F.L.S.

(Continued from Vol. I. p. 548.)

PART II.

PLANTS FROM THE ORGAN MOUNTAINS.

301. *Clematis Brasiliana*, B.C. Syst. 1. p. 143. Prodr. 1, p. 4. St. HU. Fl. Bras. Merid. 1. p. 2. Deless. Ic. Sel. 1. 1.1. C. Bonariensis, D.C. Syst. 1. p. 145. Prodr. 1. p* 5. e# St. HU.

HAB. In woods at Imbuhy. Fl. March.

• Frederick Eardly Wilmot, Esq. (son of the recently appointed Governor of Van Dieman's Island, Sir Eardly Wilmot, Bart.) one of the officers of the Antarctic Expedition, who had been left in charge of the ^{re}Bponding Observatory at Cape Town, on the first arrival of the f% s at that port, in 1840, but is now on a visit to England. Mr. Wilmot ^{is}*bout to return to the Cape, and, as we understand, to be engaged in an important survey of a distant part of that colony.

t Those species which are not otherwise mentioned, were collected ** an elevation of about 3,000 feet above the level of the sea.

302. *Clematis discolor* (sp. n.); caule scandente striato, foliis pinnatis, jugis 2-3-foliolatis, foliolis ovato-oblongo¹⁸ acuminatis acutis integerrimis 5-nerviis, supra pilosiuscu¹. subtus dense sericeo-pubescentibus, flonbus panic¹¹⁰⁰⁰⁰⁷ paniculis folio longioribus sublanuginosis, caudibus plu^{plu-}mosis.

H A B. In woods at Imbuhy. *Fl.* March.

This *Clematis*, which I found with only unripe ^{ut,} ^{tx} differs from *C. Brasiliana* in having the leaflets more ^{dis-} [^] distinctly 5-nerved, densely pubescent underneath, and ramifications of the panicle covered with a ^{close} ^w ^o ^o ^{lly} ^{ug} pubescence. The leaflets are also of a more coriaceous texture.

303. *Tetracera oblongata*, D.C. *Syst.* 1. p. 399. *Prodr.* 1. p. 67. *Deless. Ic. Sell. t.* 67. *St. HU. Fl. Bras. Mena.* p. 15.

H A B. In bushy places between Mag6 and the foot or ^{the} Organ Mountains. *Fl.* March.

304. *DaviilB.rugosa*, Poir. *Encyc. Sup.* 2. p. 456. *St.* ** ^{FL} ^{05.} *Bras. Merid.* 1. p. 18. *D. Brasiliana*, D.C. *Syst.* 1-P-^A *Prodr.* 1.p. 69. *Deless. Ic. Sel.* \.t.7l.

H A B. Common in woods. *Fl.* March.

305. *Tala.xxm3.fragrantissima*, Hook. *Icon. Plant*, t. 208-

H A B. In swampy woods, not uncommon. *Fl.* Jan.

306. *Guatterra psilopus*, Endl. et Mart. *Fl. Bras. Anonace* 1. p. 27. l. 7. l. 1. *G. Maypurensis*, Hook. *Icon.* P^{anU} 227. non H.B. et Kunth.

H A B. In woods on the banks of the Rio Paquequer. ^{Fed} ^{11.}

307. *Rollinia parviflora*, St. Hil. var. 13, *angustifolia*, En et Mart. *Fl. Bras. Anonace* <e.p. 19. t. 6. fig. 1.

H A B. Rare in woods. *Fl.* April.

308. *Cleome spinosa*, Linn. D.C. *Prodr.* 1.p. 239.

H A B. Between Mage and the foot of the Organ Mountain • *Fl.* March.

309. *Cleome bicolor* (sp. n.) 5 herbacea subinermis pubescen^z, foliis 5-foliolatis petiolis subaculeatis, foliolis lanceolat[^] utrinque attenuatis, floralibus simplicibus sessilibus cor-

dato-orbiculatis mucronatis, siliqua pubescent* thecophort.
^{vix} triplo longiore.

HAB. In open rocky and cultivated places. *FL* March, April.

Suffrutex 2-pedalis. Caulis subflexuosus. Foliola majora 2-poll. longa, 6 lin. lata. Pedicelli filiformes, 8 lin. longi. [^]~~Pa~~ lanceolata, 1J lin. longa. Fetala unguiculata ovali-oblonga, 5-6 lin. longa, alba, limbi parte superiore purpureo. Filamenta purpurascentia. Siliquji If poll, longa. Semina rufa, reniformi-globosa, rugosa.

Near *C. nummularia*, *D.C.* of which, indeed, only the ^upper part is known, but differs in having larger flowers, w^{ich} are purple, not white, cordate, sessile floral leaves, and [^]gose, not smooth, seeds.

³10. *Banara Vellozii* (sp. n.); foliis elliptico-oblongis acuminatis grosse obtuse et distanter serratis supra nitidis glabriusculis subtus prsecipue ad nervos piloso-pubescentibus, paniculis terminalibus pubescentibus, floribus tetrameris.

Boca serrata, *Vellozo FL Mum. 5. /• 113.*

HAB. In woods rare. *FL* April.

Arbor 12-pedalis. Folia alterna, superne viridia, subtus pallide virentia, pennivenia, breve petiolata. Stipulae parvse, deciduae. Calyx 4-partitus, persistens. Petala 4, elliptico-oblonga, flava, calyce vix.longiora. Stamina plurima. An^{te} ^{gra} parvce, rotundae, biloculares. Bacca globosa; stylo ^{non} deciduo terminata, unilocularis. Semina plurima.

³11. *Viola balsaminoides*, *Gardn. in Hook. Icon. Plant, t. 217.*

HAB. In shady virgin forests on the banks of the Rio Imbuhy. *Fl.* Jan.

312. *Viola subdimidiata*, *St. HiL PL Rem.p. 277* D*** %o » ^ -*
 1-p. 844.

[^] A B. Rare, in moist shady places. *FL* Jan.

³13. *Ionidium commune*, *St. HiL PL Ran. p. 295. Fl. Bras. Merid. 2. p. 142. Solea communis, Spreng. Cur. post. P. 97.*

HAB. Dry shady woods. *Fl.* March.

314. *Drosera villosa*, *St. Hil. Plant. Rent. p.* 267- *Fl. Bras. Merid. 2.p. 133. Spreng. Cur.post.p.* 126.

HAB. In Sphagnum bogs, at from 3,000 to 6,000 feet above the level of the sea. *Fl.* Feb.

315. *Polygala campestris*, (sp. n.); herbacea glabra prostrata, vix ramosa, foliis distichis ovatis mucronatis serratis, racemis terminalibus laxis, sepalis 3 inaequalibus obtusis, interioribus late ovatis oblongis, 3-nerviis, carince lobo medio cristato, petalis ad basin carince concretis, capsula oblonga emargi **glabra.**

HAB. In dry pastures, rare. *Fl.* Feb.

Caules semipedales vel fere pedales, angulati, glaberrimi, ramosi, procumbentes. Folia alterna, breviter petiolata, linearibus, 2 circiter lata. Caruncula seminis pedicellata.

Allied to *P. Moquiniana*, *St. Hil.*

316. *Polygala Laureola*, *St. Hil. Ft. Bras. Merid. 2. p. 50. l. 89.*

HAB. In virgin forests. *Fl.* Jan.

317. *Drymaria cordata*, *Willd. ex Roem. et Schul. Syst. 5. p. 406. D.C. Prodr. 1. p. 395.*

HAB. In open waste and cultivated places, common-April.

318. *Abutilon carneum*, *St. Hil. Fl. Bras. Merid. p. 207.*

HAB. In virgin forests. *Fl.* March.

My specimens agree tolerably well with the description of *St. Hilaire*; but while, in his plant, the stems and petioles are said to be densely covered with stellated tomentum, in mine they are nearly glabrous.

319. *Abutilon rufinerve*, *St. Hil. Fl. Bras. Merid. 1- P. 205. t. 42.*

HAB. In woods. *Fl.* Feb.

320. *Abutilon Bedfordianum*, *Hook. Bot. Mag. t. 3892.*

HAB. In woods, common. *Fl.* Feb.

321. *Abutilon striatum*, Dicks. *Botanist*, vol. 3. 1144.
 HAB. In bushy places. *Fl.* Feb.
322. *Pavonia sepium*, St. *Hit. FL Bras. Merid.* 1. ^ . 225.
 P. flava, %e»\$f m Jfca*. *Herb. Fl. Bras. n.* 95. et. 291. .
 **AB. Bushy places. *Fl.* Jan.
 ^ 3 - *Sida erosa*, Link, *B.C. Prodr. I. p.* 461.
 **AB. In bushy and waste places, common. *Fl.* March*
324. *Pavonia begoniaefolia*, (sp. n.); suffruticosa erecta, foliis oblongis dimidiatis gross^ serratis acuminatis basi rotundatis utrinque sparse stellato-pubescentibus pellucido-punctatis, floribus axillaribus tenninalibusque subpaniculatis, inroheri foliolis linearibus ciliatis, coccis 5 glabris uniaristatis.
 ^ A B. In dense virgin forests. *FL* March.
 ouffrutex bipedalis. Caulis teres, stellato-pubescentis.
 *olia 6-8 poll, longa, 2-2£ poll, lata, pennivenia. Petioli
 6** lin. longi, versus apicem dense stellato-pubescentes.
 S n pa 3 parvae, setaceae, deciduae. Pedicelli hispidi. Fo-
 bala calycis exterioris circiter 11, lineari-subulata, ciliata.
 Ca^ interior campanulatus, quinque-dentatus, glaber. Co-
 folla pallid^ rosea. Cocci 5, glabri, uniaristati, aristis ferp
 semiunciam longis, supra medium pilis rigidis reflexis
 as paris.
- Allied to *P. typhakea*, Cav.9 but well distinguished by the solitary arista on each coccus.
- 325, *Chorisia speciosa*, St. *Hil. Plant Usuelles*, n. 63. *FL Bras. Merid.* \p. 267.
 **AB. In virgin forests, common. *Fl.* March.
826. *Buttnera rivularis* (sp. n.); dense stellato-tomentosa, *ule fruticoso erecto petiolisque aculeatis, foliis cordatis ovatis acuminatis interdum subtrilobatis dentatis 5-nerviis 5-glandulosis, pedunculis axillaribus pluribus umbellatis, *ubi stamineilobis sterilibus emarginatis lateraliter unidentatis, antheriferis brevissima.
 H AB. By the sides of streams. *Fl.* Feb.
 Fnitex 6-pedalis, ramis divaricatis. Folia 4-5-poll. longa,
 VOL. ii. 2 A

2\ circiter lata, 5-costata, glandula oblonga ad basin singu-
 costse. Petioli 9 lin. circiter longi, aculeati. Umbelke petio-
 longiores. Sepala lanceolata, extus pilosa. Tubus stam-
 neus et unguis petalorum breves. Capsula globosa ecnina-
 327- *Dasynema riparia* (sp. n.); foliis ovali-oblongis su-
 lanceolatisve acuminatis basi obtusiusculis vel attenua-
 membranaceis utrinque glabris, pedunculis axi-
 fasciculato-subracemosis tenuissime puberulis, sepalis
 ovatis acutiusculis, capsula setosa 4-valvis.

HAB. By the sides of streams. Fl. March.

Arbor 40-50-pedalis. Folia alterna, 4-6 poll, longa, 18-
 lin. lata, venis prominentibus. Petioli semipollicares et u-
 basi et apice incrassati. Pedunculi 2-3 axillares, sU^{ra}
 mosi, petiolo longiores. Bractese parve, setacee. ~^{co}
 3-lin. longa, 2 circiter lata, lutea. Stamina plurima, &^s
 latofoveolatoimposita, sepalis breviora. Ovarium puberu
 4-loculare. Styli 4, basi connati. Fructus lignosus, ec
 natus, 1-ocularis, 4-valvis. Semen 1, pendulum;

328. *Hypericum Brasiliense*, Chois. in D.C. Prodr. l-P.⁵ 4^{1/2}
 St. EM. Fl. Bras. Merid. I. p. 335.

HAB. In moist open places. Fl. Feb.

329. *Vismea Hilairii*. V. Guianensis, St. Hil. Fl. [^]
 Merid. l.p. 327. non Aubl. *T^{as}.

HAB. Dry bushy places. Fl. Jan.

This, I have no doubt, is the plant which is described a
 St. Hilaire, under the name of *V. Guianensis*, but it is q^{ulte}
 distinct species from that of Aublet, having much narrow
 calycine segments, with no glands at their base external y
 leaves which can scarcely be said to be acuminate, and flori^e
 oblong fruit.

330 et 331. The plants belonging to these numbers are
 probably both new species of *Tovomita*, but my spec^{imens}
 are not in a fit state to be described. They are shrubs
 about 8 feet high, growing in shady woods on the Org^{*n}
 Mountains.

332. *Clusia fragrans* (sp. n.); floribus polygamis, calyce

4-sepaio, corolla 4-petala alba, staminibus numerosis, foliis late obovatis obtusissimis breve petiolatis venosis margine

revo ut s.

HAB. Moist rocky places, at about 5,000 feet elevation. *FL* April.

Frutex 3-4-pedalis, succum album viscosum emittens. Folia 4-6-poll. longa, 3-4-poll. lata, eleganter pennivenia. Petioli 6 lin. circiter longi, basi dilatati articulati. Flores a⁽³⁾ apicem ramorum 2-3 terminales, magni (diametro circiter 3-pollicares), fragrantissimi. Pedunculi 3 lin. longi, basi articulati. Calyx basi stipatus, bracteis geminis ovato-subrotundatis, 4-sepalus, foliolis oppositis iobombricatis, vato-^ortundatis. Petala 4, alba, obovata, aequilatera, integerrima, [^]ultivenosa. Stamina in floribus masculinis numerosissima; filamentis sublineam longis, complanatis \ antheris linearibus filamento longioribus.

333. *Marcgraavia cuneifolia*, (sp. n.); foliis breve petiolatis obovatis obtusis emarginato-glandulosis basi cuneatis sub*
aveniis, pedunculis corymboso-umbellatis glabris, pedicellis erecto-patentibus, bracteis cuculliformibus apice emarginatis, fructu depresso-globoso.

HAB. Climbing on rocks and trees in marshy places. *FL* Feb.

Frutex ramosus, scandens. Folia alterna, 2|-3 poll, longa, 1³/₄ 15-lin. lata. Petioli 3-lin. circiter longi, supra canaliculati. Pedunculi circiter pollicares, basi bracteis cuculliformibus pollicaribus emarginatis muniti. Calyx 6-sepalus, sepalis imbricatis, inaequalibus, ovato-rotundatis, margine membranaceis. Petala 5, imbricata, subconnata, oblonga, obtusa, 3¹/₄ lin. circiter longa, lutea. Stamina 12, inclusa, receptaculo inserta. Filamenta basi dilatata. Antherse oblong®, basi affixae. Ovarium conicum, in sicco striatum, 3-loculare. Stigma sessile, persistens. Fructus baccatus, depresso-globosus, 3-ocularis. Semina plurima.

³34. *Trigonia nivea*, *St. Hil. FL Bras. Merid. 2. p. 113.*

³* AB. In dry bushy places, not uncommon. *FL* Feb.

335. *Casearia montana*, (sp. n.); ramulis puberulis demum

glabratis, foliis oblongis basi inaequilateris acuminatis
 acumme obtusiusculo, serrulatis* supra glabriusculis niti-
 subtus petiolisque pubescentibus crebre punctatis, um-
 bellis sessilibus, floribus minutissime tomentosis 5-fi^{dis}
 sepalis membranaceis ovatis obtusis margine ciliatis, s-
 minibus fertilibus 10 calyce longioribus, antheris subg-
 bosis, stylo breviter trifido.

HAB. In dry woods. *FL* Jan.

Frutex 10-12-pedalis. Folia 3-4-pojl. longa, 12, 15, lin[^]
 lata. Petioli 3 lin. longi. Pedicelli graciles, petiolo vix lon-
 giores.

This species is most closely allied to *C. inaequilatera*^{era}
HiL, but differs from it in having much larger leaves, w[^]
 are also more sharply pointed, shorter petioles in propor-
 to the size of the leaves, shorter pedicels, shorter broa-
 and ciliated calycine segments, and less divided styles.

336. *Casearia inaequilatera*, *St. HiL FL Bras. Merid. 2. P-*
Don, Diet 2. p. 52.

HAB. In dry woods, common, *Fl.* Feb.

337. *Heteropteris laurifolia*, (sp. n.)\$ glabra, foliis mem-
 branaceis ovato-oblongis acutis basi subrotundatis supra
 nitidis subtus venis prominentibus versus marginem dia-
 tanter glandulosis, petioh's basi biglandulosis, pa^{lliculis}
 axillaribus terminalibusque sublepidoto-pubescentibus folio
 longioribus.

HAB. In bushy places. *Fl.* Feb.

Frutex scandens, ramosus. Folia opposita, 5-6 poll. longa,
 2-2J lata. Calyx 9-glandulosus, sepalis oblongis obtusis.
 Petala 5, integra, flava. Stamina 10, basi monadelp^{a#}
 Filamenta alterna breviora. Carpella pilosa. Styli 3, dia-
 tincti. Fructus ignotus.

Allied to *H. hiraoides*, *Ad. Juss.*

338. *Banisteria subcordata*, (sp. n.); piloso-pubescentis, folio^{lu}
 elh'pticis acuminatis basi subcordato-rotundatis subt^s
 glandulosis, petiolis basi subtus 1-glandulosis, umbel⁸
 corymbosis 1-2 axillaribus terminalibusque tomento^{SJ}
 folio brevioribus.

HAB, In open bushy places. *Fl.* Feb.

Frutex scandens, ramosus. Folia opposita, petiolata, 3 $\frac{1}{2}$ P^oU. longa, 1 $\frac{1}{2}$ -2 poll. lata. Petioli 3-4 lin. longi, teretes. ^orymbi sub-10flori. Calyx basi 8-glandulosus, sepalis ^ovato-oblongis, obtusis, utrinque tomentosus. Petala 5, sinu^{ose}, glandulose-ciliata, rosea. Stamina 10, basi monadelphica. Anther^o valvis albis margine ciliatis. Carpella pilosa. Styli 3, distincti. Stigmata glandulosa, subcapitata. Fructus nictus ignotus.

AUied to *B. Adamantina*, Mart, in Juss. Synop. Malp.

P* 17»

339. *Serjania deflexa*, (sp. n.) \ hirsuta[^] ramis sulcatis, foliis deflexis biternatis, foliolis ovato-oblongis acuminatis grosse mciso-dentatis supra viridibus prsesertim ad nervos pilosis subtus pallid[^] piloso-tomentosis, calyce 5-phylo.

F* AB. In dry woods, common. Fl, March.

Tota hirsuta. Caulis fruticosus, scandens, sulcatus. Folia biternata, pellucido-punctata: foliola terminalia 2[^]-3 poll. longa, 12-15 lin. lata, lateralia minora. Racemi axillares, solitarii, cum pedunculo communi 3-5 poll, longi, compositi, ramulis 1| lin. longis, basi bicirrhosis. Calyx 5-phyllus, sepalis ovato-rotundatis, concavis, exterioribus paullo minoribus. Petala 5, alba, requalia, obovata, apice rotundata, basi angustata, flabellato-venosa, glabra. Stamina basi subconnata, calycem subeequantia. Filamenta hirsuta. Fructus ignotus.

Near *S. velutina*, et *Hil.*, but well distinguished by its deflexed leaves, more acuminated leaflets, and more compact racemes.

340. *Paullinia discolor*, (sp. n.); foliis biternatis, foliolis ellipticis vel oblongo-ellipticis utrinque attenuatis versus apicem vix subdentatis supra ad nervos pubescentibus caeteris glabris nitidis subtus ferrugineo-pilosiusculis, petiolo nudo, rachi alata, capsula 3-alata.

HAB. In dry woods. Fl. April.

Caulis fruticosus, scandens. Rami sulcati, tomento denso ferrugineo vestiti. Folia biternata, obsolete pellucido-punctata: foliola terminalia 2-poll. longa, pollicem lata, lateralia

minora. Racemi axillares, 5-6 poll, longi, compositi, ramulis 2-3 lin. longis, basi bicirrhosis. Calyx 5-phyllus, extus puberulus. Petala alba. Fructus immaturus trialatus, utrinque attenuatus.

341. *Paullinia belangerioides*, (sp. n.); glabra, foliis biter-natis, foliolis oblongo-lanceolatis utrinque attenuatis supra medium argutè serratis, petiolo rachique nudis, racemis tomentosus, capsula trialata.

HAB. In dry bushy places. *Fl.* March.

^ Caulis fruticosus, scandens. Rami glabri, sulcati. Folia bitemata, glabra, obsolete pellucido-punctata: foliola term*; nalia 3 poll, longa, pollicem lata, lateralia minora. Racemi axillares, 3-5 poll, longi, compositi, ramulis brevissimis V* subnullis basi saepe bicirrhosi. Calyx extus puberulus. Pe^{ta} alba, glanduloso-punctata. Fructus maturus ignotus.

342. *Cupania anacardifolia*, (sp. n.); foliolis 4-5-jugis W« oblongis obtusis basi acutis integris vel subdentatis glabns^ calyce tomentoso.

HAB. In moist woods. *Fl.* April and May.

Arbor mediocris, ramis glabris, sulcatis, minute verru-cosis. Folia abruptè pinnata: foliola 4-5-juga, a^{terna}, 5^J poll, longa, 2-2J lata. Paniculse axillares, glabriuscute, toll^o breviores, rachi. ramulisque angulosis. Calyx 5-partitof^s dense tomentosus, foliolis ovatis obtusis. Petala 5, folio^s calycinis breviora, subrotunda, extus glabriuscula, intus tomentosa, vix ciliata. Discus integer. Stamina 8. Filament* pilosa. Anthere basi emarginate. Pistillum V*^o***' Stigmata 3, sessilia, vix conspicua. Fructus ignotus.

Nearly allied to *C. oblongifolia*, Mart. *Herb. FL Bras.* * 247, but the petiole is more angled on the upper stf* « the panicle smaller, with larger flowers, the bracts larg^ the petals scarcely ciliated and less hairy, and the style » shorter.

343. *Symplocos laxiflora*, Benth. *Linn. Trans.* 18. p. 252. 11 »
HAB. Woods, rare. *Fl.* Feb.

344. *Cissus sylvatica*, Cambess. in St. HU. *FL Bras. Merid-1-*
p. 345.

^H **A B.** Bushy places. *FL* Feb.

My specimens agree very well with the description of *Cambessedes* in every thing except the leaves, which are broader than they are in St. Hilaire's specimens.

³⁵⁶ *Oxalis repens*, *Thunb. Ox. II. t. l.f.5. D. C. Prodr. 1. p. 693. St. Hil. Fl. Bras. Merid. l.p. 120.*

HAB. In open, waste and cultivated places. *FL* all the year.

^{346.} *Ilex Paraguayensis* *Sy Lamb. Pin. t. 2. Spreng. Cur. Post. p. 48. var. a. Hook, in Lond. Journ. Bot. 1. p. 35. t. 1.*

HAB. In woods, but not common. In fruit in January.

^{347.} *Mertensia Braziliensis*, (sp. n.); foliis ellipticis rotundatisve utrinque obtusis mucronatis apice subserratis supra pubescentibus subtus tomentosis, ramulis verrucosis subflexuosis, spinis solitariis deflexis vix recurvis, racemis axillaribus pubescentibus.

HAB. In bushy places, foot of the Organ Mountains. *Fl.* March.

Frutex 6-8-pedalis, ramosus. Folia alterna, brevi-petiolata, 6-10 lin. longa, 4-6 lata. Racemi breves, pauciflori*
Calyx 5-sepalus, foliolis imbricatis, ovatis, acutis, extus puberulis. Stamina 5. Antherse subrotundae, basi emarginatae. Styli 2, complanati, apice bifidi.

^{348.} *Obsearia pauciflora*, *Cambess. in St. Hil. Fl. Bras. Merid. 2. p. 235.*

HAB. In virgin forests, common. *Fl.* March.

^{349.} Of this number I do not find a specimen in my collection.

ISODESMIA. Genus novum.

(ORD. NAT. LEGUMINOSAE ; HEDYSAREAE.)

^H **HAR. GEN.** Calyx bracteolis duabus, persistentibus, campanulatus, 5-fidus, subbilabiatus, laciniis subaequalibus, lobis superioribus obtusis, ceteris acutis. Corolla papilionacea: vexillum suborbiculatum, emarginatum, reflexo-persistentissimum ; alae oblongae, liberae, vexillo breviores ;

carinaej>etala libera, obtusa, alis paulo breviora. Stamina lft in phalanges duas, pentandras, coalita; anther® conformes, ellipticae. Ovarium sessile, 9-ovulatum. Stylus filiformisj stigma obtusum. Legumen sessile, integrum, lineare, compressum, apiculatum, 6-9 articulatum, articulis utrinque truncatis, monospermis, secedentibus. Seminanjompressa, subreniformia.—Frutex Brasiliensis, scandens, villosa-tomentosus; foliis imparipinnatis, foliolis 7-jugis, impunctatis, V* dunculis axillaribus, solitariis, 2-3-floris, floribus flavis, P^e dicellatis, pedicellis basi bracteatis.

350 *Isodesmia tomentosa*.

HAB. In woods and bushy places at Imbuhy. FL Jan.-" March.

Suffrutex scandens, villosa-fulvo-tomentosus. Rami^{te} retes. Folia alterna, 4-5-poll. longa, imparipinnata: foliolis^{liolis} 7-jugis, impunctatis, breve petiolatis, lineari-oblongis, ob- tusis, apiculatis supra pubescentibus, subtus dense fulvo-tomentosis, 10-15 lin. longis, 2|-3 lin. latis. Stipute pa^J reflexe, lineari-subulatse, circiter 3 lin. long®. Peduncui axillares, subtriflori, pollicares et ultra. Pedicelli 3 lin. long^{**} basi bracteati, bracteis brevibus, acutis. Flores flavr, su^h pollicares. Ovarium minutissime piloso-tomentosum. ^ ^ . gumen immaturum 3-4 poll, longum, 4-6 lin. latum.

Named from *ms* equal, and *fcffios* a bond, from ^{the} stamens being in two equal bundles.

The equally diadelphous stamens of this genus, and i[^] articulated legume, approach it to *JEschyntmyne*, but i well distinguished by its more deeply campanulate calySj the petals of the carina being free, the legume sessile, an not sinuated at its carinal suture.

351. *Desmodium uncinatum*, Vogel, in *Linnata*, 12. P*¹⁰⁷⁻ vixD.C. Prodr. 2. p. 331.

HAB. Bushy places, Imbuhy. FL Feb.

352. ^{hynohQ^pkaseohidesy} B.C. Prodr. 2. p. 385.

HAB. At Mag<, foot of the Organ Mountains. FL March.

353. *Cleobulia multiflora*, Mart, in *Benth. Comm.* &9- ?'

HAB. Near Frechal, at the foot of the Organ Mountains. *FL* March.

354. Phaseolus? sp. One imperfect specimen only found.

355. *Canevalia*[^]*icta*, Mart, in Benth. *Comm. Leg. p. 7**-

HAB. In woo*, rare. *FL* Feb.

356. *Centrosema dasyantha*, Benth. in Taylor, *Ann. Nat. Hist. 3. p. 456.*

HAB. In bushy places by the sides of streams, common. *FL* Feb.

357. *Machaerium sericiflorum*, Vogel in *Linncea*, 11. p. 192. Benth. in *Ann. Mus. Vind. 2. p. 98.*

HAB. In woods at Imbuhy. *FL* Feb.

358. *Swartzia elegans*, Schott in Spreng. *Cur. Post. p. 407.*

HAB. In woods. *FL* January.

359. *Acacia recurva*, Benth. *Synop. Mim.* in Hook. *Lond. Journ. BoL 1. p. 519.*

HAB. In woods at Imbuhy. *FL* Feb.

360. *Acacia adluerens*, Benth. *Syn. Mim.* in Hook. *Lond. Journ. Bot. 1. p. 517.* *Mimosa adhterens*, Mart. *Herb. Fl. Bras. n. 174.*

HAB. In woods, common. *FL* Feb.

36]. *Acacia grandistipula*, Benth. *Syn. Mim.* in Hook. *Lond. Journ. Bot. 1. p. 511.*

HAB. In woods at Imbuhy. *FL* Feb.

362. Inga, sp. n. This new species of *Inga* will be described by Mr. Bentham in his "Synopsis of the Mimosese."

363. *Inga sessilis*, Mart. *Herb. FL Bras. p. 114.*

HAB. In woods. *FL* Feb.

364. *Stryphnodendron polyphyllum*, Mart. *Herb. Fl. Bras. p. 117.*

HAB. In dry bushy places. *FL* Feb.

365. *Inga semialata*, Mart. *Herb. Fl. Bras. n. 152.*

HAB. In woods by the margins of streams. *FL* Jan.

366. Cassia Sellowi, Don *Diet. p. 442.*—€. *multijuga*, Rich. €# Vogel in *Linncea*, 15. p. 69.

****AB.** In woods, common. *FL* Feb. and March.

367. Cassia Lindleyana (sp. n.) j *fulvo-tomentosa*, foliolis

18-20-jugis linearis-oblongis mucronatis utrinque piloso-pubescentibus supra viridibus subtus glaucis glandulâ subulatâ inter infima paria, racemis paniculatis axillariibus terminalibusque folio brevioribus, pedunculis 1-3 floris.

HAB. In woods, common. *FL* Feb. and Maifih.

Arbor 12-16-pedalis. Rami subangulati, fulvo-tomentosi. Folia multijuga, 6-7 poll, longa: foliolis 18-20-jugis, 10-1* lin. longis, 3 lin. circiter latis. Sepala glabra, valdê inaequalia. Petala obtusa, flava. Fructus ignotus.

Near *C. Sellout*, but readily distinguished by its dense covering of fulvous tomentum.

368. *Cassia bijuga*, Vogel, *Syn. Gen. Cassia*, p. 17-

HAB. In woods. *FL* Feb.

369. *Bauhinia orjfcftff*, Link et Otto, *PL Select*, t. 36.

HAB. In woods at Constanca. *FL* Feb.

370. *Hirtella Gardneri*, Benth. in Hook. *Journ. BoL* 2. P' 216.

HAB. Banks of the Rio Paquequer. *FL* Jan. and Feb.

371. *Cerasus reflexa*, (sp. n.); glabra, racemis axillariibus reflexis folio duplo et ultra brevioribus, foliis longe petiolatis elliptico-oblongis lanceolatisve acuminatis basi acutis integerrimis subtus pallidis et versus basin biglandulosis.

HAB. In dry woods. *FL* Feb.

Arbor 12-18-pedalis, tota glabra. Rami teretes, verrucosi. Folia 4-4* poll, longa, \ circiter lata. Petioli 9 lin. long¹. Racemi fere bipollicares. Petala subrotunda, alba.

Near *C. Brasiliensis*, Cham, et Schlect., but easily distinguished by its larger leaves, and reflexed racemes.

372. *Rubus Organensis*, (sp. n.) 5 dense fulvo-glanduloso-tomentosus, ramis 5-angulatis aculeatis, aculeis parvis reflexi⁸ vix incurvatis, Mis ternatis, foliolis ovatis cordatis acuminatis minutè .et argute duplicato-serratis supra pitoy pubescentibus subtus pallide tomentosus nervo medio infra petioloque aculeatis, floralibus simplicibus, stipulij⁸ subulatis, paniculis terminalibus subsimplicibus, lacing calycinis ovatis acutis, petalis obovato-oblongis calyce longioribus.

HAB. In dry bushy places. *Fl.* March.

Frutex suberectus. Folia trifoliata, petiolis 2-3-poll.
¹ongis: foliolura terminale (petiolulum excludens) 4 poll.
 Jongum, 2| poll, latum; lateralia vix minora, petiolulo triplo
 oreviora. Stip'ulee erectae, subulate, 6-lin. longse. Calyx
⁵-ndus, laciniis utrinque tomentosus. Petala obovato-oblon-
⁸> pallide rosea. Fructus ignotus,

³* 3. *Citrosma obovata*, (sp. n.); tota pube stellato-subtomen-
 tosa, foliis oppositis obovatis vel elliptico-oblongis acutis
 vel subacuminatis basi rotundatis cuneatisve minute den-
 ticulatis pellucidopunctatis, pedunculis axillaribus 1-3-
 floris.

HAB. Shady virgin forests. *Fl.* Feb. and March.

Frutex 4-6 pedalis. Rami versus apicem subtetragonū
^Folia 3-5 poll, longa, 1|-2 poll. lata. Petioli 6-8 lin. longi.
^Fruetus immaturus turbinatus, stellato-pubescens.

[^]?4. *Amphilochia acuntinulata*, (sp. n.); glaberrima, foliis op-
 positis ovatis vel elliptico-oblongis ftcuminulatis basi rotun-
 datis supra viridibus nitidis subtus glaucis, floribus axil-
 laribus solitariis petiolo brevioribus, calycis lobo summo
 truncato extus subsericeo subgibboso ecalcarato, petalis
 subrotundatis utrinque sericeis.

HAB. In forests by the sides of rivers. *FL* March.

Arbor excelsa. Folia sub-3 poll, longa, 1£ lata. Fetioli
⁶-8 lin. longi. Pedicelli petiolo duplo breviores. Filamenta
^{co}mplanata margine hinc pilosissima. Anthene oblongse,
[^]-loculares. Petalum subrotundura, emarginatum, margine
[^]ndulato, subceenileo. Ovarium pilosum. Styli glabri.

Allied to, but truly different from *A. cordata*, ZUCG.

³75. *Fuchsia integrifolia*, Cambess, in *St. Hil Fl. Bras.*
Merid. 2. p. 273. *Hook*, in *Bot. Mag.* t. 3948. *Fuchsia*
affinis, Cambess. in *loc. dt.* 2. p. 274. *F. pyrifolia*, *Presl*,
Symb. Bot. 2 p. 19. t. 65. *F. radicans*, *Miers.* in *Bot. Beg.*
 1841, t. 66.

⁴AB. A climber upon trees, and rocks at from 3,000 to 7*000
 feet above the level of the sea. *Fl.* Feb. to May.

376. *Cuphea ingrata*, Cham, et Schlect. in *Linnaea*, 2. P^m
371.

H A B. By the sides of streams. *FL* Feb.

377- *Chaetogastra Martiana*, Benth. in *Hook. Journ. Bot.* 2.
p. 452. *Arthrostemma Martusianum*, D.C. *Prodr** 3-
p. 137.

H A B. In sandy marshy places. *Fl.* Jan.

378. *Rhynchanthera dichotoma*, D.C. *Prodr.* 3. p. 107-

H A B. In marshy places, common. *Fl.* Jan.

379. *Trembleya heterostemon*, D.C. *Prodr.* 3. p. 126.

H A B. In Sphagnum bogs, at an elevation of about 3,000^{f et.}
Fl. March.

380. *Trembleya heterostemon*, D.C. var. /J. foliis et flon^{'b u#}
duplo fere majoribus.

H A B. In Sphagnum bogs, at an elevation of about 5,000^{.. Feet}
above the level of the sea. *Fl.* April.

381. *Lavoisiera imbricata*, var. a. *insignis*, Cham, in^{Lmn} *Linnaea*,
9, p. 369. *L. insignia*, D.C. *Prodr.* 3. p. 103.

H A B. In moist rocky places, at an elevation of about 5,000^{5 000}
feet. *Fl.* March.

The calycine segments are scarcely ciliated in try^{speci-}
mens, and the petals not so at all.

382 et 383. *Leandra viltosa*, D.C. *Prodr.* 3. p. 154.

H A B. In bushy places, common. *Fl.* March.

384. *Clidemia fallax*, Cham, in *Linnaea*, 10. p. 41.

H A B. In open bushy places. *Fl.* Feb.

385. *Clidemia xantholasia*, D.C. *Prodr.* 3. p. 163.

H A B. By the sides of streams, and in moist places.
Jan.

386. *Clidemia Nianga*, D.C. *Prodr.* 3. p. 163.

H A B. In moist bushy places. *FL* Jan.

387. *Clidemia tetraquetra*, Cham, in *Linnaea*, 10. p. 42.

H A B. In virgin forests. *FL* Jan.

388. *Bertolonia acuminata*, (sp. n.) ; caulibus suffrutico^s
simplicibus tetragonis subhirsutis ascendentibus basi ra-
dicantibus, foliis petiolatis oblongo-lanceolatis acutis acu-

minatisve basi obtusiusculis argute ciliato-denticulatis 5-nerviis glaberrimis, corymbis terminalibus, limbo caryocis 5-lobo acuto tubum brevior, petalis oblique acuminatis.

HAB. In shady virgin forests. *Fl.* Feb. and March.

Suffrutex pedalis et ultra. Folia 3½-4½ poll, longa, 10-15 lin. lata. Petioli subpollicares. Petala alba.

Near *B. Leuzeana*, *D.C.*, but a very distinct species.

389. *Clidemia dispar*, (sp. n.); ramulis compressis stellato-tomentosis, foliis longe petiolatis ovatis acuminatis minutis denticulatis supra strigoso-pilosis subtus stellato-tomentosis 7-nerviis, nervis supremis à basi parum distantibus, panicula terminali, stylo longe exserto acuto.

HAB. In shady woods. *Fl.* Jan.

Frutex 4-6-pedalis. Folia opposita cujusque jugi disparia, *H-Gi* poll, longa, 1-2| poll. lata. Petioli 6-15 lin. longi, supra fulvo-villosi, subtus stellato-tomentosi. Petala alba, oblonga, margine hinc versus apicem uni-dentata. Ovariura apice setosum.

Near *C Caraccasana*, *D.C.*

390. *Miconia (Eriosphaera) Organensis*, (sp. n.); ramis obtusè tetragonis, petiolis paniculis foliisque subtus pubes stellata subtilissime albidis, foliis petiolatis ovalibus vix acuminatis integerrimis supra glabris nitidis 3-nerviis cum nervo marginali, paniculâ terminali laxiusculâ, floribus in ramulis brevibus congestis, petalis obovatis emarginatis.

HAB. In open bushy places. *FL* March.

Frutex 4-6 pedalis. Folia 4-8-poll. longa, 2-3-poll. lata. Calyx striatus, campanulatus, vix dentatus. Petala alba.

391. *Miconia (Eriosphaera) divaricata*, (sp. n.) 5 ramis subtetragonis, petiolis, paniculis foliisque subtus dense pubes stellata ferrugineo-tomentosis, foliis petiolatis oblongis acuminatis basi acutis subdentatis 3-nerviis cum nervo marginali, panicula terminali magna, ramis divergentibus, floribus secus ramos sessilibus congestis, petalis obovato-oblongis emarginatis.

H A B. In woods by the sides of streams. *Fl.* Feb. ^{- 3 poll.}
 Frutex 4-8 pedalis. Folia 6-10 poll, longa, ^{H' ce in-}
 lata. Calyx subcampanulatusj 5-dentatus. Styli api
 crassati. ^{m - cattle}

392. *Clidemia scandens*, (sp. n.); tota rufo-hirsut*, ^
 scandente ramoso tereti hinc inde radicante, f. ^{ohu} J⁸ i-
 latis ovatis acutis acuminatisve basi rotundatis in ^{breviori-}
 mis 5-nerviis, racemis axillaribus paucifloris folio ^{- talis}
 bus, pedicellis bracteis calycibusque hispid F⁵
 oblongis obtusiusculis. ^{treeS, in}

H A B. Climbing and rooting on the stems of larg^ ^.
 the dense and humid virgin forests. *FL* Jan. an. ^{lin. lata.}
 Frutex scandens. Folia circker 27 Hn. longa, ^{Petala rosea.}
 Petioli 2 lin. circiter longi. Racemi sub 6-ftori. ^{hed by its}
 Near *C. Epibaterium*, *D.C*> but weU distinguis
 entire leaves. ^{190.}

393. *Oxymeris quinquenodis*, *D.C. Prodr.* 3.1>.

H A B. In shady woods, common. *FL* Jan. ^{v^ rait^{is}}

394, *Miconia* (*Eumiconia*), *depauperata*, <Sp' --*11' deCidu*
 teretibus, petiolis thyrsis calycibusque pube ^{stell^ J^{is} longe}
 rufo-lepidotis, foliis petiolatis <> W^{on} g? ^{4ance^ Us supra}
 acuminatis, basi acutis subdenticulatis S-ne ^{li subsim-}
 viridibus subtus albidis, thyrso racemoso termina
 plici paucifloro.

H A B. In virgin forests. *FL* Jan. ^{# -- na 3.4^.}

Frutex 6-pedalis. Kami bi- vel trichotomu - ^{*o brev^{ore}S.}
 poll, longa, 9-15 lin. lata. Thyrsi folio dupjo ^{is subu ^}
 Calycis tubus campanulatus, limbus 5-fidus, lo
 Petala alba, obovata, truncata. ^{r 19.}

Near *M. tristis*, *Spreng. in Mart. Herb. Fl. Bras* ^{^ sub-}
 395. *Miconia* (*Eumiconia*), *polyandra*, (sp. n-) 5^{ra} ^{'bus fl, e'}
 compressis petiolis paniculis foliisque junion ^{cojatis}
 stellata decidua albido-lepidotis, foliis oblongo-lanc^ ^
 acuminatis basi acutis integris 3-nerviis cum ^{nerV}
 marginali, thyrso terminali paniculato, ^{^ on. obovatis}
 morum apice congestis, staminibus 20, petalis
 obtusis*

HAD. In woods. *FL* March.

Arbor parva. Folia 3-4} poll, longa, 1-1} poll. lata. Petioli 3-6-lin. longi. Calyx campanulatus, 5-dentatus. Petala alba. Styli filiformes. Stigma capitatum. Fructus grani Piperis nigri magnitudine, depresso-globosus, 10-striatus. Semina angulata.

Near *M. eriodonta*, D.C.

396. *Cremanium paludosum*, (sp. n.); glaberrimum, ramulis tetragonis, foliis petiolatis elliptico-oblongis acuminatis basi acutis glanduloso-serrulatis 3-nerviis, panicula terminali, calycis globosi dentibus 5 brevibus obtusis.

HAB. In moist bushy places. *FL* Jan. -

Frutex 4-pedalis. Folia 5-6 poll, longa, 18-21 lin. lata, subtus pallidè viridia. Petioli 9 lin. longi. Paniculæ folio breviores. Petala subrotunda, alba. Styli apice incrassati. Stigma subcapitatum.

397. *Oxymeris velutina*, (sp. n.) 5 ramis teretibus, petiolis foliisque subtus junioribus, paniculis pube stellata brevivellutinis, foliis petiolatis ovali-lanceolatis acuminatis basi obtusiusculis 3-nerviis integerrimis margine subrevolutis, thyrso terminali paniculato, calycis tubo obovato limbo 5-fido, lobis obtusis deciduis extus callosis, petalis ovatis acuminatis.

HAB. In bushy places, at an elevation of about 6,000 feet. *FL* March and April.

Frutex bipedalis. Folia 2-3 poll, longa, 8-12 lin. lata. Petioli 6-lin. longi. Paniculae pauciflorae folio longiores. Petala alba. Styli filiformes, longe exserti, obtusi. Capsula 5-locularis. Semina cochleata.

398. *Pleroma albiflorum*, (sp. n.); fruticosa, ramulis tetragonis adpresso-setulosis demum glabratis, foliis ovato-ellipticis acutis 3-nerviis utrinque petiolisque adpresso-setulosis, floribus ternis terminalibus tetrameris, calycis tubo ovato setuloso lobis longiore, filamentis glabris.

HAB. In dry bushy places, abundant at an elevation of about 6,500 feet. *FL* March and April.

Frutex 3-pedalis. Folia 18-20 lin. longa, 7 lin. circiter

FLORA OF BRAZIL.

lata. Peholi 4-Jin. lonri m
 laciniae o^tas, ciliate, n^i l i TM; albi > tetrameri. Calycis
 fimbriata. 8. Antherae connectivo brevi in calcar
 iong.usculumbifid un producto. Ovarium ad apicem setosum-
 Cyla4-Iocularis. Sem^ coehleata.
 W? * « habit of *Pteroma*, this plant somewhat ap-
 proaches *Arthrostemma* in the structure of its flowers. Having
 asked Mr. Eni;ham's n, v, VII, racture of its
 , oucht * o be placed in V * ? to whicl > «f these genera it
 totomacea (398) bein ^l/ e^ ed as Allows.-« Your Me-
 the technical caracte! ^TT^ comes > <<trinly, within
 Not stand r- .. S^ a l^ r < W / ^ ^ ^ itL ^
 Not stand r- .. S^ a l^ r < W / ^ ^ ^ itL ^
 ^ ^ r a U a r U ^ a t T a s > , think it is asked to

^tamerous u K " ^ * " * * " " "
 US, J ^ of calyx deciduous. P, BBOMA.
 tetramerous, " persistent. CH^ETOGASTRA.
 " " " ARTHROSTEMMA.

Now Martin and unites Ar-
 with *Chetogastra*, Md this l «m persuaded roust
 be done, dividing the combined gen, CTa On other prin<pJ<;
 and if "o your plant would go in to P ^ wa > on account of
 the deciduous limb of the Calyx and ^e h> Wt (supposing the
 stamens to agree, and you will obserTC the 7 ^ not te
 hairy) notwithstanding Site ^tniinerous flowers." Acting on
 these views I place the Plant in *PURma*. The stamens
 only differ from those "the normal ^ of that genus in
 having the spa, of the connective much longer, and more
 deep'y bifid.

399. *Chamopleura parryi* (sp., ramis judioribus
 foliisque subtus pub... subt... ilissima sublepidotis,
 foliis petiolatis oblongis, subt... 6018 ^ lo «g<< acuminatis barf
 acutis integerrimis SUI f T ?
 termina^calycis atè P> glabris 3-nerviis, panicula magna
 C8m PanuIati limbo 5-dentato deciuo,

lobzs obtusis. Fl. Feb.
 u * » - In woods. Folia 4 1/2-6 poli. In ruga, 15-18 l,»
 Arbor 12-16 pedalis

lata. Petioli 6 lin. longi. Panicula ramosissima, rami graciles. Flores parvi, albi. Petala obovata, obtusa. Styli apice incrassati, lineam longi.

The genus *Cfianopleura* is very nearly allied to *Miconia*, differing chiefly by the anthers dehiscing longitudinally, not by pores. It may also be readily distinguished by the three large veins of the leaves being connected together at the base by a thin membrane.

40* *Chaenopleura lanceolata* (sp. n.); subglabra, foliis petioktis lanceolatis longè acuminatis basi acutis integerrimis glabris, paniculis terminalibus, calycis lati campanulati limbo 4-5-dentato, lobis acutis.

HAB. In woods. *FL* Feb.

Prutex 8-10pedalis. Folia 3 Hi poll, longa, 8-10 lin. lata. Petioli 6-8 lin. longi. Calyx laciniis subpersistentibus. Petala alba, obovato-oblonga. Styli apice incrassati, 1J lin. longi.

This species differs from the former by having much narrower leaves, larger flowers, subpersistent acute calycine segments, more oblong petals, and styles one-third longer,

41* *Chaenopleura densiflora* (sp. n.); paniculis foliisque subtus pube stellata subtilissima sublepidotis, foliis elliptico-oblongis longè acuminatis basi acutis integerrimis supra glabris, paniculis axillaribus terminalibusque, calyce lato-campanulato 4-dentato, dentibus brevibus obtusissimis.

HAB. In woods. *FL* Feb.

Prutex 8-10pedalis. Folia 3-Hi V^oll lonS^a» 12-18 lin. lat*. Petioli 2 4 lin, longi. Flores tetrameri. Petala late oblonga, alba. Styli vix lineam longi.

Distinguished from *C. lanceolata* by its shorter and broader leaves, with shorter petioles, larger flowers, broader and more oblong petals, shorter and very obtuse calycine segments, and much shorter style.

42* *Cremanium chmopleuroides* (sp. n.); ramulis subcompressis, paniculis pctiolis foliisque pube minuta subvelutina, foliis oblongo-lanceolatis acuminatis acumine apiculatis subdentato-crcnatis 3-nerviis cum nervo submarginali,

paniculis axillaribus terminalibusque, calyce obconico
5-dentato.

H A B. In woods, common, Fl. Jan.

Frutex 6-8 pedalis. Folia 4½-5 poll, longa, 15 lin.
lata. Paniculae folio breviores. Petala alba, obovata, su
oblique truncata. Styli filiformes.

In this species the anthers are almost intermedia
tween those of *Miconia* and *Cfuenoplewra*, the cells
split nearly halfway down.

403. *Pleroma virgatum* (sp. n.); ramulis tetragonis
pressis asperis, foliis petiolatis ovatis vel ovato-
acutis basi rotundatis cordatisve 5-nerviis supra
setosis subtus villosis subtomentosis, pedunculis axi-
trichotomo-cymosis in thyrsum paniculatam
lycis setosi lobis lanceolatis ciliatis, petalis ciliatis,
tis glabris, stylo glabro.

H A B. Bushy places, at an elevation of about 5,000
March and April.

Frutex bipedalis. Folia 2|-3 poll, longa, 12-15 lin.
Petioli 4-6 lin. longi. Petala purpurea. Ovarium
setosum. Capsula 5-ocularis. Semina cochleata.

404. *VlzYomzechinatum* (sp. n.); ramulis tetragonis
tomentosis, foliis petiolatis ovato-oblongis elliptic
obtusis basi rotundatis supra adpressis setoso-echina-
villosis tomentosus, floribus ternis terminalibus, bracteis
rotundatis villosis alabastrum junius involventibus
calycis setosi lobis 5 ovatis oblique truncatis ciliatis* p
ciliatis, filamentis glabris, stylo glabro.

H A B. In bushy places, at an elevation of about 6,
Fl. March and April.

Frutex bipedalis. Folia 8-12 poll, longa, 9-12 lin.
Petioli 2-3 lin. longi. Petala purpurea, majuscula.
dense pilosum.

405. *Pleroma elegans* (sp. n.); ramulis teretiusculis a
setoso-hispidis foliis petiolatis ovato-oblongis utrinque
supra glaberrimis rugosis subtus adpressis pilosis
ciliatis, floribus subternis terminalibus, pedicellis bre

hispidis, bracteis lanceolatis ciliatis, calycis setosi lobis angustis, petalis glabris, filamentis subpilosis.

HAB. In dry bushy places. *Fl.* March.

Prutex 4-6-pedalis. Folia 2-2j-poll. longa, 6-8 lin. lata»
*ctioli 4-6 lin. longi. Petala ampla, purpurea.

Near *P. Kunthianum*, nobis (*Lasiandra Kunthiana*, DC),
but with smaller leaves, smaller flowers, and much longer and narrower calycine segments.

406 et 407. *Pleroma Kunthianum*.—*Lasiandra Kunthiana*, DC.

Prodr. 3, p. 128.

HAB. In bushy places, common. *Fl.* March.

408. *Pleroma Raddiana*.—*Lasiandra Raddiana*, DC. *Prodr.* 3, P. 129.

HAB. In dry bushy places, along with *P. Kunthianum*. *FL* March.

409. *Pleroma multiflorum* (sp. n.); ramis alato-tetragonis adpressè villosis, foliis petiolatis ovatis acutis 5-nerviis supra sericeo-villosissimis subtus villosis cano-tomentosis, panicula thyrsoida terminali multiflora, bracteis parvis ovatis acutis, calycis adpressè villosi albi tubo ovato lobis lanceolatis, filamentis glanduloso-pilosis, stylo hispido.

BAB. In moist bushy places. *FL* March.

Frutex 5-6-pedalis. Kami virgati. Folia 4-4£-poll. longa,
2-2j-poll Petala purpurea, vix ciliata, Ovarium dense pilosum.

410. *Pleroma Benthamianum*, *Gardn. in Hook. Bot. Mag.* t. 4007.

HAB. In moist bushy places. *Fl.* March.

411. *Pleroma arboreum* (sp. n.); arboreum, ramis teretiusculis setis minimis adpressis asperis, foliis petiolatis oblongis utrinque acutis supra adpressè setosis nitidis subtus setulosis 3-nerviis cum nervo submarginali, floribus ternis terminalibus, pedicellis subtetragonis asperis, bracteis calyptratis setulosis deciduis, calycis sericeo-villosi lobis 5 oblongis obtusis, petalis minute ciliatis, filamentis hirsutissimis, stylo basi piloso.

AU. In dense virgin forests. *Fl.* March.

Arbor 40-50-pedalis. Folia 3j-41-poll. longa, Mi poll.
lata. Petioli 6-9 lin. longi. Petala magna, puTpurea. Ova-
rium apice setosum.

412. *Pleroma fissinervium*.—*Lasiandra fissinervia*, DC. Prodr.
3, ^?. 130.

H A D. In dry woods. Fl. March.

413. *Myrcia splwerocarpa*, DC. Prodr. 3 jo. 251.

H A B. In woods, common. Fl. Feb.

414. *Eugenia sylvatica* (sp. n.); ramis paniculis que
subtus dense ferrugineo-tomentosis, foliis elliptico-
obtusis acuminatis basi acutis superne glabris p^{elluci} Qm
punctatis, pedunculis extra-axillaribus racemoso-pau-
culatis
folio brevioribus, calycis lobis 4 rotundatis patulis.

H A B. In dense virgin forests. Fl. March.

Frutex 6-8-pedalis. Folia 5-6-poll. longa, 2-24^t la^{Pe}
petioli 6 lin. circiter longi. Pedunculi paulo supra^{to}
oppositi, 4 poll, longi. Calyces pilosi, pellucido-p^{uocati#}
Petala 4, alba, ovata, pubescentia, pellucido-punctata. Q[^]
rium biloculare, loculis 4-ovulatis.

415. *Myrcia elliptica* (sp. n.); ramis paniculis^{folusq} ue sub*
tus villosis tomentosis, foliis ellipticis^{^ " " ^} m a; bus
supra glabris pellucido-punctatis, pedunculis¹⁻³
paniculatis folio duplo fere longioribus, bracteis ca y
que villosis, calycis lobis 5 ovatis acuminatis.

H A B. In marshy bushy places. FL Feb.

Frutex 6-pedalis. Folia \wedge poll, long[^] P^{o1}J[^] m lata,
margine in siccum valdfc revoluta. Petioli 1-2 lin. o^{gi} Pe-
dunculi 2-21 poll, longi. Petala alba, pellucido-p^u ctata,
extus pubescentia. Ovarium 2-loculare, loculis[^]
latis. ovu-

416. *Eugenia Mooniana* (sp. n.); pedicellis 1-3 axillaribus
unifloris folio sextuplo brevioribus apice bibractea^{tis pu-}
centibus, calycis lobis 4 obtusissimis, foliis petiola^{tis p-}
tibus cumminatis basi obtusis utrinque glabris supra
cido-punctatis. nitidis

H A B. In woods, rare. FL Feb.

Arbor 16-20-pedalis. Rami glabri. Folia 2i3-poU-^{longa,}

*²*15-lin. lata. Petioli 3-4-lin. longi. Pedicelli 6 lin. longi.
 Uv^varium 2-loculare, loculis pluriovulatis.

This species of *Eugenia* I dedicate to Mrs. Moon of Rio
 di Janeiro, who kindly collected and dried specimens of it for
 me.

417. *Campomanesia hirsuta* (sp. n.); ramulis petiolis foliis
 subtus calycibusque hirsutis, foliis brev& petiolatis ellip-
 tico-oblongis acutis subacuminatisve supra glabris nitidis
 pellucido-punctatis, pedunculis axillaribus unifloris, calycis
 lobis ovatis acutis.

AB. In virgin forests rare. Fl. Feb.

Frutex 8-12-pedalis, ramosus. Folia 2|-3|-poll. longa,
 15-18-lin. lata. Petioli \ lin. longi. Petala alba, pellucido-
 punctata. Discus staminifer ut in *Psidio latus*. Ovarium
 10-15-loculare, loculis pluriovulatis. Bacca magna, fere 3-
 P^{ou} diametro, depresso*globosa.

The fruit of this shrub, even when ripe, is very acid, and
 is frequently made into tarts by the English families resident
 on the mountains during the hot season,

419. *Campomanesia laurifolia* (sp. n.); ramulis compressis,
 petioli pedicellis calycibusque minute velutino-tomento-
 sis, foliis oblongis acuminatis basi vix acutis supra glabris
 nitidis subtus pallide pubescentibus pellucido-punctatis,
 pedunculis axillaribus unifloris apice bibracteatis, bracteis
 subfoliaceis lanceolatis, calycis lobis 5 ovatis acutis vel
 obtusiusculis utrinque velutino-tomentosis.

HAB. In virgin forests. Fl. March.

Arbor 12-16-pedalis. Folia 5-6-poll. longa, 2-poll. circiter
 lata. Petioli 3 lin. longi. Pedunculi petiolo paulo longiores.
 Petala extus pubescentia. Ovarium 8-loculare, loculis plu-
 riovulatis.

420* *Eugenia complanata* (sp. n.); pedicellis axillaribus
 bifloris geminis complanatis petiolo paulo longioribus sub-
 flore bibracteolatis, foliis petiolatis late oblongis utrinque
 attenuatis apice subacuminatis supra glabris subtus ad
 servos petiolisque minute velutino-tomentosis, pellucido-
 punctatis, ramulis compressis velutino-tomentosis, calyci-

bus 4-fidis, laciniis ovatis concavis margine membrana ciliatis.

HAB. In shady woods. *Fl.* Feb.

Frutex 6-pedalis. Folia 4-6-pollicaria, 2-2\ poll-^{lata}; Petioli 3 lin. longi, supra canaliculati. Pedicelli 4 lin. longi. Ovarium 3-loculare, loculis 6-ovulatis.

421. *Eugenia hypericifolia* (sp. n.); pedicellis 1-2 axillaribus 1-floris folio triplo fere brevioribus subflore ramulis calycibusque velutino-tomentosis, foliis ellipticis acuminatis basi acutis supra glabris nitidissimis pallidis minute pubescentibus impunctatis petiolatis, 4-fidi laciniis ovatis acutiusculis.

HAB. In woods by the sides of streams. *FL* Marc. Frutex 6-8-pedalis. Folia 2-poll. longa. PetioU lineam circiter longi. Pedunculi Petala alba, subciliata, glanduloso-punctata-loculare, loculis 6-ovulatis.

422. *Myrcia anacardifolia* (sp. n.); pedunculis racemoso-paniculatis paucifloris compressis, foliis bus ramulisque villosis tomentosis, foliis petiolatis apice obtusiusculis basi acutis supra glabris pellucido-punctatis, calycis tubo adpressis lobis 5 obtusissimis.

HAB. In virgin forests. *FL* Feb.

Frutex 8-10-pedalis. Folia 4-poll. longa, Petioli 3 lin. longi. Pedunculi 3 poll, longi. Ovarium biloculare.

423. *Myrcia Browniana* (sp. n.); pedunculis paniculatis geminis folio triplo fere brevioribus, ramulis petiolis foliis subtus calycibusque albido-lepidotis, floribus 5-fidis, foliis mag acute acuminatis petiolatis supra glabris nitidis petiolatis punctatis, ramulis compressis.

HAB. In virgin forests, rare. *FL* March.

Frutex 8-12-pedalis, ramosus. Folia pedalia et trichotomi, paulo supra folia orti. Calyx 5-fidus, &

obtusissimis. Petala oblonga, obtusa, alba, glabra, sub-Pellucido-punctata. Ovarium biloculare.

*his handsome and very distinct species of Myrcia, I dedicate^{ca}¹⁶ to the *Botanicorum Princeps*.

⁴25. *Peuillea tomentosa* (sp. n.); foliis quinque-lobatis lobis totegerrimis inferiorum obtusis superiorum acutis supra piloso-pubescentibus subtus tomentosus.

H^{AB} - In bushy places, common.

• Herba scandens. Rami basi suffruticosi, sulcati, tomentosi. Racemi axillares, tomentosi, paniculam effructantes, versus basim cirrhosi, cirrhis bifidis; pedunculi multiflori, racemosi, pedicelli breves. Calyx 5-fidus, lobis obovato-p^{ong}obatis, obtusis. Petala 5, obovata, obtusa, calycis faucibus inserta, sepalis alterna. Stamina 10, cum petalis inserta, quorum 5 sterilia alterna.

{To be continued.}

Second paper on the distribution of Aberdeenshire plants, by G. DICKIE, MD., Lecturer on Botany in the University and King's College of Aberdeen.

THE remarks published in a former number of this Journalⁿ*1 (March 1843) had reference to the upper limits in Aberdeenshire, of plants, which in the same county approach also the level of the sea.

The present communication will embrace the lowest observed limits of plants, which usually abound most, in the high grounds of the interior. I believe, something will be added to the value of the statements, by mentioning the distance of the localities from the sea, as well as their Ovation above its level.

A. great part of Aberdeenshire partakes very much of the Nature of an insular climate. The influence exerted by the vicinity of the sea is best seen in winter; especially when Moderate falls of snow have taken place. The snow seldom

remains for any great length of time (excepting in winters of unusual severity) over a belt parallel to the sea, and extending a few (probably 6 to 10 miles) inland.

Like the former communication, this can only be considered supplementary to Mr. Watson's second paper in the 6th number of this Journal, and the same order will be followed:

Cerastium latifolium. A plant agreeing with the description in the British Flora occurs abundantly on the highest Khoil (composed of serpentine) near Ballater, the lowest limit being 1742 feet, and 43 miles inland.

Even supposing it to be the other species, *C. alpinum*, this locality will be lower than the lowest recorded by Mr. Watson.

Statice Armeria. Is found along the whole course of the Dee from above Ballater to Aberdeen, *SUene maritima* being sometimes associated with it; and both may be seen with *C. latifolium* in the locality already mentioned.

It is perhaps worthy of remark, that in the interior of Aberdeenshire, the *S. Armeria* is most usually found on serpentine, as at the place already alluded to; it also occurs on the Green Hill of Strathdon, composed of the same rock (43 miles inland, and at about 1500 feet), and on the serpentine in the vicinity of Rhymie, estimated as not exceeding 600 feet above the sea, and 33 miles inland. In Strathdon and near Rhymie, this plant is associated with *Arenaria verna*, which in this county has hitherto been found on serpentine; the upper and lower limits of *A. verna* being therefore 1500 and 600 feet.

Salix reticulata. Rocks in Glen Cullater at 2000 feet, about 60 miles from the sea.

Veronica alpina. Glen Callater, 2300 feet.

Juncus castaneus. Glen Callater, 2300 feet, but rare.

Saussurea alpina. Glen Callater, 2245 feet.

Arabia petrcea. On the gravelly banks of the Dee at Ballater at 800 feet (42 miles inland). It also occurs on the Khoil with *C. latifolium*, *SUene maritima* and *Statice*

Armeria, at 1742 feet; this last is perhaps the true lower
«nit.

Saxifraga herbacea. Near the top of the Buck of the Cabrach,
at 2247 feet and 36 miles from the sea. This hill is the
highest within many miles and almost isolated.

Carex rigida. On the Khoil at Ballater at 2000 feet

Juncus Mglumis. In marshes near the "inn at Castleton
of Firaemar, at 1200 feet.

Rubus Cliauemorus. On the hill of Fane, 15 miles inland,
at 1000 feet and upwards; and on Bennachie, 23 miles in-
land and at an elevation not exceeding 1000 feet.

Cornus Suecica. Near the church of Corgarff in Strathdon
at 1200 feet, and 50 miles inland.

Saxifraga hypnoides. On the Khoil at Ballater at 1800
feet. It occurs on the Banffshire coast not many miles
from the boundary between Aberdeen and Banffshire.

Tofieldia palustris. At Corgarff with *Cornus Suecica*.

Saxifraga oppositifolia. On the sea cliffs at Aberdour,
the most northern point of our coast; abundant and cer-
tainly not introduced.

Oxyria reniformis. Occasionally along the whole course
of the Dee to Aberdeen. The lowest *natural* limit I be-
lieve to be in the vicinity of Ballater at 900 feet and 44 miles
inland.

Rhodiola rosea. Abundant on the Aberdeenshire coast,
the southmost locality being at the Bullars of Buchan.

Pyrola secunda. In a ravine on the hill of Fane, es-
timated at 800 feet, certainly far under 1000, and about 15
miles inland.

Epilobium alpinum. Found some years ago on the banks
of the Dee near Aberdeen, now extirpated, and evidently
not its *natural* lower limit, which I regret to say I have not
yet ascertained.

Alchemilla alpina. Occasionally along the whole course of
the Dee to Aberdeen. The lowest *natural* limit is probably
near Ballater about 900 feet, where it is abundant, and
forms a constituent of the turf.

Saxifraga aizoides. Not unfrequent along the whole course of the Dee to Aberdeen. The lowest natural linnæus appears, however, to be in the parish of Lumphanan a Findrae (in wet places), 20 miles inland and probably not exceeding 500 feet above the sea level.

Arbutus Uva Ursi. In great profusion on a moor, miles west from Aberdeen, at about 300 feet.

Galium boreale. Very abundant near Aberdeen, and uncommon along the whole course of the Dee.

Carex pauciflora. Very abundant on the hill of Fane, miles west from Aberdeen, at 800 feet.

I embrace this opportunity of recording the elevation of two of our rare plants, viz. *Carex rupestris* and *C. leporina*.

C. rupestris. Glen Callater, not lower than 2000 feet plentiful at 2397 feet, but I was unable to reach the highest point. Last summer Professor Balfour gathered along with *Luzula arcuata*, and *Astragalus alpinus*, on the Ben Avon range, the altitude is not, however, recorded. This will be a lower limit for the *L. arcuata* in this country, than has hitherto been found, since the range does not exceed 3920 feet.

C. leporina. On Lochnagar at 3559 feet more. The best guide to its locality is the Glassilt burn, into Loch Muich, near its head and on its north bank. It will be found in a line, leading directly from the source of the Glassilt; it grows on the slope overlooking Loch-an-years, (Birds' lakes). It occurs among the crevices of rocks, moistened by springs; there is usually snow in its vicinity, often partially concealing it; *Juncus alpina*, *Phleum alpinum*, and *Alopecurus alpinus*, are to be found with it.

The *Birds' lakes* are on the west side of Lochnagar, at the foot of the White Mouth, a high peak near Lochnagar.

CONTRIBUTIONS towards ^{FLORA} South America.—
 Enumeration of Plants Collected * MR. SCHOMBOBOK,
 in British Guiana —BY GEORGE BKNTHAM, ESQ.

(Continued Jhm p. 52 o/ <<, volume.)

DILLENIACEÆ.

726. *Curatella americana*, Linn.—*Aubl. Fl. Guian.* v. 1. p. 579. t. 232.—British Guiana, *Schomburgk*, n. 92.—The Brazilian *C. Cambaiba* St. Hil. appears scarcely distinguishable from this species.

ANONACEÆ.

727. *Xylopia salicifolia*, *Dun. Monogr. Anon.*
 —On the Rio Quitaro, *Schomburgk* »»» " 560.

728. *X. grandiflora* St. Hil. *Fl. Merid.* v. 1. p. 40.—
X. longifolia Alph. D. C. *Mem. Anon.* p. 34.—Mountainous situations at Anna-y on the Rupuncony, *Schomburgk*, " 609.
 —This species appears to have a very wide range from Columbia and Panama to South-Brazil.

729. *Guetteria Schomburgkiana* Mart. *Fl. Bras. Anon.* p. 38.—British Guiana, *Schomburgk*, n. 466.

730. *G. elongata* (sp. n.), ramulis foliisque novellis subtus appresso-pilosulis, s. longis acuminatis basi acutis pedunculis I t. ^ t. b. revissimis cassis supra basin squamuloso-bracteatis ! ^ . f b .

15-2! lin k L » —an " J teretes Folia 5-9 poll. tusiusculo, subcori-

brevia,
 brevior

teruginea. Petala crassa T. ^ lrtta* » ^ dense
 s dense, caterum tenulter S 111 9-10 ^ longa, basi
 non Tidi.—This plant agrees ^ 1 ^ ineo pubescentia - ^ ^ Fructus
 respects

G. subsessilis, Mart, described from fruit specimens, whilst Schomburgk's are in flower only, so that it is impossible to compare them in any essential character. The leaves are, however much longer than those described by Martius, the branches certainly not angular, nor is the plant quite glabrous. On the Rio Negro, Schomburgk, n. 962.

731. *G. foliosa* (sp.n.), ramulis foliisque subtus tenuiter appresso-pubentibus, foliis crasso-membranaceis ex ovato lanceolatis acuminatis basi rotundatis supra nitidis, pedunculis solitariis v. geminis supra basin minute bracteolata articulatis pollicaribus florum diametro demum brevioribus & petalis obtusis basi extus calyce que ferrugineo-sericeis cuneatis oblongis subaequalibus, baccis oblongis stipite semipollicari brevioribus.—Arbor elata, (70-80-pedalis). Folia 3-4 poll. longiora 1-2 poll, lata, longiuscule petiolata, acumine longo obtusiusculo, venulis crebris reticulatis utrinque prominentibus. Flores primum dense ferrugineo-sericea. Petala tandem valde aucta, subcanescentia. Baccae circa 20, glabrae, obtusae, stipite tenui.—This is evidently very near *G. denudata* Mart., but differs from his description in the leaves rounded, not acute, at the base, the inner and outer petals equal in breadth, and the shorter stipes of the berries.—On the Rio Negro, Schomburgk, n. 995.

732. *G. inundata* Mart. Fl. Bras. Anon. p. 36.—Lagoons at Pedrero on the Rio Negro, Schomburgk, n. 922.

783. *G. heteropetala* (sp. n.), ramulis foliisque novellius subtus minutissime puberulis mox glabrescentibus, anguste oblongis breviter acuminatis basi angustatis crassocoriaceis nitidis, pedunculis brevissimis ferrugineo-puberulis supra basin subsquamosam articulatis, sepalis petalisque exterioribus vix iis majoribus ovatis acutis extus subferrugineo-sericeis, petalis interioribus maximis crassis ovato-lanceolatis incanis.—Arbor 40-pedalis. Folia 4-6 poll. longiora 15-18 lin. lata, opaca v. vix nitidula, petiolo semipollicari supra late canaliculato. Pedunculi petiolo breviores, recurvi. Flores odorati. Petala flavida, exteriora vix 3 lin. longiora interiora fere pollicaria, 5 lin. lata, basi concava, medio

734. *Uetia* W (r m i i (* « »), *foliis oblongis longe et
 acute* *CummatS baSi MUti8 SUpra S laberrimi s nitid's subtus
 lep »idot- Pedunculis uniflons squamosis ramulisque dense
 lepidof ous' sepa i is ovali-oblongis petalisque oblongis obtusio-
 ribus extus dense lepidotis intus pilis stellatis incanis.—
 Folia coriacea 4-6 poll. longa, 1-2 poll, lata, petiolo biii n e a r i.
 Pedunculi laterales, solitarii, squamis 2-3 parvis iatis, sup e r i o r e m a J o r e a calyce distante.
 Sepala semipollicia Petala Pa«Uo longiora, inferne an-
 gustata. Fructus n J n n i o r e . vidi.—A small tree, with
 a valuable woo « . n ^ " ^ o r r « ^ - » ^ of the
 Arrowaks. On V 6 R l o Q u i t a r o , Schom ^ k , n . 561.
 735. *Rollinia* —Mart. Fl. Bras.
 Anon. p. 18. British Guiana, Schomlmrgk.*

MYRISTICÆ.

736. *Myrictica sebifera*, Svr.-Pirara, Schomburgk, n. 7U

MENISPERMACEÆ.

737. *Cissampelos crenata* D.C. Syst. Veg. v. 1. p. 537
 Fo ^ n r r ? i t e r p r i m i n i * « W i ^ 2
 tos , Z S S t u m a t a S i s u b c o r d a t a , i ^ a r e b a s i t r u n -
 cata 1 d a S a v a n n a h s n e a r P i r a r a , S c h o m b u r g k , n . 124.
 r 38 .
 ^ i s o r h i c a / T a C ^ / O ^ W) , V o l u b i l i s > f o l i i » ^ g e p e t i o -
 u t r i n n u e e d / 1 . S e p u b e r u l i s > w b a o u m i n a t i . b a s i 5 - 7 n e r v i i s
 P a n i c u W . P e d u n c u l i s i n a s c u l i s r a c e m o s o -
 b r a c t e i s m i n i m i s d e e i d u u . - R a m o l i n o v e l l i p i l i s r e f l e x i s p u -
 P e l t a t a < ? o M I l n 118 W » w « » n t e » , s t r i a t i . F o l i a v i x b r e v i s s i m e
 c o n t r . J f a , p . l o n g a e t l a t a , i n f r a a p i c e m s « P e s i n u a t o -
 m a s o , r a p i o C m f o e m i n e i s o b t u s i s s i m a c u m m u c r o n u U , i n
 P l e r i n m U t l C a , o b t u s i u s c u l a - R a c e m i f o e m i n e i n u m e r o s i ,
 t i s s i ^ U e / o i C a r e S) V i l l o s i i n B r a c t e « l i n e a r e s m i n u t e e t c i .
 — e d e c i d u u ® - F l o r e s p e d i c e l l a t i s e c u s r h a c h i n f a s c i c u l a t i ,

in fasciculis numerosi. Sepalum lineare minimum cito deciduum. Ovarium et bacca omnino *C. andromorpha*. Racemi masculi parum ramosi, 3-4 pollicares, villosi, floribus iis *C. Pareira* similibus.—British Guiana, *Schomburgk*, n. 677 (female specimens), and n. 221 of the 1841 Collection (male specimens). This plant differs from *C. andromorphy* D.C. chiefly by the pubescent foliage.

NYMPHIEACEIE.

739. *Victoria regia*, *Lindl.* The only specimens of this splendid plant, sent to this country by Mr. Schomburgk were those preserved in spirits from which Dr. Lindley made his description, and two young leaves, portions of which were distributed to some of the subscribers. I have not myself had an opportunity of examining the flowers or fruit.

740. *Cabomba aquatic* [^] *Aubl. PL Gui. 1. p. 321. t. 124.*—British Guiana, *Schomburgk* (n. 213 of the Collection of 1841). Surinam, *Hostmann*, n. 82.

SARRACENIACEJE.

741. *Heliamphora nutans*, *Benth. Trans. Soc. Linn. Lond. v. 18, p. 432, t. 29.*—Moist Savannas on Mount Roraima, *Schomburgk*, n. 1050.

TERNSTROEMIACEJE.

742. *Ternstroemia Schomburgkiana* (sp. n.), foliis oblongis v. obovato-oblongis obtusis retusisve basi angustatis integerrimis v. minute crenulatis coriaceis subaveniis, pediculis flori vix sequilongis, sepalis petalisque acutis. Cum diagnosi *T. brevipedis*, DC. convenit, sed folia vix 2 poll, longa, ne^c unquam pollice latiora. Tota glaberrima. Folia supra nitida, subtus opaca, margine recurva, crenulis minutissimis interdum notata; venae in vetustioribus interdum nonnullae observantur. Pedunculi circa 4 lin. longa. Sepala 2 Hⁿ; longa, ovata, acuta, crassa. Petala calyce breviora, basi

breviter connata. Stamina petalis breviora.—Dry Savannah*
near the Roraima mountains, Schomburgk.

743. *T. crassifolia* (P. n.) > foliis obovatis v. obovato-
oblongis obtusis minute crenulatis basi cuneatis crasso-
coriaceis pedicellis flore sublongioribus, sepalis
orbiculatis obtusissimis.—Praecedenti affinis. Folia crassiora,
Proportione breviora. Flores multo minores, sed in speci-
mine manco a vermibus fere destructi.—Near Roraima,
*cf. <> mbrk.

744. *Bonnetia sessilis* (sp. n.), ramulis angustatis, foliis
sessilibus obovato-ellipticis obtusissimis leviter venosis, pe-
dicellis brevissimis unifloris.—Frutex ramosissimus. Folia
*d apices ramulorum conferta, 1-1½ pollicaria, basi parum
pgustata, nervo medio basi dilatato, venis subparallelis
leviter prominentibus, margine saepe tenuiter nigro-punctato.
Pedicelli crassi, angulati, vix 2-3 lin. longi. Sepala ovata,
conca^a coriacea, interiora semipollicaria. Petala orbiculata,
ultra pollicaria. Stamina numerosissima, libera. Anthera
oblongae. Stylus staminibus longior, apice in specimine a
vermibus destructus. Ovarium triloculare, ovulis creberri-
*s imbricato-adscendentibus.—Roraima mountains, Schom-
burgh, n. 1046.

745. *Archytea multiflora* (sp. n.), foliis sessilibus obovato-
oblongis v. oblongo-ellipticis basi angustatis coriaceis supra niti-
*s, pedunculis compressis apice multifloris.—Frutex 12-15
pedalis, glaberrimus. Folia 3-4 poll, longa, 1-1½ poll, lata,
obtusiuscula, nervo medio basi dilatato, venis pinnatim dis-
positis reticulatis prope marginem confluentibus in pagina
superiore prominentibus. Pedunculi axillares, folia parum
superantes, rigidi, fere ancipites. Flores ad apicem 5-10,
*s apitati. Pedicelli brevissimi, crassi, singuli ad axillam brac-
t^e subtendentis ovatae v. ovato-oblongae concavae coriaceae
*s tidae; harum exteriores subsemipollicares, interiores mi-
*s tres. Adsunt etiam ad basin pedicellorum exteriorum
bracteolae 2 minimae, in interioribus saepe deficientes. Sepala
*s > ovata, valde imbricata, subaequalia, exteriora interdum
*s d orso strigis paucis onusta. Petala circa 8 lin. longa,

obovato-oblonga, basi in unguem angustata, rosea. Stamina petalis subsequilonga, in phalanges 5 ultra medium connata. Antherte parvae, versatiles, didymae. Ovarium sessile? glabrum, conicum, 5-loculare, ovulis in quoque loculo 6-7 a basi ascendentibus. Stylus simplex, staminibus longior apice stigmatifero obscure 5-angulato. Capsula calycem vix excedens, uti semina omnino cum descriptione *A. triflora* convenit.—Near the brook Rone*, 5000 feet above the level of the sea (Roraima Expedition), *Sckomburgk*.

746. *Caraipa Richardiana*, *Camb. Mem. Ternstr. P.* 46 > t.3. British Guiana, *Sckomburgk*, (p. 175, *Coll* 1841).

747. *C. laxiflora* (sp. n.), foliis alternis oblongo-ellipticis obtuse acuminatis, panicula terminali laxa multiflora, ovario tomentello.—Pluribus notis cum descriptione *C. fasciculata* Camb, convenit, sed folia minora angustiora, et panicula semipedalis, basi foliosa, pluries ramosa, ramis denudatis dichotomis. Calyx linea brevior. Petala 2 lin. longa, ovata, extus tomentella, apice ciliata. Stamina breviter connata. Anthere ovato-globosae. Connectivum crassiusculum, apice vix excavatum. Ovarium tomentellum, 3-loculare. Ovula in quoque loculo 2, collateralia, pendula. Stylus brevis, stigmatibus obsolete trilobis.—Tree 40-50 feet high, flowers fragrant, on the Rio Quitaro, *Schomburgk*, n. 583.

748. *C. leiantha* (sp. n.), glaberrima v. panicula juniore leviter ferruginea, foliis suboppositis obovato-ellipticis obtusis venosis venosissimis pellucido-punctatis, panicula pyramidata multiflora, petalis glaberrimis lucidis.—Arbor 40-pedalis, ramulis subteretibus. Folia pleraque opposita v. supra alterna, exstipulata, 2-4 poll, longa, 1-2 poll lata, acutiuscula v. saepe obtusa, basi angustata, venis parallelis crebris, venulis reticulatis prominentibus, punctis pellucidis crebris, petiolo semipollicari. Panicula bifida foliosa, parce ramosa, subsemipedalis, ramulis non divaricatis. Bractea sub pedicellis lanceolato-subulatae, acutissimae, 1-3 lin. longae. Pedicelli bracteis paullo longiores, saepe bracteolis 1-2 parvis onusti. Sepala vix 1 lin. longa, acuta. Petala 2 lin. longa, ovata, obtusiuscula, aestivatione convo-

luto-imbricata, alba, siccitate lucida. Stamina numerosissimi* > libera. Ovarium subglobosum, glabrum, loculis 3 ^niovulatis, ovulis lateraliter affixis. Stylus petalis subhrevior, stigmate crassiusculo trilobo.—On the Rio Negro, *Schomburgk, n. 935.*

749. *Mahurea exstipulata* (*sp. n.*), glaberrima, foliis exstipulatis oblongo-lanceolatis basi cuneatis, sepalis orbiculatis obtusis.—Frutex elatus v. arbor parva. Folia angustiora et magis acuminata quam in *M. palustre*, 3-4 poll. longa, 1 poll, lata, coriacea, venis primariis pinnatim dispositis, venulis reticulatis creberrimis, areolis pellucido-punctatis. Racemi subsemipedales. Pedicelli 6-12 lin. longi, uniflori v. inferiores ramosi 2-3-flori. Flores rosei. Sepala inaequalia, majora 3 lin. longa et lata, concava, extus subcanescentia. Petalorum nonnisi fragmenta suppetunt. Stamina interiora basi leviter connata. Stylus simplex, staminibus longior. Stigma trilobum? Ovarium glabrum, 3-loculare, ovulis numerosissimis deorsum imbricatis.—Banks of rivers and brooks in the Serra Pacaraime, *Schomburgk, n. 1041.*

750. *Catostemma fragrans*, *gen. nov.*—Banks of rivers British Guiana, *Schomburgk, n. 280.*

Char. Gen. CATOSTEMMA. Calyx basi cupuliformis, limbo kilobo, laciniis cestivatione imbricatis. Petala 5, perigyna, tasi breviter pentadelpha, filamentis filiformibus, antheris erectis, loculis 2 longitudinaliter dehiscentibus. Ovarium liberum, sessile, triloculare. Ovula in quoque loculo 2, collateralia, ex angulo interno adscendentia. Stylus filiformis, apice breviter trifidus, laciniis acutis apice breviter et clique stigmatiferis. Fructus

Q. fragrans. Arbor 50-pedalis, ramulis subcanescentibus. Folia alterna, obovato-oblonga, obtusa v. retusa, mucrone subtus recurvo, 2-4 poll, longa, 1-2 poll, lata, integerrima, basi parum angustata et in petiolum angustata, coriacea, Slabra v. nervo medio leviter canescente, penninervia, nervis subtus valde prominentibus, petiolo 3-5 lin. longo furfuraceo-canescente. Pedicelli in axillis supremis numerosi,

fasciculati, sesquipollicares, furfuracei, basi bracteis minutis squamiformibus, supra medium squamis 3 inter se distantibus bracteolati. Calycis tubus extus furfuraceus late cupulatus, 2 lin, longus, limbus reflexus, laciniis 2 lato-ovatis membranaceis concavis 4-5 lin. longis; sestivatio leviter imbricata videtur at alabastrum inapertum non vidi. Petal* sub apice tubi calycis inserta, eo longiora, oblonga, valde imbricata, glabra, per anthesin reflexa, post anthesin cum calycis tubi parte superiore circumscissa decidua. Stamm* calyci infra petala inserta, numerosissima, petalis breviora, glabra. Ovarium tenuiter tomentosum, subcarnosum. St* T lus glaber, staminibus longior.—In the structure of the calyx, this plant differs from other Ternstroemiaceae. The ovules are erect as in *Kielmeyera*, *Archytia* and *Bonnetia*, but appear to be always limited to two.. The fruit is unknown, but from the appearance of the ovarium, I suppose it to be capsular.

751. *Ochthocosmus Boraima*, gen. nov. Ternstroemiaceis affine?—Banks of rivers, near Mount Roraima, *Schmburg*** ». 1087-

Char. gen. OCHTHOCOSMUS. Calyx persistens, 5-partitus laciniis sestivatione imbricatis. Petala 5, persistentia, sestivatione imbricata, leviter perigyna. Stamina 5, petalis ternata, disco tenui intra petala inserta. Anther*. Ovarium sessile, liberum, ovato-conicum, 5-loculare et disseminatum incompletis inter ovula semi-10-loculare. Ovula in quoque loculo 2, exangulo centrali pendula. Stylus filiformis. Stigma capitatum, obsolete 5-lobum. Fructus capsularis?—*Roraima*. Frutex 12-16-pedalis, glaberrimus, ramis erectis subpyramidatis angulatis. Stipulee parvae, erectae, coriaceae. Folia approximata, brevissime petiolata, late ovalia v. ovata, obtusissima v. emarginata, basi parum angustata, margine remote et breviter crenato-dentata, crenarum sinibus saepe glanduliferis, coriacea, supra nitidissima, penninervia, reticulato-venosa, subtus opaca et pallida, 2-4 poll, longa 1-2 poll. lata. Pedunculi in axillis superioribus fasciculati, foliis paulo longiores v. rarius breviores, angulati, fasciculate

^ ~~epios~~ 6-10-flori, paniculam parvaram efformant foliosam ad apices ramorum. Pedicelli vix linea longiores, singuli ad axillam bractee minuti orti. Flores odorati, parvi. Sepala vix lineam longa, ovalia, glabra. Petala alba, 3 lin. longa, obovato-oblonga, basi angustata, obtusa. Filamenta petalis subaequilongia. Anthere in specimine meo omnes a vermibus destructae. Ovarium glaberrimum. Stylus petalis paullo brevior.

This genus differs from Ternstroemiaceae in its definite stamens, but in most other characters it approaches nearer to them than to any other order I am acquainted with. The habit is somewhat different, as well as the consistence of the Petals. The fruit is unknown to me, but, judging from the somewhat enlarged ovaria, it appears to be capsular and likely to open in valves, leaving the central column free.

CLUSIACEAE.

The undescribed genera and species of this order in the tropical forests of America are probably numerous, but owing to the difficulty of drying specimens, those which are brought home by collectors are few and imperfect, and the great Variety of forms observable in both male and female flowers indicate a variety of groups, whether generic or sectional, as yet but very ill defined. Some of the following, which I have referred to published genera, may possibly, therefore, belong to others at present undescribed, but upon which my materials do not enable me to form any decided opinion.

752. *Tovomita* (Marialvsea) *umbellata* (sp. n.) > foliis ovato-
 ellipticis obtusis v. acutiusculis basi acutis, pedunculis com-
 pluribus terminalibus dilatatis apice corymboso-plurifloris,
 Petalis 8, staminibus pluriseriatis, stigmatibus 4 sessilibus.—
 affinis ex descriptione *T. macrophytta*, Poepp. Arbor 40-pe-
 dalis. Folia petiolata, majora vix 5 poll, longa. Pedunculi
 ad apices ramulorum umbellam formant sessilem 4-6-radia-
 tum, petiolo sequilongi sunt et valde compressi. Flores parvi,
 ad apices pedunculorum 3-10, fasciculati, breviter racemosi

v. subumbellati, pedicellis 2-3 lin. longis. Petala majora vix 3-lin. longa. Stamina libera, filamentis crassiusculis, exteriora multo breviora. Ovarium in flore unico vidi staminibus brevius, 4-loculare, loculis uni-ovulatis, stigmatibus ovatis sessilibus. — Flowers greenish yellow and very fragrant, British Guiana, *Schomburgk*, n. 991.

753. *Tovomita?* (*Micranthea?*) *myriandra*, (sp. n.) > oblongis obtusis basi longe angustatis, panicula terminali pedunculata dichotome corymbosa multiflora, floribus 2-bracteatis 4-sepalis 5-petalis, staminibus numerosissimis in discum hemispherico-depressum confertis, antheris nullis terminalibus.—Folia 3-5 poll longa, supra medium 1-poll, lata, petiolo brevi, venulis crebris parallelis obliquis supra obscuris subtus prominentibus. Pedunculi compositi 1-2 poll, longi, bis terve dichotomi, ramis ultimis tritloris floribus pedicellatis in corymbum densiusculum dispositis. Bractee et sepalae orbiculatae, interiora 4 lin. longa. Receptaculum 6 lin. longa, obcordata, emarginato-bifida, basi angustata breviter connata. Stamina brevissima creberrima densissime conferta et quasi agglutinata in discum 3-lin. latum vix 1 altum. Antherae terminales minute biglobosae. Flores mineos non vidi.—British Guiana, *Schomburgk*, (n. 34 of the Coll. of 184J). This plant has the anthers rather *Arrudea* than of *Tovomita*, but the calyx is different, & have seen no hermaphrodite flowers.

754. *Clusia insignia*, *Mart. Nov. Gen. v. 3, p. 164, t* 288.* *C grandiflora* *Splitg., Pl. Nov. Surinam, p. 7?*—I have specimens with male flowers, answering to both descriptions as to structure and form, but intermediate as to size & flowers. Martius's is said to have them 4 inches diameter, those of *Schomburgk's*, n. 100 of the 1841 Collection, are rather more than that even in the dried state; so are also *Hostmann's*, n. 572, from Surinam, also males. In a single specimen from *Schomburgk's* first expedition, the diameter is near 6 inches, and *Splitgerber* describes his as being 7 or 8 inches diameter.

755. *Clusia cuneata* (sp. n.), foliis longe obovato-v. oblongo-

cuneatis obtusissimis venis crebris divaricatis, panicula (mas-
 cul^a trichotoma p^{ur}fl^{ora} p^{eta}u^s subsenis pollicaribus, sta-
 minib^{US} numeros^{*ss}imⁱs[>] antheris obtusis connectivo ultra
 lo^{cul}os 1¹⁰On producto — Folia majora 5 poll, longa, 2 poll.
 lat^a h¹ y basi longe angustata, suprema multo minora. Panicula
 in^s pedunculo terminali bipollicari divaricato-trichotoma, in
 s¹ Pecimine suppetente 13-flora. Bractee ad ramificationes
 p^{*1}ovatae, concavae. Pedicelli ultimi 3 lin. longi. Brac-
 teo²epala 5, exteriora orbiculata, interiora petaloidea.
 P^fa 6 ? apice late obovata-orbiculata, basi in unguem latam
 e^a brev^{er} angustata, ex sicco alba v. flava videntur. In centro
 flor^s in disco carnosio crassiusculo, stamina oriuntur nume-
 ros⁹issima, filamentis brevibus tenuibus in antheram oblongam
 in^{cr}assatis; loculi lineares introrsi, connectivo angusto apice
 n^ud^o v. gutta terminate, nee (ut in C. insigni) appendiculato.
 B^h Guiana, Schomburgk.

6.
 tus⁶ K^a V⁶tia fiU^{Vida} (*? *), foliis obovatis oblongisve ob-
 ch^{is} basi longe angustatis, paniculis subsessilibus laxe tri-
 otomis ramosissimis, staminibus 4, filamentis connatis,
 antheris liberis.—Arbor 20-peda^{US}. Folia (ramorum florum
 lurn) 2-4 poll, longa, venulis crebris tenuibus parallelis notata
 W in icone H. laurifolia depicta at apice obtusiora. Pani-
 culae amplae, pedunculo communi seepius brevissimo, ramis
 c^ompressis valde divaricatis, ultimis trifloris, flore intermedio
 s^{se}ssili, lateralibus pedicellatis. Bractee sub ramificationibus
 c^ompressis, ovatae. Bracteolee sub flore minute. Flores magni-
 tudine^c H. laurifolia. Sepala orbicularia, liixea paullo lon-
 giora. Petala orbiculata, crassa, carnosae, sordine flavescentia,
 per^{anthesin} conniventia, sepalis longiora. Flores in specimine
 omn^{es} masculi. Filamenta in corpusculum tetragonum tur-
 binatu^m connata. Antherae ovato-oblongae, filamentis paullo
 brevior^{es}, connectivo crassiusculo, antheris erectis longitudi-
 na^{te} dehiscentibus.—British Guiana, Schomburgk, n. 317.

57. *Garcinia macrophylla*, Mart. Herb. Fl. Bras. p. 275?
 Pecimina mascula. Folia 7-8 poll, longa, 2³-3poll. lata.
 s^{res} in nodis axillaribus plurimi (6-12) fasciculati, parvi,
 Pedicellis 9-10 lin. longis. Receptaculum crassissimum.

Stamina plurima, filamentis brevibus.—Falls of Vapoota, British Guiana, *Schomburgk*, ». 523.

758. *Garcinia? parviflora* (sp. n.) > ramulis compressis, foliis oblongo-ellipticis submembranaceis, pedicellis (masculis; axillaribus fasciculatis tenuibus 1-3-floris flore multoties longioribus.—Specimen unicum arboris parvse. Folia senio-pedalia, basi angustata, brevissime petiolata, parallele costato-nervosa, multo tenuiora quam in solito more Clusiacearum. Pedunculi rigiduli etsi tenuissimi, alii semipollicares uniflon, alii in pedicellos tres uniflores semipollicares divisi. & T*^o teote parvse, rigid®, acutae, ad basin pedunculorum et pedicellorum. Flores parvi. Sepala 4, parum inaequalia, lineam longa. Petala 4-5, sepalis duplo longiora. Staminum 20-30, disco carnosulo inserta, libera, antheris ovatis. Ovarii vestigium nullum vidi.—On the Carawiemie mountain *Schomburgk*.

759. *Calophyllum lucidum* (sp. n.), racemis axillaribus paucifloris, sepalis 2 ovalibus, petalis 4 oblongis, staminibus numerosis, filamentis anthera oblongo-lineari subduplo longioribus, stylo ovario subsequilongo, stigmate peltato.—Arboris ramis divaricatis. Folia iis *C. Brasiliensis* similia, « acuminata v. acutiuscula, nunc obtusissima v. emarginata basi angustata, supra nitidissima, venis minus quam in *Calaba* prominentibus. Racemi subbipollicares, 5-9-» Pedicelli semipollicares. Bractee lanceolatae, deciduae. Flores albi. Sepala concava, late-ovalia at angustiora quam in *C. calaba*. Petala angustiora, sepalis longiora at iis similia. Stamina circiter 40, petalis dimidio breviora. Antherae angustiores et minores quam in *C. Calaba*, longiores quam in *C. Brasilimse*. Stylus hujus speciei at stigma minus. Ovarium uniovulatum. Fructus non vidi.—Upper Essequibo, *Schomburgk*, n. 514.

MARGGRAVIACEAE.

760. *Marcgravia umbellata*, Lmn.--DC. *Prodr.* hp- h[^]
A single specimen from the Roraima expedition, with rather*

longer cucullae, borne on shorter pedicels than in my West Indian specimen, but apparently the same species.

HYPERICACEAE.

761. *Vismia macrophylla*, Humb. et Kunth, *Nov. Gen. et Sp.* v. 5, p. 184.—Arbor 40-pedalis, ramis patulis. Folia 6-15 poll. longa, 3-5 poll. lata, lanceolata, ovato-lanceolata, ovato-silvatica v. in ramulis lateralibus brevius ovata, plus minus acuminata et basi rotundato-cordata, primo juventute utrinque ferrugineo-pilosa, mox supra glabrata demum nitida, subtus pili stellatis plus minus ferruginea, nigro-punctata, venis parallelis subtus prorainulis percursa. Panicula in ramis majoribus ampla, floribunda (diametro 6-8 poll.), in ramulis lateralibus multo minor, ferrugineo-tomentosa. Sepala ovata, obtusa, dorso ferruginea et striata, intus glabriora, basi punctata. Petala fusca, calyce longiora, intus dense lobata. Androphora 5, lanata, 10-15-andra. Styli 5.—British Guiana, Schomburgk, n. 405 (w. 75, Coll 1841). I have it also from the Bay of Panama, from Surinam (Hostmann, n. 162), and from Bahia in Brazil.

762. *V. Guianensis*, Pers.—DC. *Prodr.* v. 1, p. 542.—British Guiana, Schomburgk, n. 182.

763. *V. Cayennensis* Sy Pers.—DC. *Prodr.* v. 1, p. 543.—British Guiana, Schomburgk, n. 607. French Guiana, LePrêtre, *Herb. Par.* n. 162. Surinam, Hostmann, n. 438.—The leaves are abruptly and obtusely acuminate and usually slightly crenulate towards the apex, as described by Kunth in the *V. nrfescens*. The specimens before me do not quite agree with Lamarck's description of the latter species, yet I strongly suspect it is but a variety of *V. Cayennensis*. Hostmann's specimens have rather narrower leaves than the others.

ERYTHROXYLACEAE.

764. *Erythroxylon campestre*, S. Hil.—Mart. *Erythrox.* P' 93, t 7.—Pirara, Schomburgk, n. 764.

765. *E. passerinum*, Mart. *I c. p.* 106? The specimens

before me closely resemble one I have received from Martius under the above name, but the leaves are more acute at the base, and the pedicels are shorter.—British Guiana, *Schomburgk*, w. 627.

766. *E. citrifolium*, *St. Hik*—*Mart. L c. p.* 114.—British Guiana, *Schomburgk*, n. 590.

767. *E. mucronatum* (sp. n.), foliis coriaceis oblongis obovato-oblongis apice obtusis cum mucrone, basi angustis cuneatis, stipulis ramentisque petiolo longioribus, pedunculis nodoso-glomeratis vix petiolo longioribus, calycis laciniis acutissimis petalis oblongis subdimidio brevioribus. pleraque bipollicaria, apice subplicata, supra nitidula, sub in sicco rufescentia v. subglauca, venulis parum prominentibus, petiolo 1-2 lin. longo. Stipulse membranaceae, acutissimae, bidentatae. Ramenti floriferi secus ramos plurimum distichi, 2-8-flori. Pedunculi 3 lin. longi, Flores parvi, petalis oblongis. Drupa oblonga, 4 lin. longa.—*Pithecia Schomburgk* n. 766. I cannot make this plant agree with any of Martius's descriptions, though it comes near both *E. nitida* and *E. campestris*. The stipules are much longer than in either.

768. *E. rufum*, *Cav. Diss.* 8, p. 404, k 232 ? *DC. Prodr.* p. 575.—Rio Quitaro, *Schomburgk*, n. 545. I have no doubt but that this is the plant described by De Candolle, and is probably Cavanille's species, and I presume it is one referred by Martius to his *E. nitidum*, though the leaves are much broader and the peduncles longer than described by him in any of his varieties,

769. *E. amplum* (sp. n.), foliis breviter petiolatis oblongo-ellipticis utrinque angustatis subcoriaceis subturgidulo-glaucis, stipulis ramentisque petiolo longioribus, pedicello breviori, stylis a basi liberis.—Pluribus notis cum *E. noluefolio* convenit, sed folia apice minime rotundata petioli stipulis saepissime breviores. Ramuli cinerei, novales, fuscis, subcompressis. Folia 6-12 poll. longa, medio 2-3 poll. lata. apice acuta v. acuminata, basi acuta v. leviter

rotundata, supra demum nitida; subtus in sicco ferrugineo-colorata, subglauca, tactu molliuscula et glabra. Petiolus ¹⁰ lin., v. in ramulis vetustioribus 5-6 lin. longus, amenta stipulis aequilonga, juniora basi arista dorsali mox decidua onusta. Flores in glomerulis saepius plus quam 12. Pedicellus vix lineam longus. Calycis laciniae ovatae, aculeosae. Petala oblonga, obtusa, calyce subduplo longiora. Styli graciles. Fructus non vidi.—Barcellos on the Rio Negro, Schomburgk, n. 1027-

TRIGONIACEAE.

770. *Trigonía villosa*, Aubl PL Guian. 1, p. 387, t. 149, var. angustifolia. Capsules sesquipollicares.—On the Essequibo, Schomburgk, n. 63 in the earlier sets, and 54 in others.

771. *T. macrocarpa* (sp. n.), ramulis dense tomentosis, foliis subsessilibus ovato-rhombicis obtusis mucronatis supra pubescentibus viridibus subtus albo-tomentosis, floribus saepe ramos paniculae racemosis.—Frutex elatus, habitu et inflorescentia *T. villosa*, sed folia latiora, flores majores densiores, petioli stipulis breviores, capsulae nondum maturee jam tripollicares.—On the Essequibo, Schomburgk, n. 54 in the earlier sets.

772. *T. subcymosa* (sp. n.), foliis breviter petiolatis ovali-angustatis obtusis vix mucronatis supra glabris hirtellisve subtus albo-tomentosis, ramis paniculae subdichotome cymosis.—Frutex elatus, ramosus, ramis apice tomentosis demum glabratis. Folia 1½-2-pollicaria. Flores quam in *T. villosa* dimidio minores. Petala lateraliter et inferiora angustiora.—On the Essequibo, Schomburgk, n. 56 in the earlier sets, 63 in others.

HUMIRIACEAE.

773. *Hurairium obovatum* (sp. n.), ramis hirsutis, foliis subsessilibus late obovatis obtusissimis retusisve supra nitidis subtus rufis piloso-hirtis, petalis dorso pubescentibus. Ramuli teretes, hirsutiae molli patente. Folia plerumque Poll, longa, supra medium 2 poll, lata, basi cuneata, sessilia

v. petiolo crasso vix lineam longo insidentia, apice sffip^{ius} emarginata. Pedunculi communes hirtelli, vix compressi? folio dimidio breviores, apice trichotome ramosi, floribu^s numerosis parvis. Petala obtusa, linea breviora, a^{or}so^{ris} pubescentia. Stamina 20. * Antherae pilis aliquot nig^{ris} onustae. Ovarium 5-angulare, 5-loculare, loculis biovuia^{tis}. Stylus brevis. Stigma obsolete 5-lobum.—British Guiana, Schomburgk (n. 166, Coll 1841;.

Amongst Martius's Cayenne plants is a new speci^e in some respects allied to the preceding one, and^{hic} may be thus characterized: *H. subcrenatum*, ramulis^{bir-} tellis, foliis subsessilibus ovatis obtuse acuminatis su^{bcre-} natis basi cuneatis, cymis folio brevioribus paucifloris, p^{etalis} dorso puberulis.—Folia 1-ji-pollicaria, crenaturis^{inX^U\} bus saepe obsolete. Cymae fere *H. floribundi* varieta^t minoris.

774. *H. Guianense* (sp. n.), glaberrimum, foliis peti^o ovatis obtusis basi truncatis rotundatis angustatisve, p^{etio} alato, cymis folio longioribus, petalis glabris.—Frutex 1^o ~ 12-
pedalis, pluribus notis *H. crassifolio* Mart, affinis. Folia^{ina} minora (pleraque subtripollicaria) proportio^{ina} latior; ^ W&
basi interdum obtuse subauriculata. Petiolus 1^o ^ a^{latus}
semipollicaris. Pedunculi saepe ancipites, dichotomy^{* x-nri'} bundi. Flores viridi-flavescentes, magnitudine eorum ^
floribundi. Stamina 20. Anthers^o pilosae. Ovarium 5-loc^o lare, loculis biovulatis. Stylus elongatus, stigmatibus 5-radialibus.—Savannahs, British Guiana, Schomburgk n. 270.

775. *H. floribundum* Mart. Nov. Gen. v. 2, p. 145. t. 19^o.
On the Upper Rupunoony and in the Parime Mountains^{ina} Schomburgk; two single specimens, both belonging to larger variety mentioned and figured by Martius.

776. *H. ? densiflorum* (sp. n.), foliis ovato-ellipticis brevity^{ina} et obtuse acuiinatis basi rotundatis breviter petiolatis, cymis^{ina} pedunculatis axillaribus lateralibusque dense in^{ina} ovario 5-loculare, loculis uniovulatis.—Arbor 60-pedali^s Petiolus semipollicaris, supra planus at non alatus. C^o f^a qoriacea, 3-6-pollicaria. Pedunculi pollicares, minute pube^{ina}

^{ruli.} Kores numerosi, fere in capitulum condensati, extus
^{to} mentoso-puberuli, fere 2-lin. longi, Pélala oblongo-lineararia.
St arnina 20,4-seriata, adjectis nonnunquam nonnullis minutis
^{sterilib} erilibus seriei quinti. Filamenta basi onnata, inceiqui-
^l onga, complanata, 5 majora petalis alterna apice bidentata,
^{te} a apice attenuata. Antherae glabree forma *H. crassifolii*
^{et} floribundL Discus hypogynus 10-fidus, laciniis linearibus
^{ov} ario appressis apice emarginatis. Ovarium globosum,
^S abrum, carnosum. Ovula oblonga. Stylus brevis. Stigma
^{Ca} pitatum, 5-radiatum.—On the Rio Quitaro, *Schomburgk*
ⁿ 543. This species differs from the four preceding ones by
^{the} single ovules in each cell as well as by its habit, and might
^{be} considered generically distinct, were it not that *Hellenia*
^{is} also said to include species with 1-ovulated and with
²-ovulated cells. The fruit is unknown to me.

OLAÇACEJE-

777- *Olax macrophylla*, Benth. in *Trans. Soc. Linn. Lond.*
^{Vm} 18>p. 678.—Mount Padowan, *Schomburgk*.

No. 5380 of Gardner's Brazilian Collection is the *Dulacia*
[^] angularis of Vellozo's *Flora Fluminensis*. It is an *Olax*,
^V *ite distinct from my *O. pauciflora*, to which I had referred
^{*t} with doubt, and may be thus characterised: *O. Vellosiana*
 foliis ovatis acuminatis (in *O. pauciflora* obtusis) ramulisque
 glaberrimis, racemis axillaribus paucifloris (3-5-floris), calyce
 basi ovario adnato parte libera brevissima truncata, stamini-
[^] s sterilibus bifidis, ovario pubescente, fructu ovoideo.—
^{*} Ha plerumque bipollicaria.

No. 1957 of Gardner's Collection from the neighbourhood
 of Crato is very near *O. Vellosiana* and *O. pauciflora*, but has
[^] Uch longer leaves and narrow fruits. It may be thus
 defined: *O. Gardneriana*, foliis ovato-lanceolatis acutius-
^c ulis ramulisque glaberrimis, racemis plurifloris (4-12-floris)
^o alyce basi ovario adnato parte libera truncata subsinuata,
st anri-ⁿ IDUS sterilibus bifidis, ovario pubescente, fructu ovato-
^o ^ *^{on} go.—Folia pleraque tripollicaria.

The fruit of the above two species only differs from that of

the East Indian species by the closer adherence of the calyx to the upper part of which, however, remains more or less irregular and never entirely covers the fruit.

Nos. 2516, 2787, 3040, 5378, 5379, and 5974 of Gardner's Brazilian plants, and 194 of Hostmann's Surinam plants, all belong to *Heisteria*, to which genus must also be referred *Hesiodia perianthomega*, Veil. Fl. Flum. v. 3, t. 140.

No. 938 of Gardner from Pernambuco, and 395 of Hostmann from Surinam are the *Ximenia Americana*, and No. H7 of Gardner and 278J of Blanchet appear to be a new species of *Ximenia*.

No. 5380 bis, of Gardner, from a single straggling shrub found in a forest at Tejuca, about 14 or 15 miles from Rio Janeiro, is a very singular plant, apparently allied to *Ola-cineae*, but unfortunately past flower in the specimens; *Ximenia*. It has the habit, foliage, and inflorescence of a *B**** My specimens bear ovaries in different states of development after the fall of the corolla. They are fleshy and unilocular, one-celled inside, with one ovule pendulous and lateral placenta. The calyx is persistent, very small, bluntly 6-lobed, or rather with three emarginate lobes. Between the calyx and ovary are three cup-shaped disks one within the other. The outer one, considerably larger than the calyx, appears to increase gradually as the ovary swells; within it the second disk, larger than the first, or grows more rapidly close round the ovary, the third the innermost disk, is quite short, remains concealed within the second, and does not appear to increase at all. The ovary is very obtuse, and crowned with the remains of a filiform style, from the base of which may be traced six diverging lines. Velloso's rude figure of *Epigenia crenata* (Fl. Flum. v. 4, t. 140) has some resemblance to this plant—at least His figures one or two disks to one of the detached fruits.

E. integerrhna is probably a *Styracis*.

Allied to *Olax* is the following new genus among Martiana Cayenne plants:—

PTYCHOPETALUM. Calyx minimus, obsolete 5-dentatus.

5, linearia, aestivatione valvata, marginibus supra
 inflexis crispis, infra medium intus barbatis.
 Stamina JO, filamentis liberis basi cum petalis subcohae-
 rentibus. Ovarium oblongum, liberum, uniloculare. Ovula
 minuta, ab apice placentae erectae ovario lateraliter
 haerentis pendula. Stylus filiformis. Stigma capitate
 globum. Species unica, *P. olacoides*. Frutex? habitu
rhododendricis, glaberrimus. Folia alterna, ovato v. oblongo-lanceo-
 lata, acuminata, breviter petiolata, exstipulata, 3-4 poll.
 Racemi axillares, breves, ramosi, pauciflori. Peda-
 culi 2-3 lin-longi, singuli axillam bractee minutae squami-
 formis, bracteis infimis paullo majoribus sterilibus approxi-
 matis. Corollas 3-lin. longae, extus glaberrimae.

778. *Pogopetalum orbiculatum*, (*Benth. in Trans. Soc. Linn. Lond.* v. 18, p. 685, U 42,) foliis orbiculatis obtusis subtus
 ramulis floribusque albidis, petalis ovatis, ovario hispido.—
 Dry Savannahs, Rio Padawire, *Schomburgk*.

779. *V. acuminatum*, (*Benth. l. c. p. 685*.) foliis ovatis
 longe acuminatis subtus vix pallidioribus pube-
 rentibus, ramulis floribusque leviter canescentibus,
 Petalis ovali-oblongis, ovario glabro.—High banks of the
 Rio Negro, *Schomburgk n. 970*.

The two following are additional species of *Pogopetalum*:—

P. acutum, foliis ovato-oblongis acuminatis subtus pube-
 rentibus canescentibus, ramulis floribusque tomentosis, petalis
 linearilanceolatis acutis revolutis intus dense lanatis, ovario
 hispido.—Folia 3-4-pollicaria v. in ramis vegetioribus duplo
 Jora. Cyma densae. Flores primo intuitu iis *Ximenioides*
 similes. Petala longiora quam in praecedentibus, intus den-
 sissime lanata. Stamina petalis paullo breviora.—Cayenne,
Martin.

P. nitens, foliis ovato-oblongis ovatisve acuminatis subtus
 glabris nitentibus incanis v. rufidulis, ramulis floribusque incanis,
 Petalis ovali-oblongis apice inflexo parce lanatis, ovario
 glabro.—Folia 3-4 poll, longa. Cyma laxae. Flores fere
P. acutum similes. Province of Goyaz, Brazil, *Gardner n. 3309*,
 and probably in the same Province, *Pohl*, Rio Preto, in the

Province of Pernambuco, *Gardner n. 2941*, Serra Acurua,
Province of Bahia, *Blanchet n. 2889*.

RHIZOBOLACEAE.

780. *Anthodiscus trifolius*, G. F. W. Mey. *Prim. & j*
Esseq.p. 194. Benth. in Trans. Soc. Linn.Lond. v. 18, p-2, 3, 4
*. 20.—On the Essequibo and Rupunoony, *Schomburg*
n. 512.

(To be continued.)

An Arrangement and Definition of the Genera of Ferns, with.
observations on the affinities of each genus. By J- Smith,
A.L.S.

(Continued from p. 668. of vol. 1.)

Div. II. GLEICHENIACEJS. R. Br.

Sporangia globose or pyriform, usually compressed on their
interior side, unilocular, sessile, opening vertically* fa™ shed
with a complete transverse ring. *Sori* round, supernicia
immersed, naked or furnished with indusoid hairs.

bfo. In my remarks under *Cyathea*, I have shown tha^t to
direction of the ring is not, in certain cases, worthy
adopted as a primary character; and although the tor^m and
sessile attachment of the sporangia of *Gleicheniaceae* may
to a degree, influence the direction of the ring, as in ky^{athea}
and *Hymenophylle* <e% still, with regard to this family* it
be too strictly viewed as a structure of little value, Even
setting aside the difference in structure of the sporangia* the
very distinct habit of *Gleichedacece* is of itself^{su} (c) to
warrant us in keeping them separate from *Polypodiaceae**
cannot be naturally associated with any genus of ferns, ex-
cept, indeed, *Matonia*, which genus has several character^s in
common with the present group, especially its general na^{bit}
and the sori being composed of a definite number (f©^w)
sessile sporangia. Thus it has become a question wit^h m
whether it would not be more natun* to consider *Jiw*^o nia

an m⁺ dusiate genus of *Gleicheniaceae*, rather than to retain it as an anomalous genus in *Aspidiece*.

Gleicheniaceae are readily discriminated from all other ferns by the almost constant dichotomous character of their fronds, only two species being known to have linear pinnate or pinnatifid fronds. The ultimate pinnae or branches are usually deeply pinnatifid, or the laciniae are distant and sessile, the pinnae being then pinnate, in every respect not unlike such ferns as *Polypodium pectinatum*, &c. About 30 species have been described; but their very great similarity and wide geographical range render it very difficult to determine what are truly distinct species. From examination, I am induced to think that there may be about 20, and that under local influences they exhibit a difference in aspect, as in being more or less glaucous, smooth or tomentose, &c. which has been the cause of more species being described than really exist. The whole of the species agree with the genus *Gleichenia* as characterised by Mr. Brown, but this admits of being separated into at least two natural groups or genera, the first containing the original species of *Gleichenia*, and the second consisting of those species characterised by Willdow under his genus *Mertensia*. A solitary species constitutes the genus *Platyzoma* of R. Br., which differs from true *Gleichenia* more by its simple (not forked) fronds, than in any very evident and distinct character of the fructification.

126. PLATYZOMA, R. Br.

Veins simple, obscure, free. *Sporangia* terminal, 2-4, forming round sori; margin of the pinnae revolute, indusium conniving, constituting a concave farinose cyst, that deludes the sori.

Rhizoma creeping, densely paleaceous. Stipes simple. Sterile fronds Umar-filiform, 2-3 inches in length: fertile linear, pinnate, 3 to 2 inches long; pinnae sessile numerous, 1/2 of an inch in length, orbicular, revolute and plicate.

Species. P. microphyllum, It. Br.

Must. Hook. gen. Jil. t. 41. C.

Obs. This rare fern was discovered by Mr. R. Brown in the year 1802, on the shores of the Gulf of Carpentaria and east coast of New Holland, where we believe no collector has met with it since 5 but it appears, on the authority of specimens in the herbarium of Sir W. J. Hooker, to be also a native of Madagascar, I have already noticed that 1^{ts} possessing simple fronds is the only character to distinguish it, as a genus, from the following.

127. GLEICHENIAJ SW. *Willd. Presl.*

(*Calymella, Presl.*)

Veins pinnate, or pinnately forked. *Venules* free, the low^{er} exterior one fertile. *Sporangia* terminal, 2 to 4, super^{er}ncial or immersed in a concave cyst, forming round *sori** *Ptn*^{nU}les either plane or revolute and cucullate, constituting an un^{er}versal indusium.

Fronds from 6 inches to \foot high, usually rigid, once 0^r oftener dichotomously branched, the branches {or pinn^a} P^{er}natifid or pinnate; pinnules or lacinice minute, plane or pl^{ate} and concave, smooth, glaucous, tomentose or sqwnwse. Sol^{itary}.

Ex amp. 1. *G. polypodioides*, Sw. 2. *G. rupestris*, ^{Br.} 3. *G. alpina*, R. *Br.* 4. *G. microphylla*, R. *Br.* 5. *G. dicarpa*, JR. *Br.* 6. *G. heciostophylla*, A. *Cunn.*

*Illust. Hook. gen.fil. t. 41. A.B. Hook et Grev. icfil** '• ^ '1

Obs. From the above character, it will be observed that the sporangia are either superficial or immersed; which difference Presl has adopted for constituting two genera; re^{re}* taining under *Gleichenia* those individuals with immerse sori, and placing, under his genus *Calymella*, two species characterised as possessing superficial sori. But a careful examination of the species induces me to think that this peculiarity is not worthy of consideration as a generic distinction, more especially since all the species agree in habit.

The immersed sori are well exemplified in *Gleichenia polypodioides*; in that species the sori consist of four decussate sporangia sunk in a round cavity, each sporangium being

seated in a cell; between each cell is a slightly elevated ridge, which, on the removal of the sporangia, exhibits the form of a cross, with the punctiform receptacle in its centre.

128. MERTENSIA, Willd. Sw.Presl.

(*Gleichenia* sp.fl. Br. et Auct., *Sticherus*, Presl.)

Veins pinnately or simply forked, evident. *Venules* direct, free, the exterior one fertile. *Sporangia* medial, superficial, 3 or 8 or more, constituting round globose naked, or trichoporous sori.

Rhizoma creeping. *Fronde* rigid, from 1 to 6 feet high, many times dichotomously branched (seldom simple) and pinnatifid; branches (pinna) pinnatifid; laminae uniform, linear, entire, rarely dentate, smooth, glaucous or villose.

Examp. 1. *M. simplex*, Desv. 2. *M. nervosa*, Kaulf. 3. *M. glaucescens*, Willd. 4. *M. Hookeri*, J. & G. (=*Gleichenia Hermanni*, Hook, et Grev. ic. fil. t. 14). 5. *M. dichotoma*, Willd. (*Gleichenia Hermanni*, R. Br.) 6. *M. rigida*, L. Sm. ? 7. *M. bifurcata*, Blume. 8. *M. furcata*, Willd. (*Mertensia decurrens*, Radd.) 9. *M. immersa*, Kaulf. 10. *M. flabellata*, JR Br. 11. *M. Cunninghamii*, Hew. 12. *M. gigantea*, Wall. 13. *M. excelsa* J. Sm.

Illust. Hook, et Bauer gen. fil. t. 39, Hook, et Grev. ic. fil. t. 14, 15.

06\$. The larger habit, plane laminae, evident venation and medial sori, readily distinguish this genus from *Gleichenia*. The genus *Sticherus* of Presl is by that author characterised as distinct from *Mertensia*, by its reticulated venation. I possess genuine specimens of one of the species (*Gleichenia lanigera* D. Don) and also of what I take for the *M. hirsuta* Willd. (which is a doubtful species of *Sticherus*, according to Presl.) Neither of these exhibits reticulated veins, and the very great similarity of all the species in this genus renders it difficult to determine what are really distinct. Instead of Don's *Gleichenia lanigera* being the type

of a genus, I cannot make it even distinct from the *Mertensia dichotoma* of Willdenow.

Div. HI. SCHIZJSACEJL. *Mart.*

Sporangia oval, oblong, rarely globose, sessile, ap^{ex} striated, rayed, opening lengthways (vertically) on^{their} exterior side, produced on contracted marginal lobules, special appendices, in the form of simple, or racemos^{or}, paniculate, contracted fronds or spikelets. ^

Obs. The oval sporangia, furnished with a striated apex, analogous to a transverse ring, readily distinguish^{Schi-} *zaaceae* from either of the preceding divisions. The n^{ear} relationship is with *Osmundacea*, to which the sp^{eci-} were formerly annexed; but *Osmundacea*, as now restn^{cted,} differs in habit and in the structure of the sporangia, The number of % species forming *Schizaacea* amounts w^{der} forty, and these have 'been hitherto comprehended un^{der} four genera, which, with the exception of a few sp^{eci-} agree in having free, direct, venation 5 one[^] sp^{eci-} *Lygodium* and a few species of *Anemia* exhibiting anas^{tom} veins. Although these few species do not possess any peculiarity in habit, still I have deemed it necessary, in^{order} conspicuously to mark their difference in venation, to a^{rrange} them under two separate genera.

129. LYGODIUM, Sw.

(*Hydroglossum*, Willd. *Ugena*, Cav.)

Veins free. *Fertile appendices* marginal, forming[^] linear spiculse, composed of two rows of indusiate un^{der} cysts, each cyst containing an oval *sporangium** w^{hich} attached by its interior side, and resupinate.

Rhizoma *caspitose*. Fronds *homing*, *scandent*. *Pinnæ* *conjugate*, *lobed*, *palmate*, *pinnatifid*, or *pinnate*; *thie*^H & * *sometimes entirely contracted*, forming a dense *sporangy*[^]

rachis. Veins of the fertile spicula pinnate ; venules arcuate waring the sporangia on their superior side.

Examp. 1. *L. flexuosum*, Sw. (*L. circinatum*, Sw. *L. longifolium*, Sw. *L. dichotomum*, Sw. *L. pedatum*, Sw. 2. *L. scandens*, Sw. (*L. volubile*, Sw. *L. hastatum*, Sw. *L. pinnatifidum*, &*) 3. *L. Japonicum*, Sw. 4. *L. palmatum*, Sw.

Must. Hook, et Bauer gen. fit. t. 28, Hook, et Grev. ic. flll.
• 153.

Obs. The peculiarly scandent and permanent character of the fronds of this genus readily distinguishes its species from all other ferns; they are found chiefly within or near the tropics, the same kinds being common to both hemispheres ; for after a careful examination of numerous specimens, I can detect no permanent character, whereby to distinguish the common *Lygodium volubile* of America from the also common *Lygodium scandens* of Asia. It is evident to me that many species, described as distinct by authors, are only variations of a very few species; the more or less sterile or fertile state of the pinnae and other circumstances often presenting such discrepancies of form, on the same plant, at the same time or at different periods of its growth, that viewing these forms separately there is little or no difficulty in considering them so many distinct species. Sprengel enumerates twenty-three species, which, according to my view, may be reduced to six or eight. If such be not the case, and allowing every deviation in form of this genus to be species, then I see no limits as to number, and the impossibility and uselessness of trying to give them distinct specific characters to me a reason for considering the species to be few.

130. LYGODICTYON, / . Sm.

(*Lygodii* sp. Schk. *Hydroglossi* sp. Willd.)

Fertile appendices marginal, forming numerous spiculae, composed of two rows of indusiate imbricate cysts; each con-

taining an oval *sporangium*, attached by its interior side and resupinate. *Veins* reticulated.

Habit as in *Lygodium*) differing in the petiole of the sterile pinnules being articulated.

Species. *Lygodictyon Schkuhrii*, l. *Sm.* (*Lygodium reticulatum*, *Schk.* *Hydroglossum polycarpum*, *Willd.* *Ophioglossum scandens*, *Forst.*)

Illust. *Schk. crypt*, t. 139. *Hook. gen. fil.* t. 111. B.

Obs. Agreeing in habit with the preceding, but differing in the reticulated venation and in the petioles being articulated.

131. *ScHiZiEA*, Sw. *J. Sm.*

(*Lophidium*, *Rich.* *Rhipidium*, *Bernh.*)

Fertile appendices terminal, forming a reflexed pinnate crest of linear segments, which have an inflexed indusiiform flange. *Sporangia* oval, vertical, arranged in a compact row on each side of the midrib of the segments.

Rhizoma caespitose. Fronds simple and linear, or unusually dichotomously multipartite, or entire and flabellate, each to bearing a pinnate reclinate fertile crest. Segments unilateral, vertical, and oppositely conniving.

Examp. 1. *S. pectinata*, *Sm.* 2. *S. pusilla*, *Pursh.* 3. *S. pestrus*, *R. Br.* 4. *S. dichotoma*, *Sw.* 5. *S. bifida*, *G. Sm.* 6. *S. elegans*, *Sm.* 7. *S. Flabellum*, *Mart.*

Illust. *Hook, et Bauer, gen. fil.* 1.19.

132, *ACTINOSTACHYS*, *Wall*

(*Schizaceae* sp. *Sw. Schk.*)

Fertile appendices terminal, forming a digitate crest of linear segments; their margin reflexed, indusiiform. *Sporangia* oval, vertical, arranged in two compact rows on either side of the costula of each segment.

Fronds simple, linear, costate, compressed or triquetrous at the base, their apex multipartite or sometimes bifid, forming

two unequal fascicles of fertile segments, which are vertically unilateral and oppositely conniving.

Species. 1. *A. digitata* Sw.* 2. *A. trilateralis*, Schk.

Must. Hook, et Grev. *ic. fil. t. 54.* Sw. *syn. fil. t. 4, f. 1.* Schk. *crypt, t. 136.*

Obs. Mr. R. Brown has long ago remarked that the *Schizaa digitata* of Swartz differs from the rest of the genus, by its fertile appendices being digitate, and the sporangia crowded; whereas in true *Schizaa*, the terminal appendix is pinnate and the sporangia produced in two rows (that is *one* row on each side of the midrib of the pinnee). In the two species that I have placed under *Actinostachys*, the sporangia are borne in *two* rows on either side of the midrib, the attachment of the two rows being on the same line; consequently, those of the outer row are, by the pressure of the inner row, constricted at their base, and somewhat oblique. These differences, with a slight disparity in habit, distinguish the two genera.

133. ANEMIA, Sw.J.Sm.

Fertile fronds tripartite; the two opposite segments contracted, erect, constituting two unilateral sporangiferous compound panicles; the third segment sterile, with forked, direct free venation. *Sporangia* oval, vertical, naked.

Fronde stipitate, pinnate, bipinnate, or decompose; the fertile ones always tripartite, the sterile segment usually spreading and much shorter than the erect fertile appendices.

Encamp. 1. *A. oblongifolia*, Sm. 2. *A. hirta*, Sw. 3. *A. collina*, Radd. 4. *A. caudata*, Kaulf. (*A. Mandiocana*, Radd.)
5. *A. tenella*, Sw. (*A. repens*, Radd.) 6. *A. flexuosa*, Sw.
7. *A. deltoidea*, Sw. 8. *A. adiantifolia*, Sw.

Illust. Hook. *gen. fil. t. 90.* Hook, et Grev. *ic. fil. 1.16.*

06\$. Swartz, Willdenow and others arranged the species of this genus under two distinct forms; the first containing those that have their fertile fronds tripartite, two of the branches being contracted and fertile, while the other branch is sterile; in the greater number so characterised, the vena-

tion is free; but in probably three species the venation is anastomosingly reticulate. I therefore propose to retain as true *Anemia* the ones with free veins; and, in order to mark the reticulated venation, to constitute of them the following genus *Anemidictyon*. The second section of Swartz contains four presumed species, differing from the first by their fertile fronds not being tripartite, but rising uniformly and direct from the rhizoma; on examining the authorities for the species so characterised, I find that three of them? viz: *Anemia bipinnata*, Sm. *A. verticillata*, Sm. and *A. Plicatifolia*, Sm. must be entirely excluded from any relationship with the genus; at least judging from the only evidence at present afforded by the figures of Plumier quoted by Swartz as being species of *Anemia*. It appears to me that Swartz had not seen specimens, and that he depended for his description entirely on these figures, and on Linnaeus having quoted to him as species of *Omunda*, which tab. 155 evidently is. Therefore the only original described species of *Anemia*, possessing distinct fertile fronds, is the *A. aurita* of Swartz, of which but few specimens exist in herbaria. To this section must also be referred a species, noticed by Swartz but not described, his sole authority being a figure in *Animann. Compend. Petrop. 10, p. 295, ***. 19. Specimens, apparently, belonging to this species, exist in the Linnsean herbarium; and in the British Museum, Linnaeus has marked his specimen with a query *Osmunda bipinnata*, and from Sir J. E. Smith's writings of the same specimen, it would seem that he viewed it as *Omunda filiculifolia*, Linn.; but it is evidently a very different plant from either of these species, as adopted by Linnaeus from Plumier. Presuming the circumstance of the fertile fronds being distinct (and not three-parted), to prove a sufficient character for keeping these species separate from true *Anemia*, then their affinities will be with *Mohria*; also with two species from Brazil lately described in this Journal by Professor Gardner, under a new genus, which he names *Coptopyllum*; but a careful examination of fine specimens, presented me by that most industrious collector and acute botanist, compels me to differ from him, for *

Can be distinguished from *W.* by the fertile fronds being more contracted; although instances are not wanting of fronds of both genera exhibiting more or less contraction of parts. A slight difference is also perceptible in the form of the sporangia, but it is no more than what may be expected from the normal contraction of the frond as compared with *W.*

134. ANEMIDICTION, *J. Sm.*

(*Anemise* sp. *Sw. et auct.*)

Fertile fronds tripartite; the two opposite segments contracted, erect, constituting two unilateral sporangiferous compound panicles, the third segment sterile. *Veins* forked; *venules* reticulated; *Sporangia* oval, vertical.

Fronds stipitate, pinnate; *pinnae* entire ovato-lanceolate.

Species. 1. *A. Phyllitidis*. *Sw.* (*A. longifolia*, *Radd.* *A. cordifolia*, *Presl*). 2. *A. fraxinifolia*, *Radd.* 3. *A. densa*, *Link.*

Must. Hook. Gen. ML t. 103. Presl, Reliq. Haenk. t. 11, l. 3.

135. MOHRIA, *Sw. J. Sm.*

(*Osmundse* sp. *Linn.* *Anemise* sp. *Sw. Hook.* *Coptophyllum*, *Gard.*)

Fertile fronds uniform, contracted, usually constituting a rachiform unilateral sporangiferous panicle; margin of the segments inflexed. *Veins* direct, free. *Sporangia* sessile, vertical, oval or nearly globose.

Fronds cespitose, rising from a short creeping rhizoma, erect, 6 to 10 inches high; the sterile bipinnate; *pinnae* entire, lacinate or multifid, segments linear, dichotomous.

Species. 1. *M. thurifraga*, *Sw.* 2. *M. crenata*, *Desv.* 3. *M. intermedia*, *J. Sm.* (*Anemia intermedia*, *R. Br. in Herb. Brit. Mus.* *Osmunda bipinnata*, *Linn. herb.* exclusive

of all descriptions and synonyms). 4. *M. Millefolium*, *J. Sm.* (*Coptophyllum Millefolium*, *Gard.*). 5. *M. buniifolium*, *J. Sm.* (*Coptophyllum buniifolium*, *Gard.*) 6. *M. aurila*, *J. Sm.* (*Anemia aurita*, *Sw*)

Illust. Hook. gen. fil. t. 104. B. Schk. crypt, t. 143. Stv. Syn. t. 5. Hook. Ic. PL t. 477, 478.

Obs. I have, under *Anemia*, assigned my reasons for assigning these six species to *Mohria*; five of them form a truly natural distinct group, the sixth (*M. aurita*), differs only in the pinnules of its sterile frond being entire, but since it coincides in other characters, the entire pinnules are no reason for its being excluded.

136. TROCHOPTERIS, *Gard.*

Fronde 5-lobed, depressed, the two lower lobes contracted, lacinated, crinite and fertile. *Veins* flabellate, dichotomously forked; *Venules* direct, free; *Sporangia* terminal* sessile, oval, vertical, naked.

Fronde subrotund, of an inch long by an inch wide, lobed, villose, depressed, horizontal; becoming successively bricate; the whole plant forming a flat circular patch, more than an inch in diameter.

Species. *T. elegans*, *Gard.*

Illust. Hook. Lond. Journ. of Bot. 1. / 4. Hook. gen. fil. t. 104. A.

Obs. This interesting little Fern has been fully described in this journal by its original discoverer, Professor Gardner. In affinity it comes nearest *Anemia*, of which genus, according to my view, it may be considered a modified form* the two fertile lobes being analogous to the two fertile appendices of *Anemia*. The very dissimilar habit prevents their being associated, and upon the same principle, it is also distinct from *Mohria*, for the fertile lobes are analogous to a fertile segment of the frond in that genus.

Div. IV. Osmundaceae Mart.

Porangia globose, pedicellate, reticulated, unilocular, opened by a vertical slit (bivalved), apex oblique, gibbous, pellucid; destitute of an articulated ring.

The sporangia being destitute of the radiate apex, distinguish this from the preceding division 5 but it is to be observed that a structure analogous to *Schizaacete* is, to a certain extent, found in *Osmundacea*. On examining a sporangium of this division, a difference is evident in the form of the cellular structure on the interior side, indicating the line of dehiscence, which line passes over the apparent apex of the sporangium, and terminates in a small indistinct striated gibbosity on its exterior side. This gibbosity must be considered as the true apex, which, on account of its mobility, gives the sporangium the appearance of being cleft vertically, into two equal valves; in that respect forming a transition to the following division, *Marattiaceae*, by the affinity of *Todea* with *Angiopteris*.

The number of described species constituting *Osmundacea* does not exceed twelve; their general habit consists in having pinnate or bipinnate fronds, sometimes 6 to 8 feet in height, produced from a thick cespitose fleshy rhizoma, (somewhat analogous to an arborescent rhizoma); the venation is free, and the sporangia are borne on separate contracted fronds; or in some species, only portions of the segments are contracted, and fertile, and, in a few, the sporangia are definitely produced on the venules of but slightly contracted fronds,

137. OSMUNDA, Linn.

(*Aphyllocarpa*, Cav. *Plenasium*, Presl)

Veins forked. *Venules* direct, free. *Fertile fronds*, or some portion of the segments, contracted, rachiform, simple or compound, densely sporangiferous.

Fronds *pinnate*. Pinnae *entire, serrate, pinnatifid or pinnate*; fertile -segments *terminal, medial, or basal, or the entire frond is contracted and sporangiferous*.

Examp. 1. *O. Javanica*, *Blume*. (*O. Presliana*, *J> Sm>*^{on} *Journ.ofBot.* *Nephrodium banksiaefolium* and *Nephrodium bromelisefolium*, *Presl*, in *Reliq. Hank.* *Asplenium aureum** *Blume. Reinw.* *Plenasium banksiaefolium* and *bromeliaefolium** *Presl. Pterid.* in *Aspleniariae*). 2. *O. Vachellii*, *Hook.* 3. *O. Cinnamomea*, *Linn.* 4. *O. regalis*, *Linn.* 5. *O. Claytoniana*, *Tinn* 6. *O. spectabilis*, *Willd.*

Must. Hook, gen.fil. t. 46. A. Schk. crypt. 1.144.

Obs. It will be observed, by the synonymy of *Osmunda Javanica*, that more than one author has been led into mistake with this species. *Presl* elevates it into a new genus, which he ranks amongst the *Aspleniariae*. I have, page 420 of vol. 3, and also at page 179 of vol. 4, of this Journal, already given my authorities for placing this plant in the genus *Osmunda*.

138. *TODEA*, *Willd.*

(*Osmundae sp. Sw. R. Br.*)

Veins forked. *Venules* direct, free, sporangiferous. *Sporangia* definite, constituting oblong, simple or forked, naked, confluent sori.

Fronds *bipinnatifid*. Pinnae *coriaceous, serrated, or woody branous, pellucid and multifid*.

Species. 1. *T. Africana*, *Willd.* 2. *T. rivularis*, *Sieb.* (*T. Australasica*, *A. Cunn.*) 3. *T. Fraseri*, *Hook, et Grev.* 4. *T. pellucida*, *Carm. Hook.* (*T. hymenophylloides*, *A. Rich.*)

*Illust. Hook, et Grev. ic.fil. t. 4. Hook. gen. fil. * 4. Kunz. Analect. t. 4,*

Obs. *Todea* is distinct from *Osmunda*, merely by its fronds being not at all, or only slightly, contracted, the sporangia produced on evident venules.

Div. V. MARATTIACEÆ. *Kaulf*

Sporangia sessile, rarely pedicellate, horny, opaque, distinct and unilocular, or laterally and oppositely connate, forming a multilocular, round, oblong or linear, biserial or bivalved, compound *sporangium*; opening by pores or vertical slits on the interior side.

Obs. This remarkable division of Ferns contains a few more species than *Osmundacea*, from which it is distinguishable by its usually connate multilocular sporangia, while in *-Angiopteris* the sporangia are free and unilocular. Nevertheless, habit and other affinities of structure tend to prove that *Angiopteris* is the proper station for that genus.

139. ANGIOPTERIS, *Hoffm**

(*Clementea*, *Cav.*)

Veins simple or forked. *Venules* direct, free. *Sporangiferous receptacle* medial, linear, fimbriate. *Sporangia* obovate, emarginate, sessile, opening by a vertical slit on their interior side, (10-12), definitely disposed in two opposite rows.

Fronde 6 to 10 feet in length, stipitate, bipinnate. *Pinns* linear-lanceolate, serrate at the apex. *Sporangia* laterally confluent, forming a continuous transverse, submarginal, broad, compound sorus.

Species. *A. evecta*, *Hoffm.* (*Clementea palmiformis*. *Cav.*)

Must. *Hook, et Bauer, gen. fil. t. 10. Hook, et Grev. ic. fil. * 36.*

04*. Authors have described more than one species belonging to this genus; but from my observation I believe that the specimens, from various localities, are only slight variations of one species.

10. MARATTIA, *Sm.*

(*Myriotheca*, *Bory.*)

Veins forked. *Venules* direct, free. *Sporangiferous receptacle* subterminal, oblong, fimbriate. *Sporangia* oblong, ses-

sile, longitudinally bivalved, multilocular, each cell opening by a vertical slit on their interior side.

*Rhizoma large, globose. Fronds 4 to 8 feet long, bi-tripinnate. Pinnae lanceolate, serrated. Rachis sometimes winged**

Examp. 1. M. alata, Sm. 2. M. fraxinea, Sm. 3. M. sorbifolia, Sw. 4. M. attenuata, Labill. 5. M. cicutsefolia, Kaulf 6. M. elegans, Endlich.

Illust. Hook, et Bauer, gen. fil. t. 26. Labill. Nov. Caled. t. 13, 14. SchJe. crypt, t. 152. Schott, gen. fil. 24.

Obs. This genus is discriminated from the preceding by multilocular sporangium, the structure of which may readily be presumed as consisting of the two series or rows of sporangia in *Angiopteris* becoming connate, both laterally and oppositely, each of the cells of the sporangium of *Marattia* being analogous to a sporangium of *Angiopteris*. Consequently the two valves correspond to the double series of the sporangia of the latter genus. By some authors the sporangia of *Marattia* are termed *son*, and the two valves *indusuh* according to my view, neither of these appellations is appropriate in the present case.

141. EUPODIUM, / Sm.

(*Marattice sp. Kaulf Radd.*)

Veins simple or forked. Venules direct, free. Sporangia receptacle medial, pedicellate! Sporangia oblong, longitudinally bivalved, multilocular, each cell opening by a vertical slit on their interior side.

Fronds tripinnate, 4 to 6 feet in length; ultimate pinnule 1 inch in length, sessile, articulated with the rachis, laciniate or dentate. Rachis winged, membranous. Sporangia usual S-celled, seated on a slender pedicel which becomes decumbent.

Species M. Kaulfussii, J, Sm. (Marattia alata, Kaulf Radd. nan Sm.)

Illust. Hook. gen. fil. t. 118. Radd. Bras. Ft. t. 83, 84.

^ *Obs.* I have been induced to designate this as a genus distinct from *Marattia*, in order to mark the peculiarity of its pedicellate multilocular sporangium, which has already been noticed at page 190 of the preceding volume, where its analogy to *Spharopteris* is shown. The name *Eupodium* I have adopted from a manuscript of Mr. Brown's, originally intended for *Spharopteris*.

142. DANJEA, *Sm.*

Veins forked. *Venules* direct, parallel, their apices arcuate and anastomosing at the margin. *Sporangiferous receptacle* occupying the whole length of the venules. *Sporangia* near, biserial, multilocular, each cell opening by a circular pore.

Fronds *pinnate, rarely simple, 1 to 3 feet in length. Pinnae lanceolate, entire or serrate. Fertile fronds usually somewhat contracted, densely and compactly sporangiferous over their whole under surface.*

Examp. 1. *D. simplicifolia, Rudge.* 2. *D. nodosa, Sm.* 3. *D. alata, Sm.* 4. *D. elliptica, Sm.* 5. *D. intermedia, l. Sm.* *IUust. Hook, et Bauer, gen. fil. U ?.* *Hook, et Grev. ic. fil. t. 18, 51, 52.*

Obs. The compact parallel linear sporangia, opening by two rows of pores, readily distinguish this genus from the two preceding, and, as in them, I consider the multilocular sporangia of this genus to be formed by two series of united sporangia, not separating lengthwise into two parts or valves, which is the case in *Marattia*.

143. KAULFUSSIA, *Blume.*

Veins costasform, parallel. *Venules* compound, anastomosing with free veinlets terminating within the areoles. *Sporangiferous receptacle* compact, round. *Sporangia* rotate, multilocular; cells opening by an oblong slit on their interior side.

Fronds *ternate, broad, stipitate; segments oblong-elliptical,*

sometimes bipartite, under-side pale-coloured, fall of concave dots (stomata.)

Species. 1. *K. eesculifolia*, Blume. 2. *K. Assamica*, Griff'

Illust. Hook. *gen.fil t.* 59. A. Hook, et Grev. *ic.fil t.* 229. Hook. *Journ. o/Bot.* 2, /, 11, 12.

Obs. Few instances have been detected of this remarkable genus. The original species was found by Blume in Java, and recently by Cuming in the Island of Leyte, where only one plant was noticed; a second species has lately been discovered in Assam by Mr. Griffith.

Kaulfussia, in habit, venation and the position of its sporangia, presents much similarity to *Drynaria plantaginifolia*, *Aspidium trifoliatum* and *Hypoderris Brownii*; while the structure of its sporangia denotes its place to be in this division, and like *Marattia* and *Dancea*, the multilocular compound sporangium may be viewed as formed by the union of from ten to twelve oblong sporangia, sessile round a punctiform receptacle, which being concrete, forms one mass, constituting a multilocular or compound rotate sporangium, each cell opening interiorly as in *glopteris*.

Notes of a BOTANICAL TOUR in the WESTERN AZORES.
By HEWETT C. WATSON, ESQ. (*Continued from P^{aff} 125*
of the present volume.)

AN ASCENT OF THE PEAK OF PICO.

The island of Pico was not surveyed during the summer of 1842; but while the *Styx* lay at anchor in the Bay of Horta, in the neighbouring island of Fayal, I had two opportunities of joining parties made from that vessel for the ascent of the Peak; which is by much the loftiest of the hills in the Azores, and consequently affords good illustrations of the influence of elevation in modifying their vegetation.

On the first occasion, which was on the 30th of May, two of the Lieutenants, the Assistant Surgeon, and myself, formed the party; but having started from the vessel on a dull and unfavourable morning, we had scarce accomplished one-third of the ascent, before the increasing violence of the wind, the driving rain, and the dense mists in which we were enveloped, became obstacles sufficient to baffle our efforts. We persevered so long as to spend a highly uncomfortable afternoon and night in a low cave which afforded some partial shelter from the rain and wind; but were compelled the next morning to give up our struggle against the continued bad weather, and to return to the ship.

A second and successful attempt was made on the 1st of July. The party from the Styx consisted of Captain Vidal, with Lieutenant Cleaveland and myself, who intended to ascend the mountain, and Assistant Surgeon Speer, who remained on the shore to register the barometer for comparison with a second instrument which was to be carried to the summit.

The Peak being perfectly clear from clouds on the 30th of June, we crossed to the island of Pico in the afternoon of that day, with the design of commencing our ascent early the following morning. We borrowed for the night a handsome house built on the shore of Pico, by Mr. Dabney of *ayal, Consul for the United States, in which he and his family are accustomed to spend a part of each summer. At this time, however, the house was unfurnished; and not having brought any beds with us, we found the experiment of trying to sleep on the floor, or on the wooden frames of sofas destitute of their cushions, to be a very bad overnight Preparation for the laborious march of the following day.

As daylight spread over the shores of Pico, on the morning of the 1st of July, we had the uncheering prospect of a dense canopy of clouds extending across the island and completely shrouding the Peak from our view. Apprehensive that he could obtain no good observations with the theodolite, Captain Vidal appeared greatly disposed to return to the ship,

without attempting an ascent; and if any other voice in the party had expressed a similar inclination, this other attempt would probably have been abandoned. But our half dozen natives who had been engaged as guides and porters, were all in favour of making a trial, in expectation of the day clearing up shortly; especially since it signified little to them whether we reached the summit of the mountain or not, so that their time and services were paid for. Some feeling that a partial ascent only would still be productive of botanical interest and acquisitions, probably influenced my own opinion and wishes to chime in harmony with those of the guides; but I also entertained a tolerably firm conviction that the upper part of the Peak would be found clear, having frequently observed, during the preceding month, that the stratum of clouds seldom covered more than a third of the mountain in its perpendicular height, and that the summit was left bright while the clouds hovered low down on the flanks. After some time spent in hesitation we at length started, about five o'clock, taking with us the various necessary instruments, a store of provisions, thick coats to wear in the night, and also two beasts of great rarity in the island, namely, a pony and an ass, which had been considerably procured for us by Mr. Dabney, and which we bestrode in turn while ascending the lower part of the hill. The extreme trepidation exhibited by the women and children, whom we met in the road, while mounted on these animals, showed unequivocally how little they were familiar with the appearance of such creatures.

The first part of our route carried us for a short distance along a bare and rocky shore. In the vicinity of Mr. Dabney's house I observed a few plants of *Hyoscyamus Canariensis*, being the only spot in which it was found during my walks about the islands. Shortly bending our course inland and upwards, we travelled for some miles along a rough road, partly paved, but mostly floored by the natural and very uneven surface of the rock, ground into deep ruts by the wheels of the small bullock waggons which are the only conveyances

*n the island, and whose wheels of solid wood, studded with bosses of iron round the rim, grind channels in the lava not Unlike the deep ruts seen in clayey lanes in England.

The road was flanked on both sides, by an interminable net-work of *vineyards*; almost the whole surface of the country being here divided by low stone walls into small compartments, varying considerably in size, but often about three yards wide by ten or fifteen yards in length. Within these compartments the vines are planted in crevices of the *ock or between loose blocks, which are scantily clothed with Weedy herbage. Among the weeds, *Briza maxima*, *Polycarpon tetraphyllum*, *Galactites tomentosa*, *Gnaphalium luteo-album*, *Gasfridium lendigerum* and *Bromus Madritensis* were frequent species. The monotonous continuity of the vineyards was partly broken and relieved, immediately adjacent to the road, by the small gardens attached to many of the cottages.

Besides the *vines* there were some *apricot* trees, with fruit nearly ripe and very small, also numerous ^ trees and *peach* trees, thickly covered with young fruit, but very few *oranges* or *lemons*. On the opposite coast of Fayal, which faces south-east, and has a good depth of mould produced by the decomposed lava-rocks and cinders, the *orange* and *lemon* trees are numerous, while comparatively few *vines* are cultivated, except to form shady walks in the gardens, when trained over trellis work. It is worthy of note, however, that the fruits of this part of Pico (although it is that declivity of the lofty peak, which faces nearly north,) are ripe earlier than those of Horta, which is built, as before stated, on the south east base of a range of fertile hills, and not ten miles distant. Probably the dark lava-rocks and walls of Pico, sparingly covered with vegetation, and thus often heated strongly by the rays of the sun, may be the chief cause of this peculiar result. *Erodium malachoides* and *Seliotropium Europaum* were gathered in small quantity by the road side, in the lower part of the region of vines; and this was the only spot in the Azores where I found these plants.

On attaining some elevation, that is, about a thousand feet above the sea by rude estimate, the *orange* had disappeared, *fig* trees had become more numerous than below and the *vines* were giving place to *apple* trees, of stunted size, and producing small fruit of little flavour, as I afterwards ascertained, for at this time the fruit was not full grown. *Vineyards* were thus changing into *orchards*, not by any abrupt transition from one to the other, but by the substitution of the *apple* for the *orange*, *vine*, *fig* and *peach* in succession while the appearance also of patches of *cocos* or "yams" (*Caladtm*) and *potatoes*, which were scarcely seen lower down, indicated a transition from orchards to field crops. At first we saw occasional patches of these vegetables, interspersed with fruit trees. Higher up, indigenous shrubs took the place of planted fruit trees; single bushes or clumps of *Laurus* (*Myrica* *Faya*, *Myrsine* *retusa*, & *scoparia* and *Juniperus* (*communis* ?) being left to grow on stony or rocky spots that were unsuitable for the cultivation of the tuber-bearing vegetables just named.

As we passed across the orchard and potato ground, *Solanum Pseudo-capsicum* was observed rather frequently by the road side, and *Smilax divaricata* (Solander MSS. in Herbar. Banks.) was gathered in one locality among the apple trees but no doubt quite wild there. *Tittaa muscosa* and *Trip W. svffocatum* were collected in the road, and *Asplenium P. matum* very sparingly on the walls by which it was enclosed. A few tufts of *Calluna vulgaris* were seen about the altitude at which *Solanum Pseudo-capsicum* ceased, and a single plant of *Aquilegia vulgaris*, with a white flower, being the only specimen which I found in the islands.

Somewhat higher, the patches of cultivated ground visibly decreased, and the clumps of native shrubs became larger and closer, finally coalescing into a belt of natural wood, consisting of the *Laurus*, *Myrica*, *Myrsine*, *Erica* and *Juniper* above mentioned. The road now was becoming more damp and less stony or rocky, and narrowed in places to a mere cattle track between rising banks, which were thickly car-

petted with *Tormentilla officinalis*, *Fragaria vesca*, *Prunella vulgaris*, and other small plants of northern Europe. Ferns became plentiful here, including *Pteris arguta*, *Allantodea wnbrosa*, *Balantium Culcita*, *Aspidium fcmesecii* and some others, *Luzula elegans* (of Guthnick, not of Lowe) was frequent; and the pink or pale purple colour of its flowers rendered it much more ornamental, than any of our own native species. On shaded banks, where the road became a sort of gully, I gathered *Bellis Azorica* (Guthnick's collection), *Lysimachia Azorica* (Hornemann), *Erythraa diffusa* (Woods), and *Lycopodium suberectum* fLowe). The long flowered form of *Vaccinium Maderense* (which is *V. cylindraceum* of Smith) was pretty frequent on the banks by the road side, and highly ornamental. A few plants of *Daphne Laureola* were also observed, and *Hypericum foliosvm* (Aiton, which is *H. grandifolium*, Chois.) was rather plentiful, though not yet in flower.

As we continued to ascend, the narrow belt of natural Wood, which was formed by the evergreen shrubs interspersed with ferns again became broken into clumps; the intermediate spaces being now covered by a grassy sward, with many small pools of stagnant water, which gave an abode to *Scirpus fluitans*, *Scirpus Savii*, *Carex stellulata*, *Callitriche verna*, *Peplis Portula* and *Potamogeton natans*. Though very small and shallow, these pools are kept supplied with water by the mists and clouds from which this part of the mountain is seldom quite clear. Among the short grass here, I noticed *Bellis Azorica*, *Erythraa diffusa*, *Carex Azorica*, and *Carex sagittifera*, all plentiful. *Fragaria vesca* and *Tormentilla officinalis* (passing into *T. reptans*) were extremely abundant, as, indeed, they are almost every where in the islands above the height of a thousand feet, though scarcely seen in the low grounds near the coasts, except under the shade of rocks.

On getting more completely within the region of clouds and moisture, all the shrubs ceased except *Erica scoparia*, which still grew in scattered patches, and attained a height

of six or eight feet, giving shelter to *Hymnophyllum Tun-*
gense and *Acrostichum squamosum*. *Aspidium foenesecii*
 still plentiful, but most of the other ferns seen lower
 were now lost. This clouded region corresponds with the
 higher part of the hills and Caldeira in Fayal, being at
 the region of alpine and of marsh plants; and the lower
 of it being also the most productive of *Ferns*. But the
 and more comprehensive designation is that of the
of Clouds; since the absence of cultivation, the green
 sage, and the prevalence of small marsh and boreal
 interspersed with some of the peculiar alpine
 the Azores, are all apparently attributable to the condi-
 tion of the atmosphere.

At length the *Erica scoparia*, that most frequent shrub
 the Azores, itself yielded before the cloudy atmosphere,
 we crossed a space of the hill quite destitute of
 covered with a close short herbage, consisting chiefly
grasses, *Carices* and *Tormentilla reptans*. Here Captain
 remarked that we had already ascended above the
 heath. Though I could not dispute the natural
 yet I felt convinced we were not truly above the
 limit of heaths, since the fronds of *Pteris*
 conspicuous around us, rising above the very sheath
Calluna vulgaris had been observed lower down the
 and as that heath ascends in Scotland far above the
aquilina, I read the appearance of the latter as a
 tion that we were still within the natural limit of heath
 far as determined by absolute elevation; but the
 here too dense to allow the sight of any thing
 distance of fifty yards. Accordingly in no long time,
 gained increased elevation, and a less clouded
 (probably between four and five thousand feet)
 scattered and very dwarf bushes of *Erica scoparia* again
 greeted our eyes, interspersed with a few examples of
Laureola and tufts of *Aspidium famesedi*, together with
 sional specimens of *Lycopodium Selago*, whose close
 upright branches give it a totally different appearance

the curved and scraggling habit of *L. suberectum* seen lower down the hill.

Higher still, as we ascended above the clouds, and attained an elevation that gave us a full view of the upper part of the Peak, now seen rising into a clear blue sky as anticipated, several other shrubs re-appeared which had been also seen below the region of the clouds; and we soon found ourselves tossing a much drier and more stony portion of the mountain, which was thickly covered with the species of *Erica*, *Juniperus*, *Myrsine* and *Vaccinium*, before mentioned. Apparently, this upper zone of wood had been the growth of a long series of years, although the shrubs were much smaller in their dimensions than those of the same species in the lower wooded zone, just below the region of clouds. *Calluna vulgaris*, and *Menziesia polifolia* (the dwarf variety figured in *AiOoddiges'* Botanical Cabinet) were interspersed in a few places between the larger shrubs, over spaces from which the latter had probably been burnt or cut and carried away.

Here we saw a number of women and children, employed in burning this natural cover of shrubs; but I omitted to ask whether their work was done in the expectation of producing pasturage for sheep, or whether there was some other object in view. If the former, I should deem it likely to prove labour thrown away, so bare and stony was the steep acclivity here, and so nearly destitute of water at this season. Whatever might be the object, there must have been much time spent in walking to and from the scene of their labour, the uppermost houses being quite within the limit of the cultivated region, distant by a walk of two or three hours.

It was now about noon, and we halted half an hour in this upper natural zone of shrubs, for the guides to eat their dinner, and for ourselves to make a lunch before commencing our ascent of the remaining and very steep portion of the Peak. Our resting-place was fixed by a small hollow in the rock, which held a gallon or two of water, and which slowly refilled itself as we abstracted the water from it, yet never overflowing. Here we found it advisable to leave our

basket of provisions and sleeping coats^srith other heavy articles, not indispensable to the objects of our ascent Among these, I included my collecting-box, which had become rather weighty, and the contents of which were more likely to be injured by the burning rays of a cloudless sun, than to be increased from the dry and barren rocks still above us.

On again getting into motion, we slowly toiled up ^{the} shoulders of the mountain, and soon left below us all shrubs except *Calluna vulgaris*, which, with *Thymus ceff^{miu}**³ composed the principal part of the vegetation. Considerable spaces of bare rock, or of loose cinder-like stones, intervened among the portions of surface covered by the prostrate (*Mima i* and as these bare spaces gradually increased in extent and frequency, with the increasing altitude, almost the whole surface at length appeared to be destitute of vegetation. Only two species of flowering plants were observed within or below that region 5 the one being *Polygala vtdgarts*, of which only a single root was seen on the Peak, and none elsewhere in the islands which I visited; the other was a species of *Agrostis*, possibly a form of *A. vulgarts*, afterwards picked just by the summit of the Peak, and nearly parched with drought.

The task of ascending this uppermost portion of the Peak was exceedingly toilsome. In many places the surface was covered by loose pieces of lava, which, when set in motion over each other by our feet, slipped rapidly down the steep declivity, endangering the freedom of our ancles and the integrity of our bones. The dark and bare rocks also were sensibly hot to the hands and feet, even felt through our shoes* under the influence of the mid-day sun, shining * full splendour through a dry and rarified atmosphere. Not a drop of water was found above the place at which ** had rested to lunch 5 and all the portable stores that we had carried higher, consisted of a bottle of cyder and a very small flask of whisky, f_{or} we had expected to find water, * not snow, near the summit. We had soon cause enough

to repent this bad management; thirst becoming painfully excessive, under the united influence of heat and great muscular exertion, more especially to the three Englishmen. The natives bore this better than we did, but one of the four guides or porters, who were still ascending with us (two having been left in charge of our baggage at the resting-place), was at length fairly knocked up, and he returned without reaching the summit.

The top of the Peak is a large hollow crater, out of which arises a smaller cone, of two or three hundred feet in altitude, produced by some eruption more recent than that which formed the chief crater itself; and the upper part of this little cone constitutes the pointed summit of the Peak, as seen from the ocean. Before reaching this crater, we lost the *Calluna vulgaris* entirely, but a few tufts of *Thymus cymspititius* were still visible, and continued to be seen even to the summit of the little cone. The crater is now imperfect, the sides having fallen down; but a considerable portion of the walls, too steep for the foot of man, still surround it with black and bare precipices. We crossed the crater, from which all snow and water had vanished, and gained the base of the small cone; and up this cone, nearly as steep as a sugar-loaf, we at last scrambled. I cannot say we walked up it, for hands were almost as serviceable as feet in effecting the ascent.

The summit of the small cone, or extreme summit of the Peak, is again the edge of a crater, there being a basin-like depression within it. Inside this basin, or little crater, the ground was hot and steaming, and at the depth of a few inches below the surface of loose stones, it was too hot to allow of the hand being pressed against it. We remained on the cone two or three hours, and while exposed to the wind, by standing on the edge of the basin, we speedily became so chilled as to tremble with cold, though Fahrenheit's thermometer indicated a temperature of 53°, the only instance in which I saw the thermometer so low during my stay about the islands. On descending into the small crater

deep enough to be screened from the wind which swept over its summit edge, the climate was changed into a pleasant hothouse warmth, by the heat of the ground and the steam which rose from it. Here I felt quite comfortably warm while sitting on the rock without a coat, my own having been transferred as an outside coat to Captain Vidal, whose observations with the theodolite obliged him to stand on the exposed summit. He had made the ascent in a thin and light jacket, which had been exchanged for a coat of woollen doth, before taking his exposed position; but after the heat and exertion of the ascent, the breeze of the summit would have made a thick cloak welcome, although the sun shone dear and the ground was warm.

On arriving at the summit, we had divided and drunk the bottle of cyder, and found it little enough for six parched tongues, and for lips painful from excessive thirst. But after remaining so long about the summit, the small flask of whisky had become at least equally valuable as another bottle of cyder might have been deemed, could it have been offered to us. The painful thirst, and intense longing for cool and warm drinks, such as cyder or milk, again returned in the same intensity as we descended towards the spot at which we had rested for lunch, and near to which our sleeping ground was to be chosen for the night. The dark and steep sides of the hill, where there was so much bare rock, caught the rays of the declining sun, like a wall, as we descended the north-western declivity, and thus kept up the heat till sun-set.

While descending from the summit I felt too much wearied and worn out for botanical observations: indeed, I had scarcely an eye for any thing except spots which appeared in the distance likely to produce water, and for which I vainly looking around at every downward step. Small channels were occasionally crossed, through which water had been flowing earlier in the season but now was dry and parched. Six weeks before, M. Dabney had sent a party of men to the summit, to obtain snow for a sick friend, and they had then procured some; but all trace of snow was

~~now~~ gone, and w[^]had ample proof of the inaccuracy of those geographical works, which describe the Peak of Pico to be covered with perpetual snow. Snow lies till the month of May under some of the steep rocks that form the large crater, but on this first day of July snow and snow-water were no longer to be seen. The summit of the Peak is 7616 feet above the level of the sea, as afterwards calculated by Captain Vidal from the barometrical observations. The difference of temperature between the base and summit was about 22° of Fahrenheit.

Thymus caspititius and the *Agrostis* before mentioned ~~were~~ the only phoenogamous plants seen on the little cone; ~~and~~ a very few *mosses* and *lichens* were associated with them, I should think the highest tufts of *Calluna vulgaris* were met ~~with~~ at an altitude of about 7000 feet. *Erica scoparia* was the second shrub observed in the descent, and might attain a height of 6000 feet. I should guess the spot at which we halted for the night to have been about 5000 or 5,500 feet in elevation. Here we were in the upper zone of shrubs, including *Vaccinium Maderense*, *Myrsine retusa*, *Menziesia polifolia*, and (if I remember rightly) also the *Juniperus* {*communis*?) and *Daphne Laureola*, along with *Erica scoparia* and *Calluna vulgaris*. Below this place, the *Calluna* was very sparing in quantity. We formed our beds with green bundles of the *Erica*; and having made a good fire with the dead and dry branches of the shrubs, we passed the night ~~ttore~~ comfortably than the preceding night on the deal boards in Mr. Dabney's house. Pilot-coats and a good fire ~~Were~~ by no means unnecessary while we slept under a clear sky after the day's labour. About sunrise we were scarcely two hundred feet above a dense mist, but during the whole ⁿⁱght the heavy masses of mist or cloud, which enveloped the middle portion of the mountain, remained constantly below us. The sun rising on the contrary side of the Peak to that on which we had slept, threw the conical shadow of the hill, deep and distinct, over the volumes of white cloud beneath us, and thus told us that it had risen, long before

we could see the luminary itself. We made a rapid descent through the mist, and found the bushes and grass dripping wet until we got below it, when we came into a fair and sunny morning on the lower part of the mountain, and arrived at the house of Mr. Dabney before nine o'clock. The whole ascent and return had thus occupied us for about twenty-eight hours, or excluding the night, and the time spent in the observations with the theodolite, a space of fifteen or sixteen hours. The entire ascent and return might therefore be made in one day; indeed, it was accomplished in a day by two English gentlemen, who ascended on the last day of June.

I regret not being enabled to state the exact heights at which the various species of plants mentioned, commence and cease. I was of course much tied by accompanying ^a party who ascended for a different object. Captain Vidal wished only to ascertain the absolute height of the Peak, and the relative position of other islands, or other parts of the same island, as seen from the Peak. On this account, I ^{*a} ^s unable to avail myself of an opportunity, which might, under other circumstances, have been afforded, for ascertaining also the altitudes at which the shrubs and other plants *grow* whether indigenous or cultivated. The highest cultivation, that of the potatoe and cocoa, probably did not exceed 2000 feet. Neither, of course, did a rapid ascent and return allow much time for looking about after plants beyond the line of march, without risk of losing the party. It is highly ^{r0} ^{*} probable that the lower wooded zone would repay a more careful scrutiny, and prove more interesting to a botanical collector than the ascent to the actual summit of the Peak.

On one other occasion I crossed to Pico again for a few hours, and landed at a different part of the coast, to ascend one of the small hills, or volcanic cones, formed by some eruptive burst of cinders and lava near the base of the great mountain. I got thoroughly soaked from head to foot by the heavy rain, which commenced almost as soon as I landed, and almost prevented my botanizing. On this *ocr*

casion I collected. *Corema alba* and *Bartsia Trixago*, both on the cone ascended, and neither of which did I find elsewhere in any of the islands visited; also *Triticum ciliatum* and *Myosotis maritima*, found elsewhere by Guthnick, but only on this part of the coast of Pico by myself. *Rhus Coriaria* was likewise gathered on the volcanic cone, and apparently indigenous there, though other localities in which it was observed, in the islands of Fayal and Flores, were all near houses or gardens, and to which I deemed it to have been introduced by the hand of man.

It may be here observed, that the names which are applied to some of the plants mentioned in these notes, may be disputed by other botanists. The shrub which I have called *Vactinium Maderense*, is certainly the *V. cylindraceum* of Smith; but I cannot regard it as being specifically distinct from *V. Maderense*, of which, however, it is a very handsome variety, with flowers more numerous, and often twice the size of those in the Madeira specimens. Those botanists who delight in multiplying species on paper, by describing extreme forms, in disregard of intermediate and connecting links, will doubtless keep *V. Maderense* and *V. cylindraceum* distinct. The *Daphne Laureola* of these notes is the same as the plant marked "*Daphne, n. & p*" on the labels of Mr. Guthnick, and I supposed it a different species when collected; the more spreading branches and shorter leaves inducing a dissimilarity of aspect from the upright shrubs of our hedgerows and coppices; but as I detect no essential distinctions in the dried specimens, the different mode of growth may perhaps be ascribed to the influence of elevation and exposure to violent winds. The *Lysimachia Azorica* (of Hornemann) is possibly a variety of *L. nemorum*, which it closely resembles. The specific character assigned to it in the Botanical Magazine was drawn from plants cultivated in a pot, and is inapplicable to the wild specimens, the stems of which are not erect, and are larger, stronger, and more branched than those of our indigenous *L. nemorum*. Perhaps the best distinction lies in the broader sepals of *L. Azorica*,

which are incorrectly figured in the Botanical Magazine. The *Juniperus* may be only one of the many varieties, *J. communis*. It differs from the form of that species which is indigenous in Britain, by having an almost arborescent growth, the stems attaining three or four feet in circumference, broader leaves not at all subulate: in this respect, it approximates to *J. nana* of our mountains, the name of *Bellis Azorica* is taken from Mr. Guthnick's but while the plant closely resembles our *B. perennis*, leaves and general habit, the receptacle is almost flat, & covered by short broad scales; so that the generic character is not that of a *Bellis*. The *Erythraea diffusa* is a species, but the specimens collected on Pico are readily distinguished from those of our native species, by their prostrate stems, elongated peduncles and perennial root. This is common on the hills in all the islands visited, and invariably white-flowered, though the French specimens, of which the species was founded, produce pink flowers, a tendency to the production of white-flowered species and varieties seems a characteristic of the botany of the Azores. The name of *Myosotis maritima* is also taken from the name of Mr. Guthnick. It is an undescribed species in this country, apparently annual, and nearest our *M. arvensis* with much larger and paler flowers than the latter. The *Luzula* of the Azores approaches our *L. maxima* in size and habit, while that of Madeira, described by Lowe under the name of *L. ekgans*, more resembles the British *L. prostrata*. Both species differ conspicuously from our indigenous species in the colour of their flowers, which are pale purple. I suppose that Lowe has the priority in the name of this Madeira species. If so, that of the Azores might be named *Azorica**

Gramina NOVIÆ HOLLANDIÆ, *prasertim* iNSuLiE VAN DIEMEN, *collectionis Lindleyana, a v. cl. Drummond, Gunn, aliisque collecta. Scripsit C. G. NEES AB ESENBECK.*

Tetrarrhena tenacissima N. ab E.: floribus glabris, valvulis nervosis obtusis, extima duplo brevior, foliis planis patentibus calmoque ramoso diffuso scaberrimis.

Van Diemen's Land, d. 30. Dec. 1837. *Gunn. n. 987. V.*

Similis *Tetrarrhena distichophytta*, sed differt abunde foliis latioribus, nee pilosis sed cum vaginis culmoque setulis brevibus crassis, in culmo vaginisque reversis scaberrimis. Culmus est longus, ramosus, flagellaris, angulosus, inferne longo tractu nudus.

Tetrarrhena Drummondiana N. ab E.: floribus glabris, valvulis nervosis obtusis, extima paulo (J) brevior, foliis planis subtus culmoque erecto ramoso rigidulo scaberrimis, vaginis basi laevibus.

Ad flumen Cygnorum. %. 1839, *Drummond.*

Differt a *Tetrarrhena distichophylla* et *tenacissima* valvula sterili inferiori maiori, vix \$ breviori, turn culmo erecto, foliis culmo adpressis tripollicaribus 1½-2lin. latis acuminatis quinque nervibus, margine subtusque scaberrimis, supra tenuissime holosericeo-mollibus, superioribus racemo longioribus. —Culmus iii medio ramo uno alterove erecto, subinde simplicissimus, sesquipedalis, infra nodos scaberrimus. Vaginae apicem versus scabriusculae. Glumae ovate, acutae, flosculis duplo breviores, glabræ.

Microsena stipoides R. Br. *Gunn n. 997. Fl. Cygn. Drummond.* Huius loci *Mühlenbergia simplex Kunth. Podosaemi spec. ? N. ab E. in Sieb. Agrostoth. n. 94.*

Hierochloa axes trāits. R. Br. Van Diemen's Land. *Gunn 26. Dec. 1837. w. 337.*

Helopus annulatus N. ab E. *Milium punctatum* R[>] B^{r*}
Nov. Holland, interior *Major Mitchell's Exped. n. 58.*

Panicum kevinode. Lindl^{pi}. *Mitchell, in Ann. des Sc^{*} Not^{*}*
2e. sér. 1842. xv. p. 64. (*Panicum decompositum* & &^{r''}
Major Mitch. Exped. n. 70. Interior of New Holland.

Species difficilis, differt a *Panico colorato* gluma inferior
breviore rotundata, a *Panico arenario* Brot. foliis longioribus
linearibus planis, gluma superiore flosculoque masculo minus
valide nervosis, et, uti videtur, rhizomate haud repente.

Panicum laniflorum N. ab E.: racemo composite contracto^{*}
ramis intermediis longioribus flexuosis alternis glabris, pe^t
cellis geminis inaequalibus, spiculis (linealibus) subovatis lana
increnscanti-fastigiata rufescente vestitis, gluma inferiore nos-
culis 4 plo-5 plove breviori lanceolata hermaphroditoque tlos-
culo mucronato punctulato glabris, foliis linearibus margin^a
undulatis supra subtilissime puberulis, ligula ovata obtus^a
convoluta, culmo simplici erecto, nodis glabris.

In Australia interiori. *U. Major Mitchell's Exped. n. 68.*^{di-}

Quod ad habitum simile est *Panico serrato* Spr. sea^{di-}
versi est ordinis, scil. *Virgariarum Trin.*

Radix fibrosa. Culmi caspitosi, basi bulbosi, semipedajie[^]
flavi, graciles, nodis glabris infimisve puberulis. Folia¹⁻¹
poll, longa, vix lin. lata, acuta, in pagina superior stria^{ca}
et vix conspicue puberula, subtus cum vaginis glabra. Ligula^{ca}
ovata, obtusa, obliqua, convoluta, basi herbacea. acemus^{ca}
compositus, 1[^]-2 pollicaris, contractus, spiciformis, rhachi^{ca}
triquetris, scabris, propriis flexuosis. Spiculae lana^{ca}
rufo-ferruginea vestitee, geminse; pedicellis inaequalibus. a^{ca}
coniunctis, longiori spiculam subsequante. Gluma inerior^{ca}
parva, glabra; superior flosculique masculi valvula infcn^o
acutae, rufe. Flosculus hermaphroditus oblongus, mucronato-
acutus, subtilissime punctulatus, luteus.

Neurachne Mitchelliana N. ab E.: glumis tuberculatis
acumine subulato, inferiore dorso barbata.

In Novae Hollandiae interioribus. *% Major Mitchells E#**
ped. n. 64.

Culmi plures e rhizomate squamato tomentoso erecti, dense cespitosi, 4-8 poll, longi, plurinodes, nodis barbatis; inferioribus omnibus a vaginis obtectis. Vaginae arete, striatae, glabree, circa os barbâ cinctae; inferiores subinde pubescentes. Ligula indistincta. Folia 8-9 lin. longa, 1| lin. lata, lanceolata, apice angustiora at obtusiuscula, basin versus setoso-ciliata setis bulbosis, striata, rigidula, glauca. Spica terminalis, pollicaris, densa, cylindrica. Rhachis angulata, hispida. Pedicelli brevissimi, crassi, solitarii^ articulo pateriformi a spiculis soluti. Spiculae 2} lin. longae, viridulae, obliquae, Glumae herbaceo-cartilagineae, ovato-lanceolatae, truncatae, inferior extrorsum sita, paulo minor, dorso canali-pulata barbaque media setosa tuberculis grossis agglomeratis inposita patente ornata, infra barbam depressior plaga media tenuiore membranacea, in basi et ad latera pilis brevibus conspersa, quinquenervis, nervis tribus mediis infra barbam obsoletis; gluma superior basi latior, dorso hirta, ad latera, excepto acumine dense setoso-ciliata, septemnervis, acumine angusto truncato apice denticulato. Flosculi chartacei, subconformes, glumis breviores; inferior univalvis neuter, superior hermaphrodites. Valvula flosculi neutrius oblonga, truncato-tricrenata, quinquenervis, dorso plana et scabra. Flosculi fertilis valvulae glabrae, ovatae, cuspidatae, paulo tenuiores, cuspidae inferioris tridenticulata; hsec tri-ilia bi-nervis cuspidae bidentata. Stamina tria; antherae breves; lodiculee lineares, truncatae. Ovarium ovale, depressum, glabrum; styli discreti, capillares; stigmata pilosa.

Adn. *Neurachne phleoides* R. Br. definienda est;

N. {*phleoides*) glumis subulato-acuminatis imberbibus ciliatis.

Spinifex hirsutus ? sterilis. V. D. L. *Gunn* n. 584.

Chrysopogon parviflorus (Holcus) R. Br. Australia interior. Var. a. N. 66. *Major Mitchell's Eocped.*

Andropogon sericeus R. Br. *Major Mitchell's Exp.* n. 54.

Anthistiria australis R. Br. glumis involucrisque laevissimis

glabris. Van Diemen's Land, *Gunn n. 591.* Swan River, *Drummond*, idem, gl. invol. hirsutulis.

*Hemarthria t*ncmafa* R. Br. Van Diemen's Land. *Gunn n. 417.*

Alopecurus australis N. ab E.: culmo (adscendente) in-
curvo, spica composita cylindrica, glumis obtusis subvi-
flosis
ob-
ciliatis, arista glumis duplo longiore exserto, antheris
longis, foliis lineari-angustis.

In Novae Hollandiae interioribus legit *Mitchell (n. 51.)* @ -

Similibus *Alopecuro fulvo*, differt autem: statura gracilior
culmo haud ita geniculato et adscendente, sed potius in-
paucinodi, foliis duplo angustioribus, arista longiore for-
ut *Alopecuri geniculati*, sed spiculce iis *Alopecuri fulvi*
maiores sunt.

Lachnagrostis Billardieri, Tr. *Agrostis Billardieri* it-
V. D. L. *Gunn n. 1007.* Valvula inferior apice biseta s
bifidis.

Lachnagrostis Willdenowii. Major *Mitchell's Exped.* Nov.
Holl. inter. Var. *angustifolia* et *humilis*.

Adnot. *Agrostis mnula* Sieb. *Agrostoth. n. 81.* »
Agrostis Willdenowii, neque ad *Agrostis amulam* R-
tinet, quae *Lasiagrostis Billardieri* simillima est.

Lachnagrostis amula. R. Br. Ins. Van Diemen. *George*
Everett, Esq.—Gunn n. 1006.

Lachnagrostis Billardieri similis, eiusdemque magnitu-
diinis, sed flosculus hirsutus est. Rudimentum alterius flos-
culi in his ambabus longitudine est dimidii noscu
Lachnagrostis Willdenowii contra brevissimum.

Lachnagrostis Willdenowii Ins. Van. Diemen. * &
1008. Valvula inferior biseta setulis bipartitis brevibus-

Agrostis aquata N. ab E.: panicula semiverticillatae, P-
tensis ramis scabris basi simplicibus, flosculi chartacei fo
mutici valvulis glumisque sequalibus his carina scabris, tave,
planis vaginisque scaberrimis, ligula ovata obtusa trunca
culmo adscendente basi repente.

Van Diemen's Land d. 18. Jan. 1838. *Gunn*. 1005.

Proxima *Agrosti polymorphic*, Var. III. et Trin. i. e. *Agrosti hispidm*, Willd. seu *vulgari* With., differt autem flosculo paulo maiori rigidulo, valvula superiori inferiorem eequante neque ea dimidio brevior, et glumis minus acutis.

*Agrostis intricate**, N. ab E.: panicute ramis quinis-ternisve laevibus a medio vel paulo inferius florentibus paucifloris, glumis aequalibus scabriusculis, flosculo membranaceo giomis paulo breviori mutico, valvula inferiori emarginata, superiori duplo breviori, foliis angustissimis planis scabris, ligula ovata truncata, culmis adscendentibus basi repentibus ramosis intricatis.

Variat panicula contracta et patula.

Cum *Echinopogone Gunniano* sub n. 1011. in Insulae van Diemen collibus Harapstead Hills dictis, Februario. *Gunn* n. 1011 ex parte. 0

Agrosti polymorpha B simillima, sed, uti puto, diversa notis adlatis. Vix spithamea, debilis et gracilis.

An huius loci *Agrostis polymorpha* I. B. b. 2. a. e Nova Hollandia apud Trin. Gram, unifl. p. 199 ? et IV. B. 1. c. p. 202?

Echinopogon ovatus Van. D. L. *Gunn* n. 590.

Echinopogon Gunnianus N. ab E.: floribus paniculatis.

In collibus Hampstead Hills, insulae Van Diemen, Febr. 1837, *Gunn*. 1011, cum *Agrosti intricate** contextus. 0

Quod ad characteres genericos sane *Echinopogoni ovato* coniunctissimus est, sed habitu alieno *Agrostis alba*. Radix fibrosa. Culmi plures, digitales, palmares et longiores, binodes, inferne genuflexi, simplices. Vaginae internodiis breviores, retrorsum scabrae. Ligula brevis, ad latus decurrens. Folia pollicaria, sesquipollicaria, nervo carinata. Panicula oblonga vel lanceolata, erecta, rigidula, pollicaris vel sesquipollicaris. Rami 3-5, inaequales, rigiduli, plerique apice trifidi aut subtrichotomi. Spiculae viridulae, 1 lin. circiter longae. Glumae eequales, obtusiusculae, ovatae, in sicco statu patulae, trinerves, muricato-scabrae. Flosculus basi

pilis cinctus, lanceolatus, duplo longior. Seta valvulæ inferioris plana, rigida. Stamina 3. Stigmata sessilia. Rudimentum alterius flosculi filiforme, parce pilosum, flosculo duplo brevius.

Muhlenbergia crinita Tr. Van Diemen's Land, 0. *Everett, Esq.*

Muhlenbergia mucronata N. ab E.: monandra, panicula elongata subcylindrica, glumis setaceo-acuminatis hyalinis, flosculo glumis *I* breviori, valvula inferiori setaceo-acuminata integra, arista supra medium dorsum exoriente glumis quadruplo-quintuplo longiori gracili undato-flexuosa (purpurea), **foliis** planis vaginisque scabriusculis.

In Insula Van Diemen d. 8. et 11. Jan, 1838. *Gum* n. 988. %.

Similis *Muhlenbergia crinita*, sed facilis cognitu aristis mollibus capillaribus undato-flexis patulisque nee recurvis. Habitus Penniseti fere vel *Gymnothricis*.

Muhlenbergia ram. Van Diemen's Land. 2. Jan. 1838. *Gum* n. 989. (ex parte).

fi. maerostachya. Spiculis maioribus, rudimento setiformi brevissimo nudo ad basin flosculi. Van Diemen's Land. 0. *Everett, Esq.*

Stipa flavescens R. Br. V. D. L. *Gum* n. 996. Swan River, *Drummond**

Stipa semibarbata R. Br. Swan River, *Drummond.* Glumæ maiores; arista fortior quam in *Stipa molli.* Vaginæ pubescentes ut illi.

Stipa compressa R. Br.? Swan River, *Drummond.*

a. maior.

b. minor.

Culmus vix pedalis strictus, hinc angulo acuto illinc scaberrime sulcatus. Vaginæ compressæ, Panicula contracta basi vaginata. Glumæ paucæ, 6 lin. longæ. Arista quadruplicata, in medio parum inflexa, hinc denuo recta.

Stipa elegantissima Labill. Swan River, *Drummond.*

Stipa campylachne N. ab E. in Gr. Preiss. *Drummond,* Swan River.

Gamelythrum N. ab E.

Gluma uniflora, bivalvis, subaequalis, valvis (s. glumis) basi attenuates in tubum brevem connatis. Flosculus bivalvis, stipitatus, valvulis basi in tubum (sericeum) connatis membranaceo-marginatis convolutis: inferiori trifida superiori bifida, utriusque laciniis aristatis setaceis similibus adiecta utrinque lacinula brevi membranacea lanceolata a margine valvulae membranaceo proficiscente. Lodiculae angustae, truncatee. Stamina tria, basi connata. Styli duo, discreti; ovarium glabrum, lanceolatum. Spiculae capitatee.

Gramina caespitosa, rhizomate repente squamoso. Culmi simplices, inferne vaginati aphylli, in medio densifolii, apice decrescenti-microphylli. Capitulum terminale (in speciebus cognatis turbinatum), spiculis exterioribus sterilibus involucrum formantibus. Spiculae magnae, brevi-pedunculatae. Glumae et flosculus fere ut in *Amphipogone*, sed basi angustata tubulosa in pedicellum abeuntia. Flosculus teres.

Gamelythrum turbinatum N. ab E. (*Amphipogon*, R. Br.)
Swan River, *Drummond*.

Amphipogon laguroides R.Br. Swan River, *Drummond*.

Amphipogon strictus R. Br. Swan River, *Drummond*.

Enneapogon nigricans. *Major Mitchell's Expedit. n. 52*.

Pentapogon Billardieri R. Br. *Gunn n. 989. ex parte*.

Bromidium lobatum N. ab E. *Agrostis lobata* R. Br. Van Diemen's Land. Variat

a. spiculis paulo maioribus, 2 lin. longis. *George Everett, Esq. a. 1838*.

p. spiculis paulo minoribus (1 | lin. longis) *Gunn*.

/J 1. maius, panicula semipedali, valde lobata, foliis longioribus latioribus. *Gunn d. 25. Dec. 1837. «• 990*.

/3 2. minus, panicula strictiori subcylindrica, foliis brevioribus saepe convolutis strictis, spiculis subinde purpurascens. *Gunn n. 991. d. 25. Dec. 1837*.

A Bromidio 4-seto (*Agr. quadriseta* R. Br.) differt dentibus valvulae brevioribus, *interioribus* paulo maioribus, arista fere basilari.

Bromidium quadrisetum (Agrostis quadriseta R. Br.) Van Diemen's Land. G. Everett, Esq.

Eriachne mucronata R. Br. Drummond ad fl. Cygn.

Eriachne ovata N. ab E.: panicula contracta brevi, spiculis glumisque ovatis; his 9-11-nervibus asperiusculis, valvulis subulato-attenuatis a basi ad medium hirsutis, superiori mucronata, inferiori bidentula, culmi nodis vaginis foliisque glabris.

Ad flumen Cygnorum Mr. Toward. %.

Differt ab *E. brevifolia* R. Br. spiculis brevioribus ovatis, nec oblongis, et foliis longioribus. An loco "brevifolia legendum ^q laevifolia" ?

Danthonia setacea R. Br. Swan River, Drummond.

Danthonia varia N. ab E.: panicula coarctata lanceolata, spiculis 5-6-floris gluma scabriuscula brevioribus, flosculi v^{al-} vula inferiori basi medioque barbata, serie villorum supen^{ori} in fasciculis 7 dispositorum valvulam a basi ad sinum aequan^{te} aristis lateralibus valvula longioribus intermedia dimi^{d.o} minoribus, foliis planis scabris, vaginis glabris ore barbatis.

Ad flumen Cygnorum, Drummond.

Danthonia pilosa R. Br. Var. racemo simplici.

Danthonia Gunniana N. ab E.: racemo subsimplici lanceolato, spiculis sexfloris gluma laevi brevioribus, flosculo^{rum} valvula inferiore basi medioque barbata serie villorum si^p riore Tariore emarginaturam subattingente, setis laterali^{bns} valvula longioribus arista dimidio brevioribus, foliis line^{ari-} bus planis pilosis, radicalibus cespitosis obtusis brevibus, vaginis glabris basi oreque barbatis.

In Insula Van Diemen d. I. Jan. 1838. Gum. n. 994. V;

Differt a *Danthonia pilosa*, cui proxima, inprimis fob* planis nec setaceis, vaginis glabris, turn inflorescentia race- xcosa, e spiculis 6-8, raro infimo ramulo distachyo. ^olia radicalia dense conferta, pollicaria, \ lin. lata, plana, obtusa, pilosa. Culmi ^-1 pedem alti, glabri, trinodes, ad genicula infracti. Vaginae internodiis breviores, ad os et basin pi^{lis} cinctfle. Folia culroea inferiora radicalibus conformia, suprenum complicato-subulatum et brevius. Pedicelli breves.

Glumae glabræ, virides, margine pallido. Flosculi 6, 1½ lin. longi. Setae laterales 2 lin. (ad sinum metiendo) longae. Arista 6 lin. longa, basi fusca, citra genu albida. Fasciculi valvulae inferioris superiores discreti 3-4, brevès, e paucis pilis constantes sinum vix attingentibus, laterales a mediis valde distantes; inferiores fere confluentes in singulum medio interruptum. Reliqua valvulae superficies laevis est, inferiori pilorum cingulo vix superiorem contingente.

Danthonia caspitosa Gaud. var. *gracilis*, racemo subsimplici. Ad fluraen Cygnorum. *Drummond*.

Phragmites communis, Van Dieraen's Land. *Gunn n.* 814.

Agropyrum velutinum N. ab E.: spiculis distiche imbricatis 6-7-floris, glumis lineari-lanceolatis acutis septemnerviis spicula duplo brevioribus, flosculis brevi-aristatis, rachii foliisque brevibus velutino-pubescentibus, radice repente.

In Chilton, Surrey Hills, Insulae Van Diemen, Februario 1837. *Gunn n.* 770.

Proximum *Agropyro acuto*, sed diversum foliis extus molliter pubescentibus et spica densiori breviori (1-1½ poll, longa).

Culmus strictus pedalis, apicem versus pubescens, superne late nudus. Folia 2-5 circa basin approximata, 2-2½ poll, longa, rigidula, incurva, aetate convoluta, supra pilis brevioribus rigidioribus, subtus pilis mollibus brevibus densius vestita; folium unum infra medium culmum illis simile, paulo brevius. Vaginae scabrae. Ligula truncata. Spiculae 6-8, imbricatae, ovatae, scabrae; infimae paulo magis distantes. Flosculi duo terminales saepe steriles. Arista ex apice angusto subtruncato, valvulae subulate, strictae, valvula 7-9-nervi triplo et ultra brevior, cum valvulae apice purpurea.

Poa porphyroclados, N. ab E. in *fferb. Preiss.* Ad fl. Cygn, *Drummond*.

Poa Sieberiana, Kunth. G. *Everett*, Van Diemen's Land.

Poaplebeia, R. Br. Van Diemens Land.

Pon lavis, R. Br. *Gunn*. Insula Van Diemen. Synon.
Arundo poaeformis *Labill. L p. 27, t. 35* ad hanc speciem,
 neque ad *Poa australem* pertinet.

Poa Drummondiana, N. ab E.: panicula contracta ramis
 geminis scaberrimis a medio floriferis, spiculis ovatis quinque-
 floris scabris pedicello triplo quadruplo longioribus, valvula
 infera flosculorum distincte nervosa carina marginibusque
 basi subpubescentibus apice obtuse scariosa erosulo-dentata
 ligula brevi truncata, foliis convoluto-filiformibus elongatis
 retrorsum scaberrimis, radice repente nodosa.

Ad flumen Cygnorum, Novae Hollandiæ. *Drummond*.

Accedit *Poa nodosa*, N. ab E. in *Gram. Preiss, n. 18*
 sed differt spiculis latioribus magis turgidis e viridi et
 purea variis, valvulis magis obtusatis basi que in carina
 margine vix puberulis, ligula brevior, rel. An eius forma.

Haec species cum praecedente aptius *Sclerochlois* cons-
 abuntur.

Poa australis, R. Br. Van Diemen's Land, *Gunn. n. 596*.

Poa australis, R. Br. (3. spiculis viridibus paulo
 bus plerisque trifloris, foliis subinde planiusculis. Van
 men's Land. *Gunn n* 1012*.

? *Poa saxicola*, R. Br. *Prodr. p. 180. App. ed. N. ab B.*
l.p.36,n.5.

? *j3 effusa*, panicula patente et patentissima ramis
 bus 3, 2, 1, compositis simplicibusvel e medio apiceve floren-
 tibus.

Insula Van Diemen d. 13 Dec. a. 1837, %. *Gum n. 10*

Culmi basi fasciculatim ramosissimi, adscendentes, n¹¹,
 formes, flaccidi, diptales-pedales. Folia peranjpsta, plana,
 siccando complicato-filiformia culmo breviora, scabra, vin-
 dia. Vaginae compressae, scabrae, ore nudo. Ligula rotun-
 data, glabra. Nodi glabri. Spiculae H-2 lin. longae. Glu-
 mae ovateae acutiusculae margine subtilissime pubescentes,
 superior maior. Flosculi distantes, virides; valvula inferior

oblongo-lanceolata, obtusa, 5-nervis, carina et margine brevissime lanuginosa.

Occurrunt inter alia specimina minora panicula simplici contracta minore, quæ probabiliter *Poa saxicoke* verum exhibent typum.

Eragrostis setifolia, N ab E.: paniculae oblonge contracte rigidulee, ramis alternis per intervalla magis approximatis a basi compositis axillis nudis, spiculis brevissime pedicellatis lineari-ellipticis 3-20-floris purpurascenti-canis, flosculis triandris ovatis (a latere oblongo-lanceolatis) obtusis obsolete nervosis, valvula superiore subaequilonga integerrima margine l*vi, foliis setaceo-convolutis vaginisque laevibus, ore vaginarum imberbi, ligula brevissima glabra.

In Novee Hollandiae interioribus 1/. *Major MitchelVs Exped. n. 59.*

A varietatibus *Agrostis Broivnei*, quæ « *E. BaMensis*. *Schult. et Tr.* differt foliis brevioribus setaceis laevibus, vaginarum ore omnino nudo, reliquisque characteribus.

Eragrostis interrupta, R. Br. Var. *contigua* panic, spiciformi. *Major Mitch. Exped. n. 61.*

Eragrostis parviflora, R. Br. Var. *panicula contracta*. *MitchelVs Exped. n. 53.*

Briza minor, Linn.

Glyceria nitens, Van Diemen's Land, *Gunn n. 994.*

Vulpia Brauniana, N. ab & (*Triticum scabrum*, R. Br.) *G. Everett*, Van Diemen's Land. *Aristae* in spicula fructifera incurvae.

Vulpia scabra, Labill. Van Diemen's Land, *Gunn n. 993.* *Aristae* subrecurvae.

Vulpia pectinata, N. ab E. (*Triticum pectinatum* R. Br. *Festuca pectinata* Labill.) Van Diemen's Land, *Gunn n. 999.*

Vulpia immoides Gm. Van Diemen's Land, *Gunn n. 992*, cum varr. *nanis*.—*G. Everett*, \ 839.

Schedonorus Billardierianus, N. ab E. (*Festuca littoralis* Labill. nee R. Br.) Van Diemen's Land, *n. 986*, *Sieb. Agrostoth, n. 58.*

Amphibromus, N. ab E.

Spiculae 2-3-flora, flosculis superioribus pedicellatis, rachilla insertionibusque barbatis. Glumae duse, herbaceae, inaequales, flosculis breviores. Flosculi (an sexu distincti?) bivalves, valvula inferior chartaceo-rigida (\$) infra apicem membranaceum bifidum vel tridenticulatum aristata, arista stricta, siccando ad horizontem reflexa, nee geniculata; superior teneo paulo breviori, dorso plana, margine acutiflexa ciliataque, binervi, apice integra. Lodiculae duse lanuginosae, membranaceae. Stamina? Ovarium compressum glabrum; styli brevissimi, discreti; stigmata laxe plumosa. Caryopsis oblonga, compressa, libera, valvulae superioris marginibus circumdata.

Panicula effusa ramis geminis gracilibus, paucifloris. Habitus potius *Avenae* quam *Bromi*. A *Deschampsia* differens habitibus durioribus, arista fortiori herbacea, valvula superior tergo depressa, marginum plica laterali argutissima ciliata in Bromis. Fructus autem est *Deschampsiae*.

Culmus longus, fistulosus, mollis, siccando collabens, glaberrimus. Nodi glabri. Folia superiora lineari-subulata, breviter, glabra. Ligula exserta, membranacea. Paniculae rami racemoso-tristachyi. Spiculae demptis aristis 4-lin. longae. Glumae purpureae, ovatae, obtusae 5 inferior H superior 2 lin, longa, uninervis, haec trinervis. Valvula inferior 3 lin. longa, utrinque fasciculo pilorum notata, dorso convexa, seta apicem versus 5-nervis, ipso apice brevi spatio membranacea bifida vel dentata; seta infra apicem orta, rigida, seta humida stricta recta, sicca medio reflexa. Caryopsis punctulata,

Occurrunt specimina, probabilitate morbosa, quibus rudimentum ovarii utriculo laxo molli membranaceo longitudine valvulae superioris penitus includitur.

In Insula Van Diemen. *Gunn n. 995.*

Bromus arenarius Labill. Var. *B. maior*, (*Bromus australis* R. Br. *B. arenarius* Labill.) Swan River, *Drummond*.

Figures, with brief descriptions of two species of PANAX, from New Zealand. By W. J. H.

(TABS. XI, XII.)

Two species* of *Panax* were detected in New Zealand by Forster, his *P. simplex* and *P. arboreum*. Of these, the former has been figured by Richard, in the Botany of the "Voyage de l'ASTROLABE." The second is here represented, and we have the pleasure to add a third and very remarkable species, the recent discovery of our friend Mr. Colenso.

PANAX ARBOREUM.

Fruticosum inerme, foliis longe petiolatis, foliolis 3-7 (plerumque 5) obovatis petiolulatis coriaceis serratis, umbellis compositis terminalibus axillaribusque, radiis copiosis, involucris involucellisque nullis, floribus polygamis ? (TAB. XI).

Panax arboreum. Forst. Prodr. n. 308. De Cand. Prodr. n. 253. Schult. Syst. Feget. 6, p. 213. Rich. Fl. Nov. Zel. p. 281. A. Cunn. Bot. of N. Zeal, in Ann. Nat. Hist. 2, p. 213. H. B. Northern island, N. Zealand; in shaded forests, apparently frequent. G. Forster, IfUrville, A. and R. Cunningham, Colenso, Edgerley.

Arbor. Truncus 12-15 pedalis, ramosus. (Rami crassiusculi, glaberrimi). Folia praeipue, ut videtur, versus ramorum apices, copiosa, magnitudine varia, una cum petiolo, spithamaea ad pedalem, digitata, 3-7 plerumque 5 foliolata, petiolulata. Foliola 3-5 pollicaria, obovata, coriacea, glaberrima, acutiuscula, superne grosse serrata inferne integerrima, basi obtusa, supra nitida subtus pallidiora, opaca. Petioli teretes, inferne latiores, basi vaginantes, vagina superne in ligulam brevem desinente. Petioluli semiunciam ad unciam longi, superne plani. Umbellae subgloboseae, copiosae, terminatae vel laterales, compositae. Pedun-

* De Candolle has, indeed, a *Panax f Lessoni*; but that is, by Richard and A. Cunningham, placed in the genus *Cussonia*.

culi divergentes, 2-4 uncias longi, basi incrassati; ~~saepe~~ sime dense aggregati ad apicem rami. Radii numerosi, 1-2 uncias longi. Umbellulee 10-14 flora. Pedicelli 2-3 linea* longi. Involucrum involucellumque nulla. Flores parvi, hermaphroditi v. polygami {A. Cunn.}. Calycis margo obsolete 5-dentatus. Petala 5 crassiuscula, apice subuncinata. Stamina 5, erecta. Filamenta brevissima. Anthere subrotundae. Ovarium calyci adhaerens, late ovatum compressum. Styli 2, breves, subdivergentes. Fructus lato-orbicularis, carnosus, compressus, didymus, utrinque sulcis notatus.

Tab. XL Fig. 1. Flower, f. 2, fruit; f. 3, transverse section of a fruit, *magnified*.

PANAX ANOMALUM, *n. sp.*

Fruticosum, ramis divaricatis setoso-squamulatis, foliis simplicibus in petiolum articulatis rhombeo-obovatis crenatis, umbellis axillaribus simplicibus subbifloris. (TAB. X^{II}.)
HAB. Northern Island, New Zealand. *Mr. Colenso*.

Frutex. Rami insigniter divergentes, saepe refracti, annuati, cortice cinereo obtecti, vetustiores scabrati, juniores undique setis seu squamis setaceis, brevibus, rigidis, appretecti. Folia parva, vix unciam longa, alterna, solitana, non 2 ex eodem puncto, brevi-petiolata, subrotunda, obtusa, Dabranacea grosse crenata seu obtusissime dentata, basi articulata et cum petiolo articulata, dentibus minute mucronulatis. basin petioli, et ad articulum, stipelke 3-4 minute subumbellae axillares, solitariae, rarius binse, parvae, subbino Pedunculus et pedicelli, seu radii, vix lineam longi. non vidi. Fructus lato-orbicularis, didymus, carnosus, compressus, calycis dentibus brevibus stylisque diibbus longiculis recurvatis coronatus, utrinque obsolete 5-sulcatus, locularis, loculis chartaceis monospermis.

Among the 45 species of *Panax* enumerated in Steudel's "Nomenclator Botanicus," 2 only are described with simple leaves: namely, *P. simplex* of N. Zealand, already allude

to, and the very remarkable *P. cochleatum* of Molucca and Java, figured by Rumphius in the Herbarium Amboynense. With neither of these has our plant the slightest specific affinity. Indeed, with its very simple umbels, had it a herbaceous instead of a fruticose stem, I should at first sight have felt little hesitation in referring it to *Hydrocotyle*, among the *Umbellifera*. The stem and branches are, however, everywhere hard and woody, and probably of some size, several of my specimens, apparently only small portions of the entire plant, being 2 feet in the spread of the branches. These branches, too, are singularly divaricated, and everywhere clothed with minute tubercles, on which are placed deciduous little setaceous scales. The leaves are membranaceous, jointed upon the small slender petiole: and at the joint, and also at the base of the petiole, are 3 or 4 minute stipulaceous subulate scales. The fruit appears to be so decidedly that of a *Panax*, (for I have seen no flowers), that I have little hesitation in referring it to that genus.

Tab. XII. Fig. 1. portion of a branch and leaf. / 2. fruit. / 3. section of ditto. / 4. the fleshy substance of the fruit removed from one of the cells, showing its chartaceous substance. / 5. one of the cells laid open, showing the immature pendulous seed :—*magn.*

Enumeration of LEGUMINOSÆ, indigenous to SOUTHERN ASIA, and CENTRAL and SOUTHERN AFRICA, by GEORGE BENTHAM, ESQ.

THE collections which it is the object of the following paper to publish, comprehend nearly the whole of what is hitherto known of East Indian Leguminosae, and the greater part of those which have been been detected in Central and Southern Africa. I have thought therefore that the most useful course to pursue, consistent with the necessary limits of this paper, is to give a complete list of all the species that have to my knowledge been published from these countries,

with the general geographical range of each, and to add synonyms, diagnostic characters or descriptions, in such cases only as it may appear necessary to add to or to modify those already given in De Candolle's Prodrômus, or in works quoted in Walpers's Repertorium, or to describe species now first published. I have also referred especially to the geographical stations furnished by the collections before me.

The materials from which the following paper is drawn up are chiefly the following:

The Leguminosæ distributed by Dr. Wallich under the direction of the East India Company. These were originally placed in the hands of Dr. Graham, who, with great liberality, resigned them over to me at my special request.

Dr. Royle's collection, a small portion of which I published some time since in his Illustrations.

A set of Dr. Wight's Leguminosæ, distributed in his name by Dr. Arnott.

A complete set of the late Mr. Jacquemont's Leguminosæ transmitted to me by M. Decaisne from the Museum of Jardin du Roi, at Paris.

An extensive collection, gathered chiefly in Northern W and presented to me by M. P. Edgeworth, Esq.

Mr. Cuming's collection from the Philippine Islands* by

A considerable number of the Leguminosæ collected by Dr. Griffith in Assam, Bhoutan, and Affghanistan for the publication of which I have received special permission from that gentleman, and which have been communicated to by Dr. Royle, or by Sir W. Hooker.

A set gathered in Tenasserim by the late Dr. Heifer.

Col. Sykes's collection from the Punjab.

Mr. Schimper's Abyssinian and M. Kotschy's Nubian Leguminosæ.

A very instructive set of specimens collected during the Niger Expedition by the late lamented Dr. Vogel, who had paid particular attention to this family, upon which he has published so many excellent papers in the Linnea and in the

Nova Acta Naturae Curiosorum. Sir William Hooker, in whose hands his collections have been placed, has kindly entrusted the Leguminosæ to me for publication.

A set of excellent Senegambian specimens collected chiefly by the late M. Heudelot, presented to me by the late M. Guillemin, in the name of Baron Delessert.

A complete set of Dr. Burcheirs South African Leguminosæ, which I have received for examination from that gentleman.

An extensive collection made by Messrs. Burke and Zeyher in the interior of South Africa, communicated to me by Sir W. Hooker.

A great variety of specimens from various sources contained in Sir W. Hooker's or my own herbaria from South China, the Moluccas, various parts of the continent of India, Ceylon, the Mauritius, Madagascar, Zanzibar, Cape Colony and Sierra Leone, including a nearly perfect set of Drege's Cape plants, published by E. Meyer, of Krauss's Port Natal species published by Meissner, and a considerable number of Ecklon and Zeyher's, published in their *Enumeratio*.

With regard to the East Indian portion, it will be seen that I have had little occasion to remark upon or to modify what has been published on the Peninsular species by Wight and Arnott in their *Prodromus*, the additions which I have had to make being chiefly from other parts of India, but the Cape Leguminosæ have been singularly unfortunate in their commentators. The confusion which has been unhappily introduced into their synonymy has induced me to enter into greater length with regard to them, at least as far as authentic specimens have enabled me to ascertain them with tolerable certainty.

Before the publication of De Candolle's *Prodromus*, the Cape species had been chiefly described by Thunberg, whose *Flora* comprehends 248 Papilionaceæ, with many new genera. The descriptions are however not so detailed, and the localities not so frequently given than in some of the earlier portions of his work, and when to this is added the frequent recur-

rence of his common faults of giving generic characters applying often to only one of the species referred to the genus, of extracting a specific diagnosis from some other work or taking it from a different plant from the one he describes in detail, so that the diagnosis and description are often in direct opposition to each other, &c., it will readily be seen that the identifying his species must, in most cases, be mere guess-work.

De Candolle enumerated 346 Cape Papilionaceae, but had but few materials and was unable to clear up much of the confusion he found, although he reduced to a much better generic arrangement the few species he had means of examining. After him, Ernst Meyer, in the 7th vol. of the *h*naea, published near 50 new Cape Papilionaceae under such De Candolle's genera, as they appeared to him to be nearest to, but with very short diagnoses and no precise indication of generic characters, thus adding so many to the number of species undeterminable without inspection of authentic specimens.

Next appeared, in the commencement of 1836, two elaborate works on Cape Leguminosae, written at one and the same time by different botanists without any communication with each other, each remodelling existing genera, and wishing new ones, and each publishing for the first time between two and three hundred entirely new species. These two works, the first part of Ernst Meyer's *Commentationes de Plantis Africa Australioris*, and the second of Ecklon and Zeyher's *Enumeratio Plantarum Africa Australis*, were actually published so nearly at the same moment, that it has become a matter of controversy which should have had priority. Dr. Walpers, adjudging it to the latter, (as it had also been done by Endlicher and by Steudel), has assigned Meyer's names to suit Ecklon and Zeyher's genera; * for Dr. Meissner, on the contrary, has claimed the right for Meyer, and, consequently, re-named a considerable number of Ecklon and Zeyher's species. The facts, as far as known to the public, appear to be as follows: E. Meyer's

Was complete in his publisher's hands by December, 1835, and his preface bears that date, but it was not issued to the public till the 14th of February, 1836; Ecklon and Zeyher's work was probably printed off as it was completed, and was actually published, as dated on the cover, in the course of January, 1836'. Upon these data, Dr. Meissner argues that Meyer's, which bears the earliest date, and was in fact first completed, is to be considered as having the priority, whilst Dr. Walpers relies strictly on priority of publication; and although in ordinary cases, the date a work bears should be taken as its real date, yet that can only be where it is not contradicted by positive evidence, and it is not, I believe, attempted to be denied that Ecklon and Zeyher's was first in the hands of the public. Much, therefore, as it is to be regretted that so carefully worked up a memoir as this portion of E. Meyer's *Commentationes* should be postponed, especially considering the unfair insinuations alluded to by Meissner, yet according to established rules, wherever the question is one of mere priority, it must be adjudged to Ecklon and Zeyher's *Enumeratio*.

The plan pursued by the author or authors of this *Enumeratio* (who, it has been said, was for the most part neither of those whose name it bears) appears to have been; firstly, to multiply species as much as possible, and secondly, to group them according to general aspect; thus, where a set of plants did not look like other species of known genera, all that had a general similarity of appearance have been put together, a new generic name given them, and some one species examined for a character without verifying it in the others. The consequence has been, that almost all the species, not re-examined by other botanists, must remain as mere puzzles.

Dr. Meyer's *Commentationes*, on the contrary, bear evidence of great pains taken in the examination of every species, and although botanists may not always agree with him in the circumscription of genera, always a more or less arbitrary matter, or in his identifications of Thunberg's plants, in which there must be so much of guess-work, yet, in all

essential points, his characters and descriptions will generally be found excellent. The only circumstance which appears unintelligible is his total neglect of the above-mentioned paper of his own, inserted three or four years previously in the *Linnea*. Not only does he republish many species under new names without quoting his former ones as synonyms, (which might have happened occasionally from not having retained specimens), but if he does now and then refer to his former names, it is as "mihi olim in herb. *Linneæ*," treating his published paper as if it had no existence, which unfortunately for the overloaded synonymy* the botanists do not and will not agree to do.

At a later period, in the 13th vol. of the *Linnea*, Walpers attempted to consolidate into one Enumeration the Cape species published, adding several new genera and species from materials in the Berlin herbaria. But his paper does not bear evidence of sufficient precision or care to supersede the necessity of going over the same ground; indeed, the only genera of his which stand the test of examination, are those which he took up from the observations of the late lamented Dr. Vogel, and many of his hasty alterations are but so many needless additions to the synonymy.

Dr. Meissner again in this Journal, (vol. 2. p. 107) published Krauss's Cape plants with considerable exactness, but, having, as above mentioned, claimed Meyer the priority over Ecklon and Zeyher, he has made a great number of changes in nomenclature which will not be generally adopted. Thus there are now perhaps very few sets of plants which have so great a mass of synonyms, certain or doubtful, as the six or seven hundred South African Papilionaceæ. And it is with great regret that I have found

• Can it be possible that Dr. Meyer, living at a considerable distance was not really aware that his paper had been actually printed, especially as, by some singular mistake, it is not inserted in the table of contents of the volume which contains it.

myself on the present occasion obliged still farther to add to them; but having before me a great variety of specimens from different collections and in different states, it has appeared to me, upon a careful examination, absolutely necessary to re-model several of even Meyer's genera, in the endeavour to render them as conformable to nature as possible, and especially to characterize them so as really to include the species attributed to them.

Sub-Order PAPILIONACE^E.

Corollae aestivatio imbricata, papilionacea; vexillo exteriore, carina interiore, alis intermediis.

Tribe I. PODALYRIE^E. *Benth. in Ann. Mus. Vind. 2, p. 65.**

Filamenta omnia libera. Legumen continuum. Folia simplicia v. palmatim composita.

Sub-THbe EUPODALYRIEJS.

OttarowwTpluri-ovulatum. Legumen uniloculare.

In my above-mentioned memoir, I enumerated three genera only of this sub-tribe as belonging to the northern hemisphere. Since that time, however, I have seen the fruits of a considerable number of species, and an entirely new genus has been proposed by Nuttall for a Californian plant, of which the fruit is unfortunately as yet unknown. I should now therefore propose to adopt the five following genera, which must probably be either all kept distinct, or else all joined together as sections *offjtnagyris*.

Anagyris.—Vexillum alis brevius, lateribus non reflexis. Legumen stipitatum planum. Frutices Regionis Mediterranean stipulis connatis oppositifoliis.*

* Tenore, in distinguishing his *A. neapolitana*, (Syll. Fl. Neap. p. 198), says that the true *A. fetida* has a cylindrical pod, which I have never seen; nor can I perceive any real difference between his *A. neapolitana*, and that which is usually considered as *A. fattida*, and which I have from Gibraltar, from Aries in France, and from various parts of Italy and

Piptanthus.—Corolla *Thermopsidis*. Legumen, stipulse et habitus *Anagyreos*. Frutex Himalayanus.

Thermopsis.—Vexillum alas subaequans lateribus reflexis. Calyx basi attenuatus. Stamina persistentia. Herbae, stipulis distinctis lateralibus plerisque foliaceis.

Sect. I. *Euthermopsis*.—Legumen lineare, oblongum, ovatum, membranaceum, plus minus inflatum, nonnunquam stipitatum. Species Asiaticae.

Sect. II. *Baptisioides*.—Legumen sessile, lineare, subconaeum, non inflatum. Species Americanae.

Baptisia.—Corolla *Thermopsidis*. Calyx basi vix attenuatus, brevius campanulatus. Stamina decidua. Legumen stipitatum, inflatum, ovatum v. globosum, coriaceum v. membranaceum. Herbae Americanae, stipulis distinctis plerisque foliaceis.

Pickeringia.—Calyx et corolla *Baptisiae*. Legumen interturn. Frutex Californicus.

To the Cape genera of *Podalyria* no addition has been made; the two tropical or subtropical genera mentioned in my memoir, viz: *Dalhousiea* and *Delaria*, (to which belong *Bracteolaria*, Hochst. and one of G. Don's species *Carpolobium*) should rather be referred to *Sophorea* on account of the straight radicle, and the less decidedly palmate naceous corolla. The simple leaves have also more the appearance of pinnate than of palmate leaves reduced to terminal leaflet.

I. PIPTANTHUS. D. Don.

1. *P. Napalensis* D. Don! % Sweet Brit. Fl. Gard. t. 264. —*Thermopsis Napalensis*, D.C! Prodr. 2, p. 99. *Baptisia Napalensis*, Hook! Exot. Fl. t. 131. *Anagyris Napalensis** Grab! in Wall. Cat. n. 5340. *Anagyris Indica* of gardens.

Shady places in the Himalayas: Choor, Royle! Jacq[^]

Greece. *A. fatifolia* from the Canary Islands appears to be a good species, as is also apparently one gathered in Arabia by Mr. Botta and communicated to me by M. Decaisne, but of which I have not seen the pod.

mont! Edgeworth!; Urukta, Royle !; Jumnotri, Jacquemont!; Kamaon, Blinkworth !; Napal, Wallich !; Bhootan, Griffith f.

II. THERMOPSIS. 12. *Br.*

Sect. *Euthermopsis.*

1. *T. barbata* (Royle 1* *Illustr. Himal. p. 196, t. 34, f. 1*), pilis longis hirta, foliis 1-3-foliolatis, foliolis oblongis stipulisque subsimilibus margine patentim pilosis utrinque glabris v. longe et parce pilosis, calycibus pilosis, legumine oblongo v. ovato vix falcato piloso demum leviter inflato.—*Anagyris ? barbata* Grah! in *Wall. Cat. n. 5341*.—A larger plant than *T. alpina*. The lower leaves of the sterile branches are sometimes opposite, and the leaflets, quite sessile and similar to the stipules, assume with them the appearance of a verticil of six to eight simple leaves. Some of the leaves have occasionally a petiole of several lines in length.

Grassy, wild places in the Himalaya: Urukta, *Edgeworth!* Shalkur, in Kunawur and on the road to Cashmere, *Royle !* Vernaque on the Banhatti range, *Jacquemont!* Kamaon, *Blinkworth !* also in Gossaingthan? *Wallich !*

2. *T. inflata*. (Camb! in *Jacquem. Voy. 4, p. 31, t. 39*), piloso-hirta, foliis 1-3-foliolatis, foliolis obovatis apiculatis supra glabris subtus pilosis, stipulis bracteisque ovatis obovatisve foliolis vix brevioribus, floribus pedicellatis paucis, calycibus pilosis, legumine stipitato falcato-ovato valde inflato pilosiusculo.—A very low species with short spreading branches, the leaflets from half to three fourths of an inch long.

Stony places in the mountains of the province of Kunawur, at an altitude exceeding 4000 metres, *Jacquemont!*

The only other species I am acquainted with, belong to

* The characters and descriptions of the Leguminosae, figured in Dr. Royle's work, were drawn up by that gentleman himself. All that I contributed was the enumeration of Himalayan Leguminosae of European forms printed in double columns.

the section *Euthermopsis*, are the Siberian *T. lanceolata* Br* and *T. alpina*, Ledeb. (*T. corgonensis*, D.C.)

The N. American section *Baptisioides* comprehends ^{a.} *rhombofolia*, Nutt.; *T. fabacea* D.C, (at least as to the N. American specimens which include *T. montana*, Nutt.) > *T. fraxinifolia*, MA. Curt, in Siflim. Jour. 44, p. 81, *T. Caroliniana*, M. A. Curt. l.c. p. 80 and *T. maerophytta* Hook, et Arn.

III. CYCLOPIA. Vent

Sect. I. *Encyclopiia* Benth. in *Amu Mus. Vwd.* 2*P- 67,

1. *C. latifolia*, (DC! Prodr. 2 p. 101, non alior.), gk^{bra} > foliolis ovatis v. ovato-lanceolatis basi truncatis cordatis ^{ve} > bractea exteriore pedicellum sequante, laciniis calycinis acu ^{lis.} >
—*C. cordifolia*, Benth. in *Ann. Mus. Vind.* 2. p. &7-

I have only seen this species without any precise ^{station} in *Schott's* collection in the Vienna herbarium and in ^{De} *Candolle's* herbarium. No. 5893 of *Burchell's* Geogr. ^{cat.} *C.* may be the same species, but is not far enough advance ^{d to} determine.

2. *C. subternata*, (Vog! Linnsea 10. p. 595,) glabra, fi^{foliolis} subplanis oblongo-ellipticis utrinque obtusis v. rarius ^{an} ^{are} tatis supremis linearibus infimis subovatis, bractea exteri^{ore} pedicello brevior v. rarius subaequilonga, laciniis calyc^{inis} acutis, vexillo integro mucronato.—*C. latifolia*, E. ^{la} ^{are} Comm. p. 3. Benth. Lc. non DC. *C. grandifolia*, Alph. ^{—C.} Not. 8 Pl. Rar. Jard. Gen. p. 29.

In the Drakenstein and Bosjesveld mountains, ^{Drege!} *Mundt* and *Make!*, *Burchell!* Cat. n. 5519 and others.

3. *C. brachypoda*, (Benth! l.e.), glabra, foliolis fine^{re*} oblongis margine revolutis, pedicello calyce bracteisque o^{ses} viore, laciniis calycinis acutis, vexillo emarginato.—*C. liflora*, Eckl. et Zeyh! Enum. p. 154 non E. Mey.

Mountains of Swellendam. *Ecklon* and *Zeyher!*

4. *C. intermedia*, (E. Mey,! Comm. p. 3, excl. lit-^c ^{ph} > glabra, foliolis ex oblongo linearibus basi angustatis ^e margin

revolutis, bractea exteriore pedicellum brevem subsequante, laciniis calycinis latis obtusis, vexillo emarginato.

In rocky places in the mountains near Swellendam and ore the Keureboom river near George, *Drège!* also *Burchell!* Cat. n. 4929. E. Meyer under the letter *c* gives a third station in the valleys and moist places of the Paarlberg, from whence however I have seen no specimen. May not this letter *c* be a variety of *C. subternata* P, a common species in that district, and which has the divisions of the calyx acute as described by Meyer, and not obtuse as in all the specimens I have seen of the letters *a* and *b*.

5. *C. laxiflora*, (Benth.! in Ann. Mus. Vind. 2. p. 67), glabra, foliolis oblongo-spathulatis sublinearibusve basi angustatis planis, bracteis pedicello pluries brevioribus apice subrecurvis, laciniis calycinis latis obtusis.—*C. latifolia*, Eckl. et Zeyh ! Enum p. 154 non alior.

. Mountains of Knysna and of Plettenburg Bay in the George district; *Mundt* and *Maire* !

6. *C. longifolia*, (Vogel, Linnaea, 10. p. 595), glabra, foliolis elongato-linearibus obtusis subplanis basi angustatis, bracteis pedicellos subaequantibus striatis apice recurvis, laciniis calycinis acutiusculis.

I saw specimens of this plant at Vienna, named by Vogel and gathered by *Mundt* and *Maire*, but I have no note of the precise station.

7* *C. tenuifolia*, (Lehm! Linnaea, 5. p. 373), glabra, foliolis lineari-subulatis margine revolutis, bracteis latissimis carinatis leevibus pedicello brevioribus, laciniis calycinis obtusis.—*C. laricina*, E. Mey.! Comm. p. 153.

Mountains of Swellendam and George, *Ecklon* and *Zeyher* ! *Mundt* and *Maire* ! *Drège!* *Burchell!* Cat. n. 7522.

Sect II. *Ibbetsonia*, Benth. l.c.

8. *C. pubescens* (Eckl. et Zeyh! Enum. p. 154), ramulis pubescentibus, foliolis linearibus margine revolutis, bracteis sulcato-striatis apice recurvis pedicello brevioribus, laciniis calycinis lanceolatis subulato-acuminatis.

Among shrubs on the Krakamma plains, and declivities of the Vanstanden** river tttt, it Uitenhage, Ecklon and Zeyher!

10* *C. jirf^Mw*, (R. Br.—DC. Pro*. f. p. 101), glabra r. ipk* puberal*, foliulb Hnit fjitHbm margine revolutis, laciuU oUrntiii UnrroUtk anrtb mucronulatisve, bracteis carinatis I*vibu» pnfaceOo brrrioribtu. *C. genistoides*, *C. heterophylla* ft *C. trrrtifotm*, Erkl. ft Zr^h! Snttm- p. 154. *C. genistoides* el *C. potioteta*, K, M-y. I imm. p. 3.

Common in pUi&a and on the Uiw? hiiU of the & West districts ftMi the CWpe Plata to the Zondrr-Kiwié river.

11, *C. f*mde*_t* (DC. Prudr. f. p. 101) tupftn* hirsuta, foliolis lineari-teretibus margine revolutis crassis, laciniis calycinis lato-lanceolatis mucronatis glabris, bracteis carinatis glabris laevibus acutis, exteriori pedicello longiore.—Robustior quam *C. genistoides*, crassioribus, pedicellis brevioribus, et ftn in («r hæ et *C. sessiliflora* media.

M«j»t dedivtke of the mounlamt near Simon's Town and of (he TMt Mountain above CoMtealk, Ecklon and Zeyher! Mnvwnebf| Movrfana, B*rk* t cW in other collections fron* the n^fhbonrbind of Cape Town, be* apparently at a much greater vlrntion Uwi *C. genistoides*.

12. a imOli i. (ft* Me*.! Onaii. p. 4, non Eckl. et Zeyh.), superne molliter pilosa, foliolis lineari-teretibus margine revolutis, bracteis latissimis acuminatis nitidis margine pilosis, calycibus sessilibus laciniis lanceolatis pilosis.—*C. Meyeriana*, Walp. I Linnæa, 13. p. 454.

Moist rocks of th« IHtoif Kloof M mountains, Drège! also n. 7770 of Burchell's catalogue,

IV. ftrftALiau . Lam. ex parte, DC.

The difficulties attending the discrimination of the species of this genus are well explained by E. Meyer, (Comm. p. 4), and what he obitmi of th. very different appearance of the vigorous root of a bush that has been fawnt, frvm that «f tw branches of natural growth, is

Uland ; another species of the same-genus is also
as well as the following:

Macropiper puhenthm. B.P. n., folia ovata acuminata. Dactylis
rotundatis auboonlatUve 5-!>-nervi supra gliibrw
bullato-rugosi*, subtua rcticulatis pul»MM»tibu* s
mineis elongatw wlitariia gpmisive. Ramuli gfc
9-18 lin. lungi, m que ad medium itngwto Bjemb
Folia 36 poll b nga, pleraque 2^4 pol. lata, longiuscule et
acut« acuminata, Pedunculi ptfkto brevion*. Ament
Wmeu ;J-G poll bog*, temiia, densifluro* Squaiii* pt
«. Ovarium scssiLc. Stigmata ,1, brevissima, diyrficaU.
B^COB (siccitaU rubrre) parvic, ovouteo-globo**, di»tmrt« at
Ntt^ parum tiiniatatffi. Flores tnasculos nun vidL *Fttgte*
w»» Mr. Hinds, Mr. Barclay.

t-aimti /«u-a Linn. *Fritm Uy Island**, Mr. Barday.

Holima r pnt/florn, sp. n., folia eloti
minatis basi long^-a^igastatis glabria, ^.«———*
(ebraete sata?) ramiB ulUuis 2-d-florU, pcongionio «icri<w
buloso, iitterioris tubo exserto labio basi utrinque «ppendKSi-
lato k^fiinde biiklo l;it,iuiis bilolns, fiiamento api« brntncr
app«^dicolato, stylo glabro. Folia l--pedulia. L«»»*
tusa. 2-3 lin. ionffu Pamculrc termuwlu m" P™
pau:i, «cundarii in ttesmiw *tisponti*, breves, ^ ^ o n .
d^«la US lin. lo:i3i. Braotcasin spccimiiibus unUc 1
breviUr pubeniiL PwSgoniam eitewii 4-5 Kn. *
i,n^ trifidus. FilamciLti app6»difitt>»» ovatum, re
Cap*ulu ba< sata, globoaa, 5 lin. dmnietro» loeviv 2-3-«pc*
» ew GWiwo, Mr. Hinds ; *ToOie Island*, Mr- Dara
Al piuiu, «p. D.J A. nutttiiti affinis, diversu pantcula go
labi v lanceolato-oblongo, basi obscure appendictdi*Ui. t IOWOT
Te^y imperfect in the specimen. *Isfaw inland*, M
* *Dendrobium* (Spatulata) ftRirieBflWWW- ^ audi
age, t. 38.

This plant, but ill figured by Gaudichron's artist, belongs
to a very curious and beautiful section of *Deiulrobium*,

" *Ha ittMut* «ftl* rid* feUowiiB *Orchidaceae* has been communicated
by Mr. Undley.

Mountains of SwtikwUm and Gturft, Myt / Mundt /
Baeie / Burchell / in. yj 18) et a,

Whatever •wy be the •peeimm contained in Willdenow's
herbarium, it is dear tUt Out i« tb« i[?]. *aurifolia* of Lamarck
quoted by WilUknow u % *wyttunym* ID bw species, »ad 1
have Uttte doubt, bat UuU the Mk«ru^ b Bet x's plant, des-
cribed by Ik Cmiidoik fruta •utbmtic *tpmmm*^ Both
have the IcAwt MDOOUI *tbotr* and m»y paieibty tie mere
varieties of «wb other. It WilUenoer** herbarium contains
under tbftl nejpe a pkaU" fUi>. ulnnqo* *sericeis*" as one
would suppose jitm tbt lectwn *m whkh* Walpem P * ^ ^
it **mart** tartly b* tbe on* deerib«l by W ilWenu* in his
Spade* PfcotanuB.

3. *P. aurifolia* (Willd. ? spec. 2, p. 505, ex parte, DC.
Prod. 2, p. 105), **fb4w bla** ovatis obovatisve subplanis su-
pra nitidis subtus dense sericeo-lanatis aveniis, pedunculis
folio æquilongis longioribusve 1-2-floris, calycibus rufo-vil-
losis, laciniis lateralibus carina multo brevioribus.—*P. planca*
β biflora, **KdO. «t Zeyb. \Bmwm. p** 157.

Hills between Swellendam and Kokman's-Kloof; *Ecklon*
and *Zeyher* !

4. *P. orbicularis* (E. Mey. ! Comm. p. 8), foliis orbiculari-
bus margine revolutis aveniis supra nitidis subtus dense
ferrugineo-villosis, pedunculis folio æquilongis longioribusve
1-2-floris, calycibus rufo-villosis, laciniis lateralibus carina
multo brevioribus.—*Crotalaria orbicularis*, E. Mey. ! Lin-
næa 7, p. 151.

Hills and sides of mountains near Caledon, viz. near the
baths, *Ecklon* ! *Gnadendal*, *Drège* ! *Baviaans-kloof*, *Krauss* !

The specimens I have seen in different herbaria of the
two preceding species are scarcely sufficient to give any accu-
rate idea of their limits.

Series II, *Villose*. Folia utrinque tomentosa, tomento in
pagina superiore sæpius sericea in inferiore laxiore, venis
primariis et sæpe venulis reticulatis subtus plus minus
prominulis. Bractæ latissimæ, involucentes nec calyptre-
formes.

5. *P. cordata* (It Br.--i' C. I W. », | p. 102) undique villosa, foliis orbiculatis lato-ovatisve basi nonnunquam subcordatis concaviusculis utrinque* tatif Unator titan, p<j<mci>lk folio brevioribus calycibusque ru fU osissimis, laciniis calyfinal tanoawhtfi renrum • uboquantibus.

K Moist places and banks of stream* in the mountains MI I Capo; ai tj,« foot «f thr Hotmtots-botlsjid mountains, * h i SMJ Zmlmr? Dotoita-ktool, iAn^r' alao Burchell! n. 8157.

6. *P. twmmfm** (tiekl. et Zerb, 1 Knun. p. 15ft; K. Mey. 1 Comm. p.!)»), ramis viltasat, foliU ortncuUt wath r. obovatis subplanisi ttipra sorldM-tiUocii • ubtus ratknlatii tomentoso-villosis Unstivr«t pcdunrulii)-^flori« Julio brevioribus v. panUo Umgiotibxts, oiyeibos afyftaat Tillosis, laciniis latiuscule lanceolatis nafinam fix sHfuantibiiA,—*P. Thunbergiana*, *P. amena*, «t wfansWia, ErWL et Zcrh.^T bNHB. p. 155.—Intermediate between p. <*nfa/4 on the one h*tn!, and R wi.rilsjasla and K IhirthrUu on the other, it u easily dwtinirushed br the irticuUte wnation pttypadhk on tht mtdtrvtdt, fcwnHnw* nearly M much as in *P. cw^/ptnim*, from which it always dtffm in the woollt learn as well aa by tha bncta. Mr. rlrtrnty has sent specimen* uf roang shoots of tin* tfxvics from plants which had b«en burnt down* with the tarns slwre two iitth«a hmg, and thr peduodes bearing ftro or thnt tiuwars, half ** targv again aa usual.

Common in the <!spe iji>tru⁴t, from Itari to Hottentots-holland. in %umw sad «1>T«T «Q*K aamnpt httshaa. *Btkiom* and *Zeyher! Drège! Burchell t* n. AM9, and others-

7. *P. velutina* (Burch. 1 Cat. Geogr. * SW5 et 69¹), tomentosis, foliis oblongis crassiusculis supra ton subtus densius velutino-tomentosis venis subtus kiitav prominentibus, pedunculis unifloris bfinlm, cftlrss villosi-stmi Isohnia lauceolstis nrim tobtmjipknibus.—Ktar P *Burchellii*, but the voalts appresaed, the lasn« are tsnialhr three times as long as broad ami nerer vf«t% and the hairs of the pod an roach longer.

Albany diftoct, Zvyfaer, n. 2071 And in *Burchell's* collection.

8. *P. Hw*rJ*m* (DC. • Pro*. 2, p. 101), ramulis tomentosis, foliis crassiusculis ovatis ellipticisve supra tenuius subtus densius sericeo-villosis, venis subtus leviter promi-

unlit. pedunculis unifloris brevibus nunc brevissimis, calycis villosissimi laciniis lato-lanceolatis carina brevioribus.—*P. Burchellii* Enum. p. 156.—

The bncti »rr r*mark»Wy rrucnk'e in ttot species, and but slightly to in the two preceding.
Stony places on the sides of hills, in the districts of Uitenhage and Albany, *tukkm* and *Zeyher!* *Burchell!* n. 3475 and 517. 824 and 915.

9. *P. taartWala* (Benth.! in Ann. Mus. Vind. 2, p. 68), ramulis tomentosis, folis oblongo-lanceolatis utrinque tenuit-

tar pubnettibbtti v. *jaiucnbv* sericeo-villosis subtus reticu-

bus v. nritu *wgiikmgy* c d j m rufo-villosi subsericei laciniis lanceolatis acutis carinam sequantibus.—*P. calyptrata* β / lanceolata, E. Mvy.l Cornm* p, 10.—*Baaida** |k»

difference to tbt bracu aad iuiLa f^iu <4 it* karfs U»» plant is more woolly ltaMk P *almm*+mim rf^ kk*IT% Q^ iW AIt'

appressed, the peduncles much *ilaiftaf*, v''* tki ***** never •o n obtuse as in that species. *P. rela-*

tiu
Along streams to tWdhukt of Zwellendam, *Mund!* *Drège!*

Series III, *Calyptrata*. Folia utrinque pubescentia subtus reticulato-venosa. Bractes latissimae, connatae in calyptram basi circumscissam.

10. *P. calyptrata* (Willd. Spec. 2. p. MM), fell** obovato-ellipticis, calycis adpresse rufo-pubescentis laciniis lanceolatis carinam —quantibus.—*P. afyrwi^Maa*, Sims, Bot. Mag.

t 1580; DC. Prod. 2, p. lot. *P. myrtillifolia*, Eckl. et Znrta. l Eu m p. IMfnon WUdL

Moist places on Iki balk f «HT» OM T. able Mountain, near

Capetown

and Zeyher! Mundt! *RwrtJuU!* D. hJIO, and others.

Series IV. *Strict**. Folia utrinqM? • allea r« sericeo-villosa, venis •ub pubv rrronditi* v. r«rtam*« In foliis vetustis prominulis. Ur*rt«r lat* T. anf«M«, non calyptreiformes.

11. P. m^{*}rtWW (WillUt^DC. INwt S, p. io|)t foliis ovatis rarius orbiculatis obovatisve i v. in ramulis oblongis crassiusculis, utrinque praesertim s^{*}item sericeo-pubescentibus villosisve, aveniis v. subtus obscure venosis, pedunculis 1-2 fluna folio brnrionhua f. parum longtonnwa, calycis raso villosi laciniis ajnntti ttibo too HtrtgKKtlhia canna brevioribus, legumine i.irmtiaMmo.—P. bm*¥*iim* Kckl. at Zrrlt. 1 Kaon* p. 157 noo Wiild,—A my vrabft* apcdea, bul of which I bm gen^f uljr ftMti tcrij ittowntplct* Kpeomona, ind I do Mt fc*I sura thai I haTc propwtf Ht9ltmf«uh«d it from P. *t«i- /eArt tin th« un« hind, and P. *bifhr** on tiw o(W, Hi small-leaved variety, mentioned by E. Mcy t COOUD* p* A» •Inch II probably thv P. *parrifoim.*) DC PfwL 9* p. IO1, vad P. *microphylla*, E. \rr. *Ltnamm J* t p. 147* vmj po—iUy prove a distinct species.

11 tit* in the Cap*, StrUrnboach mrl Caledon districts.

12. P. mUiffm* (DC.? Prod. S, p. 109), fulut ovatis obovmlia» oblongiivc cmtuwcuttm topn)Jut mmui IUUW dense MirioM^ritlofftt, pwtvncufi* folio multo UMiponbut M^HV biduttf, CIITCK ferrugini cmpo^nlou lannii* Utit tubo * » H crina bf«riaritnu.-P. *k/htm* BUM, BOC MI «, t 7M* £, M«f.! Coaim. ps 6, IHHI Urn. P. fWWHfin. M«.? Pnkl, S, fc. lot—N«w P. *mfrtWi/ViM** Ut rndtffy distinguished b

Fait of gh» T»U« Mountain, near Cipi Town* *Drige! Harey!*, etc.

13. P. 4jfbrc« (Urn. Ihutr. t, p. 471. L 327, f. 3), foliis ovatis c, pedunculis folio nvlllo loogioribw pkritque btduda, kcWto calycinis lanceo- Ului urullM tubo loncioribw carinibw brvibw MI"imue villosissim KJ.—1». *tipmimd**9, l» C! Prod. 3, p. H»J. P« *myrtillifolia*, A %i«rdirfn, E. VlfyJ Cufiiiu. p» P.—Knur La-

marck's figure, especially id to the taly*. it is evident that it was taken frwn thw tpenca, tad not ftn tfct preceding one.

Cape Dbttfct, Atffcr/ n. S3, *Burchell!* n. 5132. Klein Drftkcmbtta tnd l*»arf, flmfc

i4. P. *r*mrft<>U*t\mt.* Mori OU. L W). foUu obcordatis obtfTMn T . cmtwtO'Cblooyi ttniH|tw wiiUBM* pedunculis umflorin mmriui buiohi Uo bivnucibov T nriu longioribus, br*cuia ranoiti*, «dyc» *tdpttmt mnct* r.* «dtmQoti laciniis < bui lite Ktitift ornitt duiylo branoribaifc I H M M I villosa. —P. *kmrnmtm ti* V. ittnu, E. U«y.I LMUWA 7* P. 146.— P. ^ntfiw, P. ^ T « M ft P. y li W ii, KckL «t *Zeyh.!* Kaum.

common plant, with a closer appressed pubescence than a«y ni the preceding, but much less silky Kitd wry diflvmt *bum* UM P. wrw. far which Walpers Kbd fithcrv l«*e mkuken ausy of its forms. Besides ***, usual variations in tb* fafB of UM leaves, the degree of hairiness, the length of the peduncles and size of the flower, this species varies much in the colour of the corolla, and on that account was named P. iwrMnaw by Hit HI, and is so called in some gardens.

Apparently very common M ffi^y Um places, eastward of the C-^ *inm> C* Jedon and Tulb^b, through the districts of Zwellendam and George, ID lfa* Zwartkops River in Uitenhage.

15. P. ~ru*m (Br.^IH-. *Vru*!*. f, p. 101), WiJ* obovatis v. cuneato sericeo-nitentibus, pedunculis unifloris folio brevioribus, bracteis linearibus, laciniis calycis sericei anguste lanceolatis acutis carinam sequantibus, legumine sericeo. -lsmrv* ojfttA like Uww of P. *cuseifolia*, but readily known by ik* »»»»yx.

Cape Flats tftd T*bb Mountain, *Drège!* Ecklon and Zey- Aer / fa* pruuUy ttot common, **iiit** is seldom to be seen amongst Cape collections.

This tribe was established by De Coudot, to include all species with a curved embryo and rimaia more or less combined, which have neither the articulate pod of *Hedy- m** nor the fealty cotyledon* remaining undamaged at the period of germination by which he distinguished *Vicia*, *Pisum* and *Dalmanella*. The latter is one which it is not possible to determine, as it is not represented in the full-juvenile plant, the IMS MtW 0400 new species is in the majority of species, but as I am not acquainted with other possible distinctions between the *Loteae* as a whole and the three either mentioned tribes, I will endeavour, with regard to each sub-tribe, to characterize it as a distinct tribe, and to suggest characters by which each one may be distinguished from all other papilionaceous tribes.

Sub-tribe I, *Liriodendron*,

Polta nivalis. AIB tnuurefie plirmUe. Sumirm 9 condum decimum textUwc libcrum^ rariuimi? (in *Coelidlo ovario oniorubio*) cum detent forilcr connatum. Oririum ui i-v. pluri-ovulatum. Lcgumeniit articutitam, brndre. FntUoet Austro-Africani, iidlorcorntii RXiUari V, terminal) nee oppo sitifolia. *Kolia alu**. rtttipuUta,

This is a sub-tribe of the *djoklphottt Gtm*- lm* of P« Cwnfalla^ which would on that amount, it is a tribe of *Trifolium* of *Trifolium*, from which they are distinguished by their lobes and Miage, and distinguished by the fact that they are in common with *i** (*i<m*tt+*). Of the genera which I here mention, all South African, *Mpmri**nd Priestleya* are very near to *PodmPfrim* but distinguished by the artificial character of the *di«U*||4iuus atAmalM. *Jm?H- ihalt«p Uiimw* **d CirWiw bam tjw renurUhc •|»|i«i- dafr t» iho «nnal prt^U whiob WH oonaUerwl a» charv- Ufittic «f Imd'wfr**, but I will not of the hahtl nor UMF bmir

of tiwt fteimm, nor *thm* gUndutUerou* anthers of the sub-tribe
to which it belongs. The w ttaft* genera have also some
resemblance to *Ctmrytotrofu* and *Lespedera* amongst *Hedy-*
sarce, and ill b«t two of ll» species have, like them, uniova-
late ovaria, but the pod is dehiscent, and not reticulated, as
in «U the TOO-jointed /Arfywirwi,

TV inflorescence is much nearer that of *Podalyriaceae* than
of mo* Pwirfw, TIM peduncles, generally very short,
one-flowered or shortly racemiferous, are placed either in
the axils of the upper leaves, reduced to mere bracts, so as to
fanti • UtnmiMI he>d ot ibort raceme, or, if the floral leaves
r«toiii Uw ftppcmK* of th« cauline ones, the stem usually
continues to grav, to tUt th« peduncles at length become
axillary along f th« stem.

The followinf ««« tb« most important distinctive charac-
ters of the genera.

Liparia. Calycis lacinia infima maxima, petaloides, colo-
rata. Flores flavi capitati, bracteis magnis imbricatis involu-
crati.

Priestleya. Calycis lacinia infima superioribus aequalis v.
paullo longior. Carina incurva, lateribus inappendiculata.
Ovarium pluri-ovulatum. Legumen oblongum v. lineare.
Flores flavi, in capitulum v. racemum brevem congesti v.
rarius axillares.

Amphithalea. Calyx subaequalis. Carina rectiuscula, ob-
tusa, lateraliter appendiculata. Ovarium 1- v. pauci-ovula-
tum. Legumen ovatum 1-2-spermum, rarius oblongum
oligo-spermum. Flores purpurascetes carina intensius colo-
rata, axillares v. in spicam foliosam approximati.

Lathriogyne. Calyx, ovarium et legumen *Amphithalearum*
uniovalatarum. Corolla calycem vix superans, carina incurva
rostrata. Flores flavi, subcapitati.

Coelidium. Omnia *Amphithalearum* uniovalatarum nisi
filamenta omnia (saepius breviter) connata. Folia involuta
nec ut in precedentibus plana v. revoluta. *

V. LtPAfciA, *Lhm. exj#rf** DC**

1. *Ly*#tv d* (Linn. 1 DC. *I'rotL?*, p. 121), *raniia gltbris*
*Mi*ercetti Una*ol*to*oblttiigii maenmto acoU* 5-7-ner-*
vuis. bracteti glabri criltatii, caljdt gUbri lacinia inferior**
cciliata, tuprioribus ciliatis.

Stony and clayey ttu*timu near Cape Town, •trie* of the
 Table Mountain, etc- *Edtkm antl ZefAer t ZWj e! Burchell!*
n. H\$H3, and other*.

*. L. i—aiwftU (EHJ. et Zryl».! Rnum, p. 164.) *ramis*
pilosulis tnox gbbntift, folii» obUmgi nwcronato aff>ti» 5-7-*
nervuis, bnotcij criliatit, calycis rxtot pitoti lactnia itife-
riore rexillo pauUo brevior eciliaio iittui rillo«i«imii, tup-*
*nonliui vitloeb cilUt, — M*kiT »nV) attpof haadi of aWaf**
 nearly as in L. *^Imritm*, from winch, lkovevof, it appcata to
 be aonatanly dutitnoL

Kw:hi ftbuve Uwtteitota-boUaiHl»-aioDf« *Eckkm m*4 Ziyktr'*
I l.«vc aan k alto in other oulkctoons.

3. L. *Burchellii* (sp. n.), *ramulis glabris, foliis lanceolato-*
oblooaii mvnKuitu-arutM crnaaia o b a w awb 5-nervuis,
bnflaaJ cittatia, oatycii uodiova piloai Urinii omaibui ai»*
iaafit intn tillowi inferiore rtxillo itimtilio biefiwt. — Bin of*
*br*d* ai in tlw tvo kat j leaves kmgar ami aafTOWir and*
£)oir dbtiiict by the oalyv.

Cape Colony, *HmrM!* n. 6881.

4. L. *purva* (Vog. ex Walpers *Linnæa*, 13, p. 458) *caule*
gracti famoMi pilnao, fultit pstmibui reflexive ovato-
ctttptkii oblongiins aewnmatts tiinarriav bractnie orbicu-
litii aruminati fhlaonim oirafeer Inaymitinr flMrGINE bar-*
bato-<Uiatiii, cagyda extna ttndiqw [Mloai beiaiii lanceolato-
ellipticU kwat! Urbatia, inMor« vntUo parwa breriow.-
Honk. IWt MM- t 4OSI.-MrM|i of flovvra, Wt abon ball*
 the «iat of tboae of the U>nw precediAg *jmm and
 habit near that of a *Pma&pm*.

Ititeriprof Smith Africa, *Bern**. Long cvttiTsird in the
Botanical Gaftes» Kew. Cape Coloity. /V i e /

S. I* ro*WiMTTw, Mdaan. Dcacnbcti m Uui JuunW,

p. 63 of the present volume, appears to differ but slightly from the preceding species, but I have not seen any specimens of it.

Cape District. *Krusas*.

VI. PRIESTLEYA. DC.

Priestleya et

Xiphotheca Etkl. et Zeyh.

This genus, as above characterised, contains all E. Meyer's species excepting the *P. axillaris*, which has more of the character as it has entirely U» Wirt ^ *»iHI«h« The two sections, first established by De Candolle, but modified as to Umii* tali by E. Meyer, and Ecklon and Zeyher, though somewhat different in habit, yet run much into one another and are not distinguished by any essential character. It appears better, therefore, with E. Meyer to retain them as mere sections, not as distinct genera, as established by Ecklon and Zeyher.

Sect. 1. *Isothea* DC. Calyx basi demum intrusus. Carina rostrata. *Liparia*. Frutices siccitate saepius nigricantes, glabri villosi.

1. p. f i ^ i ^ ai (DC. PM. » |» I*) foliis lanceolatis v. linearilanceolatis acutis uninerviis ramulisque glabris, floribus pedicellatis in capitulo oblongo, bracteis lanceolatis pilosis, calycis pilosi laciniis tubo triplo longioribus, superioribus lanceolatis, infima oblonga paullo longiore membranacea.—*Liparia gracilisifolia* Linn! Mant. p. 268.—*Crotalaria genistoides* Lam. Dict. 2. p. 196, belongs probably to this or the following species.

Cape Colony, *Forbes!*

2. *P. angustifolia* (Eckl. et Zeyh! Enum. p. 163,) foliis lanceolato-linearibus acutis concaviusculis obscure uninerviis glabris v. superioribus ramulisque pilosis, bracteis lanceolatis acutis pilosulis, floribus pedicellatis, calycis pilosi laciniis lanceolatis subulato-acutis, infima superioribus d longiore.—*P. umbellifera* E. Mey. Comm. p. 17 an DC?— I have considerable doubts whether this is Thunberg's *Liparia umbellifera*, which appears to me rather to m er to *P.*

ephalotes, hut it U not iufficwtitlj dcacribed to ascertain it with ctrtaintY.

Hottentots-iolbmd tnd klynrim wmuiuini *Krkkm and Zjfhrrf* md in »evml uther ctiUcctoo&a.

3. *P. Ueriffmtu* (DC Lrfi. MCCC. p. 195_f t, JO/j fuliii uMi>>go-linouibui acutiuculii ub*c<re unirrwrvuK glatati T. mpe-rioribut ratnnK*q< adprrw pubrwKntttraft, brsrtei* Uticco-latis untitrw iw-ulit Mtmiii tmlietwtitifww, pcttorikw War* teas «up<fmititMU_c ttdjii* jwb»amtU T. tilpratw) pUuu U-ciniis ortii* v. breviler oblotigk mutronuUti* T. acutiuc-ulis.—*Ortakri* nij*i*t** L<n* Diet, 2. p. 1%, Illustr. t. 617. t. 3?.—Thi» U ccrtahtly didervnl from *P. capitata* - tl cully known hy tU lon^ pedicel* and namiw UractA, but I dM ts.H.t.yimi quoted by De Caiulollt, /krioiiiiN *tvrift** Uim. Mid U *t*vigmtu* Tliunb. an berctftor rrfefT«d to untkrR, n—faiyii. limiaaf'fchEncbM-*niliftmrm mmMtrt** agrees better wuli *P. tmifOim* DC. hut in die L u n » Jwr-licious the D *limata* and D *umbellata* are named I. ym-
fcfirifc

Oapt Colony, I b*v» only seen it among Dr. Thom's planti in Str W. ||iMik<r'* hcrWf lum.

4. *P. ajtwtifm* (B. MCT ! Comm. ji. 1<. c<cl. *, n. Lam.) folii* oblon^b aeutii conoivii ilcunt plamt aninon-que rtiniuiitqtw fubtrricco-liiUwi* ilrmuui ^Ubnh^ bmcteu l*(« ur»ii» w n a n i ntucrunatts [pilosis, floribus breviter pe-us dicei Lulu, i a)ycii pila»iwjuuit laodib (iblique ontit subaequa-ia lihut nt>lu<ti.

Moun taituk of St^I^nbowh dt<tfir% hqucibetg and Cedar-ti-bergen HI CURmtUuiin dutnr; / rwp* ' .

5. *P. tqmtmtm* (DC. P. tjd. 9. ^, I21,) foliis oblongo-li- nearibus acuti« oanvolatia oonomsm enerviis ramisque gla-bris v. mtpero* bimttu, bnctak lato-ovatis concavis obtusis v. mucronula tb» fluribu» tubtriutibti', calycis hirsutissimi laciniis ob•tu«U infim* n;ice n inuc* uttiduli caeteris paullo longiore.—L^arw tm/dUUu Tjuiiib. Fl.<Cap. p. 566. *Priest-leya levigata*, 8. tlr y. i C. iim. p. 1". m>n |>C.

Mountains near Cape Town.—Summit of the Table mountain
 Tiifc fry. Dntett* Kloof and UnvWrnkl *Drège! Burchell!*
 n. lit*

6. *P. Jurwif** (DC. Prodr. fr. *. p. 121.) *mnfttpitMto*, foliis
 obscure 3-5-nerviis glabris • *. *mpivmii iHlonlk*, bracteis *trii ornti* vtUui* r^* acuminatis, *cmfroi hinuit Urtmii Uto-bnenti'* lacinias acutis, legumine hirsutissimo.

Nf^>*! rucky hilU in (Ka districts of George and Uitenhage,
Drège! Ecklon and Zeyher! Burchell! n. 1902 and 4589,
Zeyher! n. 298, *Krauss #* n. 'JM He. Not uncommon in
 green-house *cntteciiotitc*

IV r«n« (DC. prod. t. p. 1«.) *takMi »p fro«* the
Liparis is probably one of the preceding
 species, but *too intpMftM*!* described to be determined.

7. *P. Thunbergii*, foliis late oblongis inferioribus subovatis
 superioribus lanceolatis acutis uninerviis ramisque glabris
 v. superne pilosis, floribus subquaternis laxo umbellatis,
 bracteis *ii wn0m mlonibi* concavis pedicellos vix aequantibus,
 pedicellis calycibusque molliter villosis, calycis laciniis latis
 acuminatis.—*Berberia levigata* Linn. ' Mint, p. 100. *Liparis*
levigata, Thunb. *MA I; Qqi r it*. *i 4n« villosa* Sieb!
 Fl. Cap. exs. n. 162. *Priestleya umbellifera* Walp. Linnæa,
 13. p. 469. Eckl. et Zeyh. Enum. p. 165? non DC. Near
P. myrtifolia but distinct.

Mountains near Cape-Town *Sieber! Meudt! Burchell!*
 n. 8646 &c.

8. *P. myrtifolia* (DC. U«. Mm. p. 194. t. 29.) foliis
 ovatis obovatisve v. ovate *la iM^obt* acutis subpenni-
 nerviis uninerviisve glabris, inflorescentia vix
 puberula umbellata, bracteis glabris oblongis convolutis pedi-
 cello brevioribus, calycibus glabris laciniis acutiusculis, legu-
 mine villosa.

Hottentots-holland and Stellenbosch mountains in many
 collections.

9. *P. leiocarpa* (Eckl. et Zeyh. Enum. p. 165.) appears to

differ from *P. mfrttfofiu* by ill imooUi pod, but 1 h»vc nnt IMtl IC.

Mowitaiii [ttituret near Grootradenbofch in Swdclendam, itfkftm *um* */.tyhrr%

10. *P. taUfutut* (kji. n.) fuliii uvatii oboT*ii*Y* mucrtMiato-acutis rigidift unmenriia r. plQiincrrit* nb}»cnnin«rniaqtt« ramulisque iDutlitr TibUuali* iknium fUbralia, influna* centia laxo UMIH'IUU ritloiiamima^ bractd* orati* cuncavu dicellum a-^iianl»'m», calyda molUier TiUuiMaunt ladnua W.icolatis nUuatmlk.—Naar *V. Tkunberpii* and *P. mfrti-folia*, but dlftiiict *fmw* either. LAVC* much ifaoctV *»d broader tlian cren in 1*. *myrhprfin*.

Cape Colutiy ikkoit! *BmrrkeU** EL 8025.

M K vatta (DO. I'rodr. '2. p. I 2,foJJk otati* orbuw latisve valde concavis intus plurinerviis concaviusculis gla-bri% cxtn ramulisque hirsuto-lanatis, brmctcti latissimis, pedicellis abbreviatis, calycis hirsutissimi li ziniis lanceolatis acutiusculis.

1 11-... .4*-holland mount 4nt; in auny collections. Sect. 2. ftM *thea*. D.C pra |»rt- E. Mey. *Xiph- theca*, Eckl. it Zeyh.—Calyx Initi nun intr«iu«. Carina breviter curvata, erostris, superne rotundata. FfUtio ••- |iiu* sericeo-v. adpresse villn.

\: p. *elliptica* (DC. Leg. Mm. p. 198. t. 137) foliis sparsis ovatis ellipticisve calloso-submucronatis planis crassis uninerviis utrinque ater appresso-villois, floribus pe- atis, calycis sericeo-pubescentis denti- bat brvtiter onA-triangularibus, legumine oblongo-lineari tcnitutr i^-rr-r-ilr.—f^n\tw»mt* wrtutffifCrf £. Mey. i Comm. p. 21.—Thi> [*Uut, uf v>ich 1 hare mit wi«n thr corolla, b*i«DriAUij> licc pod of a *P Tcsticytt*, and nut of an *Amphithales*, an1 anpew to me to agree with De Candolle's figure u to fofiagy and habit; u how»r«r E. Meyer oontuWr* it t(i h t») diff'ctitf I cannot but ftel doubt* aa to tbf cor- rectness of irty rtk rence.

Rocky places uthr Dutoits- IdoafUiuntains, *Drige!*

13. *P. fiJbM* (UC. I'nKir. S, p. Ui)t Una ovato-v.

oblongo-ellipticis acutis planis uninerviis utrinque dense et molliter subsericeo-villosis, floribus subsessilibus dense capitatis, bracteis exterioribus lanceolatis intimis setaceis, pedicellis calycibusque villosissimis, laciniis calycis lineari-setaceis tubo vix brevioribus longioribusve.—*Borbonia tomentosa* Linn. (the same name also applied in his herbarium to *Amphithalea densa*), *Liparia villosa* Linn. *Xiphotheca villosa*, Eckl. et Ztfc. ! *Katuf.* p. IM. and probably also *Xiphotheca tomentosa* Eckl. *et c.*

Table and Devil's Mountains, Cape Town; in various collections.

14. *r. sericea* OLM «y.1 CMDM. p. 19. vix IX (.) ramis flexuosis patentim pilosis, foliis ovatis lanceolatisve utrinque subsericeo-villosis acutis uninerviis patentibus »«fc- ribus subcapitatis subsessilibus, bracteis interioribus setaceis, calycibus molliter villosis, laciniis lineari-subulatis tubo longioribus.—*Liparia* is not in Linnæus's herbarium, this plant agrees well with Thunberg's *cknd*, it is also *Xiphotheca sericea* Eckl. et Zeyh. ! *Enum.* the *Borbonia sericea* Lam. Dict. 1. p. 438. and *Priestleya sericea* DC. Prodr. 2. p. 172. appear to *m* *o b» mllicr* the *Amphithalea densa*. *Priestleya lanceolata* L. *Hey.* *Linnaea* 7. p. 150 (*Xiphotheca lanceolata* Eckl. et Zeyh. *Enum.* p. 167) which I have not seen, is probably referable to the present species.

Sandy and stony hills, Cape district, not uncommon.

15. *P. tecta* (DC. Prodr. 2. p. 172) foliis lato-ovatis acutis concavis utrinque subtus præsertim ramisque villosis, floribus axillaribus brevissime pedicellatis, calycibus, tomentosis, laciniis lanceolatis tubo æquilongis.—*Liparia tecta* Thunb. *Fl. Cap.* p. 568. *Xiphotheca rotundifolia* and *X. polycarpa* Eckl. et Zeyh. *Enum.* p. 166 (from their descriptions), and consequently, *Priestleya rotundifolia* Walp. *Linnaea* 13. p. 462.

Itttwrtoto hiillwwl. Stellenbosch Mountains, Paarlberg, Piquetberg, etc. *Drige!*; and in a few other collections but does not occur frequently.

VII* Aut'ittTiiAUtA EtkL H ZeffM, txtL *p. i*rkHky* tp* DC. Ingmhtmrni* ty. E. I*Vy, Crypkimtkā, BckL tt Zeyh. Epistemium Walp.

Th J» very natural grnu* include* iwo apeeMaooitmoa about tbcC*p«f and kmm to Lim woi and other older author*, who ajaoeUted Uiera either with /«a%e/rai or Jb»iau»ai. Df CamMle, who routuok one of them for ihc Ligmrim *mfif* of Linmmu joined them with l*rifithy> from which £ckk» and Z«yhc and E, Meyer agun nrpunltd them, the former iiiidur tlw name of Amphithttie* and the UtUrr under that of InprnhotiM Jtia. Jn both of th>æe Wt>ka, however, the genua include! icveral monadcJphotia and diadelphoiu Hpciee, the gm ij^i»K ** ln« ^riwrie ajHBH|af « Stuniii* *hvh lj;ha ll* ft 1};*' the other, •* Stamina subtmwirlpha, decunnm vno Utem reliquit ima baai junctufn.¹* Lt will be found, however, on examination, that aome ipadia an entirely diadelphous, aa in Pri«ff*«f«, and oUi«n bare ail tlkeiUiwu nearly equally connectei^ though afUi\ very ahortly so. Va the Utt«r kare nl«o some constant ;itti:rrnor« in habtt* and CtpactaUy in tb« lt»vc«, which an alway* more or lea* ttirolme* not nrrnlote, I ban adopted for the^n the gvim« Cot&timm, well indicated by VogoJ, wad puhUihed by Walpen,

Ecklon and Zcyhc had tepawnted from AmfJUtkalt4< under th« name of Cryphimifaty h spictM to which rattier broader leaTca and imall rtowm \^v a littU- dilfereieur in habit« but noil**, that 1 can |*rn-|'i*, in charactrr, anil 1 IV ve therefore followed Meyrr ajnl IV al^ n in rvtainnjc it a* a ipecitt of Amphithalea. The A. rxmrtfiibu KcWh et Zeyh. haa aUo bceal crtabHtbad M ft Rrnui by \ fal|K<r« and ha^, it is traev a longer pod, and o»vaUy four uvukit, but (U₄ aa 1 hare little doubt, 1 am not mtatakrrn in the uirnbty *J this pUnlj it has predadjr the babit of AmpktiJmUm, cud altUough th» ovules in the Kenut are «a«taUy aolitary, yH then m two in A. densa, and U to the character from which ihe name i« derived, the tenth atanen beinjy huertnl on ihi? daw of the vesiUum, it miMt bavr originated in a mutake; |m>babljr in jjuhitg gtf the vnilluni, aa frequitly may happen in dia-

secting * young flower,» portion of the duk vfcfc the tenth stamen adhered to tb* ckw. TW townkm «f iW stamens on the corolla has not, to my knowledge, been observed in any Leguminosæ, and if il «M t* k^DM, A is not probable that it ««mU U IWtad to »t» upper stamen only, which belongs l»IIMiaa«r-series of stamens.*

* *Ovario 2-4-ovulato.*

1. *A. caseifolia*, (Rrkl. ft Zeyh. Enum. p. 167,) foliis obovato-orbiculatis mucronulatis obtusisve penninerviis utrinque ramulisque dense et appresse sericeo-lucanis v. junioribus ferrugineis, floribus axillaribus confertis, legumine calyce duplo longiore oblongo-falcato acutiusculo compresso ferrugineo villosa 2-4-spermo.—*Priestleya* ••Mil iz, E. Mey. Comm. p. 20 (ex descr. J m>n DO. *Epistemonum ferrugineum*, Walp. Linnaea, 19. p. < ; 3.

Hottentots-holland Mountains, Munst, Bowie ! Ecklon and Zeyher, Burchell ! n. 8162.

2. *A. densa*, (Rck! et Zeyh ! tiaum. p. 167), foliis obovatis ovatis ellipticisve acutis uninerviis penninerviisve utrinque ramulisque appresse sericeis, floribus subsessilibus in axillis superioribus solitariis confertisve supremis subcapitatis calycis sericeo-villosi laciniis subulatis tubo sublongioribus, ovario bi-ovulato, legumine ovato acuminato. *Indigofera sericea*, Linn. Mant. p. 271 ? *Barbonia tomentosa*, Linn ! herb. (forma angustifolia.) *Crotalaria imbricata*, Linn ! herb. (forma latifolia) *Barbonia sericea* ft B* AvUfarw ? Lam. .i. ct. 1 p. 438, *Priestleya sericea* — — — — — Prodr. 2. *Priestleya elliptica*, E. M'f UMM, 7. «. ISOIM IK. *Priestleya Meyeri*, Meisn. Lond. Journ. Bot. 2. p. 65.

Cape 4tatffct in m DmTi M Mountain to Hottentots-holland in most collections.

* In some species of *Adenia*, where the claw of the vexillum adheres slightly to the filaments, it is only to the second on each side (which belong to the outer series), leaving the uppermost of all entirely free.

* * Ovario uniovulato.

3. *A. violacea*, ramuti* altemi* divfligwilibw rigirT^a demum denuda ti*, fulii* dirmricatii lanccotato-oratit mngiitiboi recurvis uninerviis iKrinque einervi* farottUaqtic apprawc MEioci*, spicis termiialibui fultoib, floribuft rabactiUibus aolilariit L-officitutTe, rxlyrii fttTiceo-riUaii Uciniit tubo dtmidio brevioribus, iegumie *violacea*,

E. Mey.! Conm. p. 31. *AmphitihuU* drum, Mnm.f* in Lontl. Juuril. Hui. f, p. fiS_t lion KrkL rt Z«yli.

Outniqua MumitMins, I>r*grf Bowii I Bwrktll * Wk 7436.

4. *A. imtmrmtdi**, (KckL rt Zeyh I Ktium. p. 1*JH) ramis tenuibus virgatis, foliis oblongis acutis subplanis obscure uninerviis utrinque rmtnuitii calydbuMiqe xricdi_t floriboa subsessilibus •altruin conffttttve, cmlyn* kcinii» tubo bra'vior ibaff, irKUtunc OTato antto •erweo.—A. *B»IJHI, Kekl ct Trjit! Ic.—Vcry near *A. mmit^torm* but with rather more the *l. ajf^aa 4v v^aaHaT^p • aB^a^aj^atm *^T • a»^ aat^w^aa.**

Sitemy tulli iirar Calectoti anU SwalfoodaBt *Eekhm* and *Zeyher* r «!«» /fc«r^ / and *BurthtU* ' Cat. n 597 I and 6ft 7.

S. *S.mumjhnx*, (F^kl. ct SSfffb! Eituoi. p. i 68), r unttlk virgais «ifdkv« aeriectUt folui tncurvo-paMntibua erectisve parrii ublonpt luncooUhnve iVbtuiU r. mtirronadi utrinque ^^Tiit^ niirgiuc rvTohtii*, Uriniit caimnia tvbQ brevioribus. —*Imtlgqfhrm* a*iyriati_t Hiunb ? Fl. Cap, p. £9& *Pricatleya ericaefolia*, var. 4. DC. UTR, Menu p. 106.131. *Amphithulea densiflora* rt *A. mntrrifr.lt**, SckL rt Zcfh.1 1 c. Leaves •hotter and iiraa4«r lh«n in *A. tricqfott**.

Common *HI tlte fl*U and aidei «f lull* about C Town*

6. *A. *V«i*, (Walp. Linima, f. p. 4}f)i » unknown to me, and not twflcietitJy tk«crit>cd to enabl_t me to distinguish it from *tUt* ptvc#dinSt txoppt porbapi br narrowai leaves.

7. *A. eric^* » IM, (Kckl. rt Zeyh.l Ktmni. J) 16V)_t nmuli erectis anierit, folii* faMstrnKpaimtibu «»«« tisev IAHVI »!..!!»

scutis margine valde revolutis junioribus utrinque sericeis, adultis supra glabris **niudu «ab**»** incanis, laciniis calycinis tubo subbrevioribus, legumine ovato acuminato lanato demum turgido.—*Priestleya ericefolia**, DC. Prodr. 2. p. 122. *Ingenhousia ericefolia*, 1. M_T 1 Comm. p. 21. *Amphithalea hilaris*. Eckl. et Zeyl. **□□□□□□**, 169.

Common on the **A«l» in4 «*!«»** at Utti about Cape Town.

8. *A. virgata*, (Eckl. et Zeyh. ! Enum. p. 169), ramulis virgatis apice subsericeis, foliis incurvo-patentibus erective linearilanceolatis acutis subacerosive margine valde revolutis supra glabris nitidis v. primum vix sericeis subtus incano-sericeis, laciniis calycinis tubo brevioribus, legumine ovato longiuscule acuminato vix turgido sericeo.—*Indigofera acilifolia* L. ! Linnæa, 7. p. 166.—*Amphithalea Kraussiana*, Mm* n. ? Lond. Journ. Bot. 2. p. 65.—My specimens agree **MfuifiT** with Meissner's description even as to the size of the **□□□□** although I have often seen them quite as large **in K* rrit&M***. In A. —Pjllhii, tKry wi usually much smaller.

Strong sandy situations on the sides of hills at the mouth of the **KTH, nf.** *Ecklon* and *Zeyher* !

9. *A. phyllioides*, (Eckl. et Zeyh. ! Enum. p. 170), ramossissima, ramulis lanatis, foliis brevibus ovato-lanceolatis callosis-mucronatis obtusive margine revolutis supra pubescenti-sericeis v. demum subnitidis, subtus cano-villosis, calycis cano-tomentosi dentibus valde inæqualibus tubo brevioribus.—Flowers small.

Vanstadens river hills, *Ecklon* and *Zeyher* ! n. 820 of *Zeyher's* Uitenhage collection.

10. *A. micrantha*. (Walpers, Linnæa, 13, p. 471), ramulis pubescentibus, foliis ovatis v. late subcordato-ovatis acutis planis concavive supra glaberrimis nitidis subtus pilosis glabratisve uninerveis, calycis glabri dentibus brevibus obtusis.—*Ingenhousia micrantha*, E. Mey. ! Comm. p. 21.—*Cryphiantha imbricata*, Eckl. et Zeyh. ! Enum. p. 172.

Nl'iunUini o(Von Staaden* Uiver, l.'>-nlM|e, Ecklon and ZryA /, i Q the great Zvurtrln r-<u, /Jwyr f_f *l>u in Bowic i Oi>I)rr(iint.

VIII. L*rA*IOfTVS £^H *i Zryher.

1. L, p*rrif<}Ha_t (fwrkl. et Zcyh. t Eftttim. p. 170).— Heudua deci iens, |. Meyt Conim. p. 15,1.—A vntml •hrob wifl ihc hnbil of --f<i/iW/*a*«l; but differing ilk its •mall raUov rnn>IU with « rotAntfl k«J «ln<nt tnltnlj concealed in the xrry Imirr calyx.

Hottentots-holland mountains Ecklon and Zeyher i,

L. rtM/i{Bni EckL and 35*jh. Knum. p. 171_a from the •»hk Mqunt4in, it unknown to tut, but u most probably •omt form of Amphithalea densa.

t

IX. CoIMPIUM, Vogel.

C. Walleriana, Vogel. Larina oblonga, obtusa, lateraliter obt. glandulatis. Stamina omnia cum, monospermum.

(*»!)•«* Udukt p*rttm iu«qualr«. t

ulii Ut u«c uiijkii' (MTI). Ia. Lc^fWnm ova' —t'i li mm^ »murgint plui xcurnr^tc demum Mprmr»r pul>c*r<?ntU tublu* lajjno ittttj by Vogel ^ *T iruu^ nittural gcuu> Etorri u\ in live Berlin. livrtwchtRi, mul puMinlini bjr Walpers, but iuprrrini« gemim, flttbopitmi, rumulo r without any details.

1. C. bullatum, (sp. n.) foliis lato-ovatis bullato-concavis margine serricci* p subbarbatis extus laxe pilosis, calycis sericeo-pilosi laciniu tnbo Idngjoribu s staminibus breviter monadelphis.—Ramuli tr>Uiter jnlmi. F*iJi* 3-4 lin. longa. Bracteole subulatae I, C«lyx frre 3 lit), UHIJtu. Uciwb •'-gttvto WovoUi is. Coro Uin nori vidt. niiiBU't' I¹-*¹ anthesin jwr*mtenti« *j quutitn &n i^fifus connata.

Legumen oblique ovatum, breviter acuminatum, compressum, villosissimum, calycem vix superans.

8. *V mm* *Burchell* ? Cat. Geogr. n. 7115.

2. *C. ciliare* (Vog. ex Walp. Linnæa 13. p. 472) foliis anguste lanceolatis involutis acutis rectis intus hirsutis apice subbarbatis subtus glabris nitidis rugulosis, floralibus latioribus, calycis glabriusculi laciniis setaceo-acuminatis subbarbatis carina multo brevioribus, staminibus alte monadelphis petalisque breviter perigynis.—*Aspithales ciliaris* Eckl. et Zeyh. ? Enum. p. 169.—*Jacquiniana rugosa*, E. Mey ! Comm. p. 22.

Stom T I < 1 %, Klein Drakenstein *Droë* !; on the Klyn River hills, and along the River Zonder Einde, *Ecklon and Zeyher* !, also in *Bowie's* collection.

3. *C. roseum*, foliis ovato-lanceolatis lanceolatisve acutis tortilibus utrinque eaulibusque molliter sericeo-villosis, floralibus brevibus (ovatis ?), calycis sericeo-villosi laciniis acutis, staminibus alte monadelphis.—*Jacquiniana rosea*, *Boissier* ? p. 153.

Dutoitskloof and Winte borders of the Stellenbosch dttnrt i > r ^ ft I It is also indicated in the Van Staaden's River hills in *U* have not seen the specimens gathered there.

4. *C. Bowiei*, (sp. n.) foliis lanceolatis involutis acutis tortilibus intus tomentosis subtus glabris nitidis subrugosis, floralibus latioribus, calycis glabri v. vix margine puberuli dentibus acutissimis carinam æquantibus v. superantibus, staminibus brevissime monadelphis petalisque breviter perigynis.—Habitu *C. Vogelii* affinis, foliis *C. ciliari*. Ramuli breves tomento tenui mox evanido canescentes. Folia 3-5 lin. longa, divaricata, fere pungentia, floralia basi dilatata, calyces subsuperantia. Bractes setaceæ, calyce dimidio breviores. Flores sessiles quàm in *C. Vogelii* parum minores. Stamina fere ad insertionem libera. Discus staminifer longius adnatus quàm in *C. ciliari*, brevius quàm in *C. Vogelii*.

In *RotoiSi* collection.

5, *C. t'ogriii* {Walp. Linnwa, IS. f. 472.) humile, divaricato-ranvumi* fulu« Uncoolatia margin* uieorrat** tartiliUui iupra tomoutoaii aubtiu dcraoin gUbm nitidulis, floral ibu« atibtwforaiHrai, caJycia cauietoentia subacriori dentibtu acQtia* fcUbus iKrvUawie mi nadelpbis petalisque breviurf jrtngjntt.—jtqfmktmtm* tvriiti*. V. Mey! Comm. p. 22.

Dutoitskloof mountain! Drtyv'; al>ot a narrow*leaved form, in *UmrrhrU'w* collvcUuil, i. 6687.

6, *C. mwrottinutr**, («p, ni nunulU rigidit IwiWntosis, foliis lineari-lanceolatis T. iudmi* bmvttter UuccolaUi involuto-subteretibus supra tomentoso-villosis subtus pubescentliu» olwcure uriiTU'rvüv, floriliUu* Ule-ontia •cut* untnernii, mtfeu pubc«crfitii dettibüft ohtutit, stamini

Pinter«k!mtl'T iturlr'

7 ? /[^]rwlwinia #/»•«««, (B. %!«y. Coout. p. 22., which I hare nol tceii# it jirohtMy another ip©dk% of *Coelidium*, but very tlffisnot from any of the |W«wUit>| m iuto«iOtnoaw th* prdttnctei bdng «u<l to bc cm^iiUry wid much longer Ihui the Iravca.

Bolt«« K rivrr and Droii, in the Tullu\;li til strict, Drège.

Subtribe 2. GENISTEÆ.

Folia timptkia w. paimattin in-plvin-JuliwUta* Ala U*m-verse plhmtm. Suttiiu* omnift *n tubum jnU^ruru r. poatio* fissum W«wti. Orariurn In*. pluri-QtuUtutn. I^unwm inarticulatum.—I:IwU», fntUof* r« rmn**tmc arborrh*. Cauka noi »olabiles, rarissime flexuoso-subscandentes. Sthaal alcr m «t a petMria Ultra v. (in A^MW tolo) p*^uok« aJ-na-be, falacaja, •oteCBj|v «• oUgbta* IM» Mirwa, «« infra itiwrtiuri«m prwlurtir. InAdractmtia in plerisque racemosa, terminalis, nactuua r'i>njfatiorte caul c T. post anthesin saepe oppositi foliis, in gmeribu* nonnullis Australasicis, paucissimis speciebus tropicis an

rhachin racemi solitarii, *Um-in, tubUnti* ** sub calyce sessis-
sime hibracteolati. Antheræ saepius biformes, 5 oblongæ
adnatæ, 5 breviores versatiles, in paucis generibus unives
subconformes. Legumen bivalve, v. rarius (in *Viborgia*
paucisque speciebus aliorum generum) indahiscens.

The simple-leaved genera and species of this subtribe are
probably in most cases phyllodineous, the leaves being sessile,
or nearly so, *i** trtx-aial* tt tit* «t*I iW ** petiole. The only
exceptions I um «mv W^ •«c«r ta « *i* few European species,
in *Lupinus villosus* and *Crotalaria unifoliolata*, where the
form of the leaflet • wty BHMH from what is observed,
when a pinnat »li«ffc ndttMd to the terminal leaflet. Where
there are several leaflets, they universally proceed all from
the extremity of the petiole, at least, I have never seen in
the most luxuriant specimens, any tendency in the leaf to
assume the pinnate form.

The small transverse folds or wrinkles, between the veins
of the wings, *.i' - . i_u_JJ. &«* more or less conspicuous in
all the *Gesistæ* I have examined. They do not appear to
have, till lately, attracted much attention, nor is their phy-
siological origin or function explained; but the constancy of
their presence or absence in certain Papilionaceus tribes or
genera is remarkable. Guillemin, in separating *Chrysochlyx*
from *Crotalaria*, considered them as characteristic of his new
genus, since then, however, their frequency among *Gesistæ*,
has been alluded to by several botanists, and Koch is per-
haps the first who gave them as a character of the subtribe,
M mmljil It? Htm, •o the ext lmi«i <# *Ossis* and *Asthyllis*.

Their admirable paper on the develop-
ment of the flowers of Leguminosæ, (Nov. Act. Acad. Nat.
Cur. v. 19. part. 1. p. 65.) have carefully described their
structure, and give a list of several genera, where they have
observed them. t *m not as yet prepared to state how far
this character may be made use of in the distinction of other
tribes of Leguminosæ; but it i ^|ears an absolute one, as
between *Gesistæ* and *Trifolite*. The same folds exist in
most, if not in all, *Podalyrine*; in *Typhrosia* and several

other *GaltyM_t* (but not in all genera of that tribe;) in *At*-chynanem*r, and otto pinnate-te*rcl *ltenty\$«r**** (but not m several <f ilie trifoliolate genera;) and in many *ihltbtrfB***. I have Mott no trace u' tbetn itt *Tr(/bJie*_M* in *I'uuir**, m r in *Phiurutt**, with the exception of a lew *RAymcKotmnd* genera, and, at obterrcd by V<fid and Srblritkn, they Appear to be absolutely confined to **f^knmptomnrr*-m* no trace df U>eD ex-
 121 TM 4E9fl^ff%TMQw*^' IW p#t JBp *incosee*.

Amun^it th< iccn<rmenumerated >' Endlich <t et belongiag to (*Jimute**, 1 ahould propuee to <<clude the fo ILwrtujr:

Liparia, Pricstleya, Amphithalea, Lathriogyne, Heudusa, Cochl./jttui and *KpuJemMtm*, lurmur.; i!io pr<ceduig lubtritw of *Liparia*.

Hallia, which .ippean to ma to be a *Htdprnrnm* genus, with Uir fruit rr.'itii'til tt> a liiigk artklf. Amongst many cithrf minor ji-tmu, it ti>ar W sufficient lo ayJvort ta the Immn acatiat* •tiputa, Ute <ulkg^f tlw ffigW crvulum, and especially ttw ttidchiit. in Him ,HKJ, wiilk the peculiar reticu-
 til ili* *Mtitymtrtm**

Requienia ii too Bluntly *Hwi to /Vt* lr* *piiemtu* lo be rcuiove<l <ar Ciom U**t <enui, and Ute art d<Uot> of th it k>l <t lb< rxtreniity of the (very abort) pet; z, con>butcd with it< fi>rm and \<ration, atow itt arial^f mthor with the termin*^t I^ailct t>i a pinrwU lra(f ihaii <itli a tingle leaflet of < pttlmte oott Tltc uimivulate ovanum will tent to exclud!e ti tevhrninUy frvm tint *itit*i*U+4*

Ommm and J<MfJH# vttJt puifwlt* (not palmate) leaves, and smooth also have been established by Koch, as a distinct subtribe*~ I^Cfbap* thr) Omul I r*lhf< be associated with *Trifolies*.

Goodi b*>* also pinnate (ittMjgli irifoliolate) Inm, a and is therefore not a tr-!< limpilVi KS wills'^ llvWVi ---, --- very evident fol U, <>i'l th< HBmcita ar* trulj mom delphous, and itt real kftnitiee are iiiierr<i>rv an jptf doubtful

'lite >er<n or ri^bt Auntraltan <m|i^a the leaved *Genistes* ge nrrta, tbutigb >ot •parable from Ui< m tribe, form notwith- standing a UtL- group diatinguiabetl by a peculiar habit

whi/li lirin-i them near to the Australian /W«^rri«*, They have Also » truly axillary mflorvjoence, wHiUt that of mort other *Gi**itt*tr* a tcrtnhtnJ, becoming frequently w»oner ->C Ul«r tens-oppo>cd. But *Hrtfitmitia*, and two or *Ihnm Crv-tafanm* and *!jotqmmidc9*, form AH exception, xrhtcb prrctudn fhe making use of tbit Circutn*tar»ce o A dintimrtiTe character.

The ivtllowing are the tnoit prominrnt diarmcten uf 11ach of the *GmtMtevw woven** as come within the »eoi»c of the present paper.

* *Folia com/oxter timjJUi**.

Berbtmfa. Calyx Aqualiter 5 (tdu*. Iwiniiv actttiantmis v. puttgnnt(T>UA* VcxiliitB] Tjllonum. Ijcentrier lineare, compressum. Folia r%tda plurinerrU. Nj*dr« otnurt Capenses.

itynut. 'yH«i quinqurAilt 1 acini* mtima angustior. Legunn-n luriceohitatn v. linran*, tuiura tu\eriere subalata. Corrotti uti tola planU ^Uhru. Folia tminervi*, reiiitlato* penniveniL Sprrte« omnes C.tjK?n^«.

Euchlora. Legumen ovatum, turgidum. Ilcrtt* hwrnUt*, hirsute, C>{«'inii, inflorescentia i tennitMih.

Heylandia. Inflorescentia axillaris. acute rostrata. Legumen lenticular v. Ilrrha Indtea.

** *Fol* *composita*.

Lupinus. tar ma M>rtr»U. Ltgmncn compressum, valvuli» en n n u, miu> wfcepe crilal»»»um. Stipul« scapius petiolo adnatæ.

Crotalaria NT. Carina ro»trata^ L<ifum en (et 4Hl juniui) turgidum, intu • uuduji. StipuUn liberal.

Priotropis. Uiiiiim f 1 M/tt/arW, uw ' Lftftttf* piatum, valrulift mtfinbrafwoeo-cluruceijL Specie* uoica, In*lica.

*** *Folia constanter palmatis composita* (v. in *Lebeckiis* *cia ar*).

Utmmk Cal>ci» Mnuc Utoratc* ab inftro» liberw, cum

superioribus niter M IIIKI* utrinque plua mtuut coalita,
mriut mail Ruluoqiwlct. C>iriA ohtUH* v. in »|K<K-IIU*

tnbu Legumen jutuiu L^>tnj*rc»um, d^mum (|mtMrrtim in
speciebut p«ucu * *Crotolmi** carina 4i<tinctu«nii«) A us
minu» turAulum.—Stifiubt Mcpe «oUteriie.

Listia. Omnin *Loiom*<mi4i*, ttW Ujumrn lineare compres-
twro, de Uteribat AcKtt«o*i -fractuosum.. Herb* Copensia.

R>MM. C*)ycif Ucinue •U1NK<IU*)C». IVUIR carinalia
»uhwluU. Lefumet) liuean roioin vnlfulit tuernht*r\ftccU
rut or* Untum airinali dd>i»oefttibu«. IrrU:i Imlir*.

Xerocarpus. Omni* *HotJti**, niti lrgumcn f<)mtun», acu-
tissimum. Hrrbi Afriain*.

Argyrolobium. Ca!ycii duupaouJMi Ucinim lu
intsr *c, UteiVe* cum niim* jilu» iutuu» in Ubia duo pro-
fuude dm met* oialii*-. Ycxillum *oij>lu»u, drituun supe-

Melolobium»m- Cplyx tuUuln»uk bt^fitrf bllmhutOi, Corolla
parva. Curitta obiu**, l'egfURH*n Uuwt, compressum, sub-
torulosum, saepissime glandul. m. Stipulae semi-cordatae.
Flores Mr*nil. Spec. tc« oil ines Austro Africa tn<i*.

Dichilus: I^lyx trne Ar</Kolobii. Carina fjbtiiKi, viiillo
•ubWu^ittr. Lngumtn Impair, OMupreMtun, MibOiruk/iuak.
Sjict'rtft <Mine» An»tr<» - \fViriiui:.

Hypocalyptus. Cdyt kite c>m|ttimUtiii, br«viter 5-d«A-
tatus, basi dcttium minim*. V«xtUum TMrii»m ru^mtoMi
superana. Legumen lineare, planum, sutura superiore in-
crassata. Species Capensis.

Loddigesia. Ca. l'lyx breviter 5-dentatus, alis
multo brevius. L. tfvro«u«ft«iu-l«bceolatuiit, utrinque acutum,
planum, sutura superiore incrassata. Species Capensis.

*JjtUckm** Calyx obli. |uu. btwiter inkfiUitw, rarius
5-dentatus, alis breviter 5-dentatis, rostrata, alas et saepius
ve lillitrn »ujwran*. LegUttMlt lineare, planum teres v. tur-
gidum. Species *mum* Austro-Africanae.

Viborgia. Calyx obliquus breviter 5-dentatus. Petala

longe vngmtuiata. Lfijumen stipitatum, oritom »/ tmriui
obloturutn« ttrichiteens, tatun «mp«riore ilala, iufieriurv tcnoi-
Specie* omnc* Austria Africatweu

**** *Folia palmatim composita, saepius petiolo subnullo folia
tmpiidm fmdcubt* mmtimtm.*

A*paloth*». Calyx 5-dentatu» v. 5-fulu«. Carina incurr* r.
rostr•U vrttlltj lirevior. LeguaKn obli^uuit, compressum,
acutum, MVpitu rix Utitodinc lun^iut, rarius oU^u< lanceo-
Utui. H|>ccici OttMa AmUri^^VIVicaft*.

X. Rofc BOM A, lift*.

Tills eerui» femtiuv untoirb«d, a« Limitert by Willdenow
and ;De Car MI-IHC, for [prenifvl'a sAwjci'tion wHh r of tit
CandoIk> /<ry*ie«(i<j, i» ttiD »l»*ird for flincoMKMu It i* *
very mturml grup, "rcAflily known by tin? m*jy-nerved
Ie»vr*(iudqwnd''ntly of Ihe diMUctern «i«rtrfd from the
flowers.

* *Carina i m w nfrmt* nt*yue villosa.*

1. II. 6<ir^/a f Urn.—1)0. l*rodr. A, 7, 120.) c vit humili
glabro basi dilatatis subcordatis
multinerviis barbato-ciliatis, pedunculis 1-2-floris brevissimis.—

T*ble moonUin, *Hmwy t* and others.

i. B. *tamlatm* (Linnt Spec. p. 9fr^ K^<n* f«*) lanceo-
lality linr*nborr« ti, b 5-nerviis, prd'inculis 1-2-floris calyce
brevioribus.—B.

trinereia, Auct. rcennL Don, Unn. B. aVrqpm R- Me y. 1
C««m- p, 15. f- i folMtmio wptiiml ft fifm* 7 raris-
si«m» a Unuii ridi.—The U. /rwnit t*f Linwrtrt*. which
has been s... or leaved
forms of thim vmrUbU ftperie*, wm in fact W*cnb*«\ from an
imperfect •r^*»i of O j f ^ r*#n/iW«, aa not ^ by
Dryander, in th« Cttfertiml twrfawtem, fim » observation
made many y«««* * * «• by Bnm n.

Common (mm the neighbourhood of Cape-Town to the
 1. Dite nhogt di>tricl vaitwil, HKI to the (VuM>b<lg*t> ii'irtb-
 wsttj. Vrij e! E. Jttfl tt*it Ztyhrr ' Hurriry ' Rurthrll ' B.
 495

3. *B. corduU*, (Linn. I BMMb], 994.) eaur Uytoili villo-
 sissim>, Cult* conJAl0*t)Yfctui •ri-minato-pun^MttitM mtltt*
 ner>ii> gUliria, fioribu* •ob>cMiltb(u_t caly zibus bi>i> ritloiM.

Mtmntjun* llfar Cup-Town, Drège! Sa An- ' m. 157,
 Bk

• • • *Vurinm Itmjim roftntm wkqm \$bbr+_t*

4. ». mwwygmw, (DC Pralr. 2. p. 120) Mib ublonp^
 lukttolttit trincerrii* Mulf*jue glftbrit \ vix piln%is |>r<iiii-
 colw ttiiltom flow parro tonginriluif rmlvcibm^ur pUoaii,
 legumine ovato-oblongo acuto 1-2-spermo.—Folia supra
 corrrria, »ub<y« in W? ub tptctc cort«Untrr trMrrii* ob-
 servavi, nrrrii inttf v- diiUnfitua. OwiuiB hfcmtlfttwn.

Cape Colony,

5. & *jmw»" \Mvn4L in Herb. Ilook.) foliis lincaii-
 lanceolatis 3-5-nerviis, pedunculis sub-
 sequantibus gbbrii tub flore pur 2-3-br.«rtMiUibp legumine
 oblongo-linearis a
 Cunim, p. 15, mtu IMJ.—Fr*li» tApoi (ruicm*, item* ap-
 proximatis.*

Mountains of th« lower Stmtlipm Hrf;iiih, Zfr^r ' in
 gruay ml^lj.iiir pUot> M>r (jaimt* Hoogta* Mmmdt! alao in
*Batmr** poUeetium.

«. *B* mlptth'u* (ap, n.)> gUbf<f nniuli> iix angulatis, foliis
 ovato-cordatis mucronato-pungentibus integerrimis multi-
 nerviis, pedunculis 2-3-floris calyce longioribus.—Fruticulus
 divaricato-ramosus, ramulis brevibus trtiutlm». K<*1>* 4 lin.
 v. rarius

nervia, inter Mnro* KWMB. Fkirw won ndL Peduncu*
 fructiferi 3-4 lin langi. iravt, tmu» I|IIHM is pedicellos
 2-3 breves divisi. Bracteolæ mb calyce striato. Calycis
 tubus 1½ lin. longus, laciniae angustae, setaceo-pungentes,
 tubo aequalongae. Legumen fere pollicare, 2 lin. latum,
 acutum, glabrum.

In *wMkfk* bushy placet near Koohman'i Kloof, *Mwmdt!*
 7. a porpi/fcr*, (Urn. Diet. 1. p. 437.) glabra, ramuli*
 angukti* «ubal*ti*re, foliis lat* cordato-oTilis aruininato-
 pangentibus minute denticulo-ciliati* 7-11-ncrrii* inter
 nfrroa vix obacure Tenoi*, pedunculo* r onfertim 4-6, -floris
 calycis brevioribus, calycis Ucinirt tubo longioribus.—B. mi-
 etfbUo, Simi. Bot. Mag. L I 128.—E. N*y ! t'omoi . p. 16.—
 B. *nueifolia* et B. *parvijtora** Edd. et Zeyh ! F mm* p- ' 63.
 —B. n<j/<i Willd. b Spr. 87*. 2. p. 115—Folia 6-12 lin.
 longa Tix unqu&m wnii-|x>llic« UtDrRn, utrinque nerrok^

Mountains of Cape ami Stellenbc «h duitrect*, *Wigt!*
Ecklon and Zeyher ! Harvey ! Sieber ! n. 168, Burchell ! n.
 7818 ami 7990, and others.

8. B. *Ititxfutia* [% n.) ramulia angulato-tubalatis, folii
 orbiculati mucronulatis batt oordatin nito^crrimi^ v, marline
 aaperia U-l* > *neniifi inter nervoa obsolete vcnonii, pedu-
 cilis breviter imbricatis in multifloris. — Specimen imen fmrtifcnim. Folia
 pflliccm longa et lata, concava, ntrinque vata. Pedunculi
 brevissimi, 8-19-toi. FedicpHi ri-i<h, *2 longi. Floret
 non lidk Legumina 8*J litu longa, 3 lin. laU* glabra,
 ooriaoea« rrticulata.

Cape Colony, *Bvrktll* * n. 8087.

9. B. *compikota*, ramulis tcretibui glabhi, fulit* amplexi-
 raulihui late Ooirdalo-ovatiii KCUII unato-pungentibus inter-
 gerrmns nmlunernis inter itervoh crebre et tenuiter reticulato-
 vcnovii, raoeini* mu lulloris folio brevioribus, calycis dentibus
 tubo tubbreTioribui.—11. *imrriflor** E. Mey ! C nun. p. |<
 non Lam.

Along rivulet* on the l'iquetberg, *Drige t*

Id. *W.rtmata* (Lam. n. 8p« p. 99) i) ramulia suMrmib
 glabrii piloduliive, foliis orbiculatis profunde curvatis* mu-
 cronulatis nliir tirulatii multinerviit fttirtiUlui, p
 culit laxe pluriloh* calycibuique J>IL.»M, laciniis cml
 acutis tiliis brevioribus.

On shaded rockt in the Winttrboedt and DuloiU kloof
 in nounuins, *Orrjff* ' in peat toil amonpt «brubm on the
 mountain • near Hrarkfontcin, *Rctkn mnd Zryker t*

11. B. *umduiata*, (Dumb. L>rodr, ft Cap, p. lffi) rann, lis

subteretibus glabris pilosulis. % foliis profunde cordatis orbiculatis. utriusque camploitis apice Tefcro-mucronati* pilu-
 ciliati v mtiLtinerrtui irtirulati*, podunculii 1-5.dufii ptU»i*
 UcinUj^oaJycthif flJigu»Uiuimi» tubo longiaribua,—(rvtelenm
 perfor*ttt, U» f Etafc Barkmta fxrfw»i*_t E. Mey I Comm.
 p. 16. nc-n Pnmn»>t /I, dta/ff, Willd, \$p«. ». p, 0-M el l>^1.
 Pro*fc 2. p. IS*) « p*trt, II. Cw*4oUf***t KcU. « Zeyli.
 Enuni. p. t<9« B* rowBMtlato, V<ig. Unim* 1". p. S<»*—
 Auricula loliontn porM) ettulou cUl Mepe incurabrUr*, con-
 stantér liberæ.

Among ftiirulM anil Ull p u i, mru on tli<1y rocki, Do*
 toits-kloof, Drège' TuU^gh, Erikm omt Ztghtr t will in
 other collections.

I-\ D. perfin-mtm, (Thunb. IVwir. Ft. C«p, p. 122) caul*
 tln:innbrnle rabtamii^titr, ramulu ^^>t<tvttbt) ^Ubría pt-
 losisve, U mutinerviis ftticuUti* timr^ttw AlktU »tit«grniii<iivr,
 pcrfaiicruU* 1-f-Aofitt loliu lirrvitifitius, UotnjU cilvntm tubo
 ltrri» oribus.—H. rtiW/i, Willd. Herb. (e I Wiklpera.) Spec. 3.
 p. 9f8 M DC Prod*, II. |, lff« <x j»it*.—Auricula foliorum
 pone c*uktu mnuu^K. More* nunom quim in A. MV-
 dulata.

Near Groo •vadrnbo*e*i in SwdlemUm A/KW// Campe
 Bay, Harvey! also Burchell * n. 419 and 8014.

XI. (Uniu, Thunb.—Edmannia, Thunb.—Vascoa DC.—
 Pelecynthis, E. Mey.

Th»» g^imk, ukatt u » whale* it to Ttry u*taml « utit, that
 it Vasc-«i utd JV^cptfW, «Wwlk k*a Utu <cpimbid by 1)*
 Cantullt' at* E. 3 l«j«, TW —mm wt bftd b*r» ukcn by
 W»lper» (I him, I ft. p. 462) hhlenn^b Hr t subsequently
 (Repert. 1. 1. 579.) 49111 wpMili^ Ptimfmtit*. A closer
 examination of tke lynei a h m tL*t u m*y vcU b« divided
 into bar BMfikmt, by chMiKten of nearly aqnil «!••• but
 scarcely

gtnrr*. »o natural, am! At the BUM te« » small a group.

As * whole, th« RqffIU may be at once known among simple**»*wl ftwfcfc* by tbrir •mooh wirftw, wHfapl any hairs in any jart if th« pktrt, oft«o tt*» or la* glaucous, aad turninf black wh«n dry, by tbtir taave* not many-nerved from Ut« bue, a* in Aortautf, tnd by the tuflof escence which U ncerrr nHXQ4«o ai i» OotmUtrim; but the peduncles (except in the very few caaca when tWy are aimpl* and or»»»-flowrr«l) are more or 1CM arguUHy ilicltmtomon*, with ftUteecnu bfacrtaa fr^qoiHitly opj*o*t|* ai Xhtft remi&cfctiottat In cha-f A den dcrive*! ir- in the flower, 'thtjmii oottMa SMra*t to Crotalar to; but die pod ti very dUT*r*t<.

Sect. t. Vise*** DC. Cuim nwtnte. Folk Uu amplexicaulia reticulato-venosissima. Legumen polyspermum.

I, U. nrrtu, (E. Mey! Comm, p 11,) i-jina orbiculatis cord«to-amp1t-(i-autibm othQMAMcnit, ralrcit iMlfaritt 4 superioribus inUthitattjafiangira)Dis tubo r«blongtorikii i M parom iitw^okUbua.

Atnotiftt rack* on the Dutoite-Uoof romanUin*, Drift.'

2. R. ummltwhautU, (Thumb. Ft Cap p. &&) MBt* Ofbicn-latis laciniis 4 annuicellibus lata trianguloribus tubo brevioribus inter a% pAftlhi HUB(|QMibQa*—•r##c*»a #H^IMn(MwM, DC. Prodr. 2. p. I 19.

Mountains of Cape and Stellenbosch districts; Paarlberg, Cederbt««««ii <n Gift b«rf, Drège! Tulbaghs-kloof, Eckles and Ze collections.

4. H. fcrfotmtt t, (E. MeyI Oomm. p. It. tton A¹Villd.) fo¹ f e b h i l i obtusis basi cordato-ittipkiifmallbtt*, <<lyc» Uoiwiii * supremis lateralibus lati-or..... DC. Prodr. 2. p.

119. V, «c*m*'a, K. M«y. liaiHM J. p,

Rocks tn C»pc md SudknbtMch di»- Pida | KooWiA -- kloof, Meudt! Tulbagh and Hottentot's-ho •ml Zryhrr' Dutotto^kluoC Wi,>penh»l •»1 Waaihoek M) a l o Bkti * n. 7550 and other collections.

Sect. 2. *Ktrufnm.*—*lldfKM*, '£, Mcy.—Calyci ladntc
supremæ Utcmliliut njipMsiinatae. Carina rmtrtU* Legu-
mea palyipermum. Folia nun ftuijtiexicaitlia, unincnri* T.
pen *scure reticulato-venosa.*

The iprciei *u{ tht* ftad Ux follo *iwj*; MtcCmn run much
into uno ai^itlacr in *fiAtt^s*, and cadi *p«cie» vmriei much ia
••poet, aeontmg to U« daym in *wiK*b tl* itii!on*cuioe it*
ftortloMd t ritf ttdai. ooMtant datnrtytY Bstavt br KOUXKI in
tiie aUyi and caftu** In tin* <<tp*ct ik* specimens, I b»?•
rooeirad fruiu 1)M ;f i!u not AIUTA)* Mgrcc witli the character*
given to • tlrenj by I. N: yer, perhaf* iVmn ^uint' i onfusion in
•ortiiig ibcju for diatribi-tion. The synor<ymy of thin part
of the gmiui u thercJorc more fluuu uauallj confused am)
dottbfat

4 *It. ttnaia*, (K, Mcy ! Comru. |i. 1J) Qftolf tu btereti, foliis
angustatis,
calycis laciniis 4 superioribus late triangularibus acuminatis
bt« elliptic*OTatU »rutninAtij b»»i in prL-rtuui
?tt»

Among rocks on the Cederbergen, *Drège!*

5. *R. triflora*, (Thunb. Fl. Cap. p. 563) ramulis angulatis
ancipitibusve, foliis orbiculatis obovatis ovatis v. ovato-lan-
ceolatis basi rotundatis subcordatisve, pedunculis axillaribus
1-3-lit aihvHi* v. irrwtllai iter s 'itjnini(jik> (blwtift, calrria
liduiii aupnmi* late culUwtU taienUbuu lanookatw equi-
latis, infima setacea tvrtem uhoqae fa re, otrtni calyce
vix duplo longiore *triflora*,

Utm. »etb,* A)M« <||/H>_t Eckl. rt S&eyk Huunt. P- !•« >

I lilU alxivl Cape Tovu, and nuitltwa rd to the P. turttMH*
and towards Oliphant's River in Clanwilliam, *Drège* and
otiicn; *Hut bell!* i», S8H, I*^fhaU»_t alio >n Swellendam
district, ii «w K. /r^rw, #i and *R. tvrdata*, at Kcklaii and
Zeyher belong to this species.

6. *R. fastigiata*, <K4ll. rtSfcjh.! Kiinm. p. 160) ramulis
angulatis, foliis ovat
cuneatis rotundatis subcordatisve divaricato-venu... pe-

* The *R. acaes* and *R. opposita* are also in Lianen's herbarium, under
the name of *Crotalaria triflora*.

(limruli* I-S axiUaribos aphyilis ». irreguUriter •ubramoitp
foliatis, calycu Lacimi* I iu]eriori m* late LmccoLati*. intima
setacca cwtera tubotgue brrviore, carina calyce subtriplo lou-
giore, leguniine vix aUto.—Yix nisi calyciboa mtnoribua à K.
trijlvra differt.

Stmy placet on the lii^li mountain! near Ptupa* ralley in
SvrrellentUm; *EckUm and Zryher 1, Ann HurrhtU' n. |177.*

7. *R. mtrrmedia*, (Vogt 1. MSS < Walp. Lin rim 13. p.
463) rantuli» »ubtorcti'>us, fuHi« inr't-rrioribut oborn^{tis superi-}
ohb«i oblan^ ubtutit ire^{urvo-n} tucronulatit basi angustatis,
•eni* innmt* marline Buliparallelin, pedunculis elongwai
unitWi-s bractcui aubflore o|ypoiitu foliaoeia, cmlyci* Ucinis
2 aapremit late oTato-i-ultrati*, Utrmlibui Unreolata diroidio
angutitM^{bus}, itituiia M M N oancrit tubo^os mlNB(|iiiUinga.
— *R. rrtcta*. Krkl. ct / cyh! Knum. p. IGO non Thunb. ami
R, retro/term, Krif. ct Zcyh. 1. & ex \Val|cr» non Thunb.
K i'uteifutia, (Ut. b. ct c.) E. Mor. Cnmtn. p. It? Mm
Thuuh.

Open gmty hillt in Aduw, and itony »ide« of the Van-
•tuikiu River VAU in Iitenha ge, *Eckkm and Zryhrr t 1*
liave not tccn l>rege*» specimens frott the aaroe locality, but
E. Meycr^i character agrees with this mpcciai Ili« letter a
from a Tery different part of the colony, belong* to the
sectiion *Pelryttthu*, and appear* to IK- the true *R. cuncifolia*.

8. ILWtptittr, (Tliunbr.—*Eckl vt Zeyh. I Knum. p. I Gil*)
ratnulis angulatis^ foliit ubtongo*v. K^{bovato-ellipticis acutis}
bait angnmtati»_f venm intimia roargine ^{subparallelis,} pe-
dunculis in axilh* 1-S clinigatt unitloni, bract^{eis subflore}
oblongia oppoaltia t<>liac<>ia, omlyrai Ucinha 4 rapehohbiu
lanceolatit suliuhit* >-acumin;iti^, in&ma ^{lanceolato-subulata}
ooncava c< ^{teris} I ulx^quv Inngiore.

Stony aandy aide* of mountain*, near Picket-nierm-kloof in
Clan William. *EckUm and Zryfirr*.

9. \{. *kmeem*, (DC l*rodr. 2. p. 119) ramultt »ubangtiUti*_v
folii* oblongi* lanceulatisre, pedunculi* axillariMuft utitttura
•. *ubdu hutome-ramoau foliatis, calycia Ueitiia 4 •uperiori-
bus bnceotati* tubrultmti* perantfaeam plus minut conn; ^{tis,}

i ntimu lineari-fietacea catcris pa rum hreviore tubo longtoi
loguiiiiiir s< SMII lanccolnto a<uto.

Sandy plain* in Cape and Stellenbosch districts, aiul
mouth of thn Klyu river, *Ecklon and Zryhn* ' *Drège* ' and
others; *Burchrtl' n.* .175-1 and H17R; also Sidbarf, near
(iruliam'a Tmyn in Albany, *Bwrke* \ a wry distant locality,
but the specimens are precisely similar to IIIOK from the
neighbourhood of Calte-Town.

10. U. *anguUtta*, (Thunl). PL Cup. p. (64) ramulis angu.
latin, foliis oblongo-lanccolatii aiguctt<< cune. itit v. lin<>aribu*_t
ramulis thuriV*ri> Wxlichutomis fotiati^ lactniii caiyemi* 4
•uprioribus lain eolatis paruu ihcqulatia, iufna lineari-
•eUern csteris iuhbn-viure tube parum lon^ore, lc^umiic
baai longe inguttato Mipiuto.—U. *tiwfu*ttf'tia*, et K. *fitifuiia*,
Thunlj. 1. c. *I'rirrtfnthijuitrtttttwt*, F. *Mey* v spertm. a tL
Drrge accepto vi* Umru (\unrn. p. I-I.—A very Tana:le
apcciet having *ometures the leaves much like thotc of R.
*Jmc**+* and aomctimci rrry narrow linear.

Very common in aatuly hills and aides of mountain* in
Cape and StaUeuboach district* from the Table Mountain
to the I>nike*»»tein and 11ottentots-hollaid mountains,
Drège! Ecklon ami Zryhr ' etc *HurchcU* ' m. 2'2H₇ 777 and
7588.

U. K. *hwmliv*, (Eckl. et Zcyh. Knura. p. Ifilf), which with
Walpcrs I should presume to be the same aa R. *Ecklonis*,
E. *Mey*. Cumm. p. 12, (neither of which specimens have 1
•ten) is said to differ from K. *m^utaU*, by the large obtuse
upper divisions of the calyx,

Cape Flats, *EckUm*, according to K. *Mrycr*, near Con-
tinentia, *Eckkm* and *ZtyAer*.

Sect, 3, *Ptlecynthi**, E. *M ty*.—Calycis Uriniss suprema a
lateralibus niuu Lite iepant<. Carina subforuioata Ute et
oblique trunoaU v. utriti^ue emargiata. Legumen pol]-
spermum. Folia *Ewrqflm**.

∨2. It *opposite*, (Thunb. II Cap. p. 5G4) foliis caulinis
cuneato-ublongis sublaneolatisve acutis mucronatis baai an-
guslatis, rmmis florabbus stibdichotomw foliatit. pedioaUis

intra bracteis foliis **Uec** tofitw***, c«lfcU bciftii* Utermlibw *
wipremu aquilati* reinotis, in6m* «futlininii æquilonga,
carina Ut« lubrovtnas cttliiyiiiM, Wgumtnc atilpitato.—*Cro-*
talaria flppomtm, linn \ }Ui<K^m Ptkfttllm f/umi^ K. \ Mey.
Comm. p. 14.

Cap*, SUUwbcMdi ind SwvIknilMn tIUutatt, *KcMkm and*
Zeyher! also 1

13. It «n//u ris, i limit). R. Gtp> p. '»* yj rimii teretibus,
nnmfii ti oriferis dichotomis subancipitibus, foliis ovato-ellip-
lici* ohloQgpv* wtruwtwi ac«kM nitidis venosis, pedicellis
intra fol in NMMt breittHOMt MMawiiik laort iis calycinis
superioribus lanceolato-triangularibus, inferiore subulata æqui-
longa, legumine sessilibus basi itfi viter angustato lanceolato.
—*Pelecynthis axillaris*, E. Mey. Comm. p. 14.

Near Cape *Thunb. Harvey!* and others; Hottentots-hol-
land a *Thunb. Harvey!* mountain, *Ecklon and Zeyher.*

14. It, corymbosa (Walp. Linn m, 13. |» 484) ramulis suban-
gulatis, foliis oblongo-ellipticis lanceolatisve nitidis nervosis
basi angustatis, floribus ad apices ramulorum pluribus, pedun-
culi Wvibus iphyUxt, calycis laciniis superioribus bMfaWI
infima subulata longiore.—*Pelecynthis*
corymbosa, E. Mey | Comm. p. 11 et co U**t*, *Rafnia spicata*,
Thunb. F). Cap. |» MM MMI hoc yfcnytuato milii nl<b
dubium videtur.—Speck* a tt, f«»j/Mfii fwruai differt, foliis
angustioribus, carina tenuiore.

1*41 IUr.fi; *Drtgef*

15. *Thunb. Fl. Cap. p. 563*) ramulis superne
tereti-comj *Thunb. Fl. Cap. p. 563*) subovatis v. superi-
>ribu» ovatu rWmWii mctttimmii luu cuneatis nervosis,
flori boa »d »!•«•• mmulontm subcorymbosis, pedunculis
brevibus aphyllis, calycis laciniis superioribus tubo æqui-
l»ngU Ut« tranguUriliu* tnfun* subulata longiore, carina
apic^r l*t trunc aU,—*Vrutahnm cuneiformis*, , Urn. DwC *- p.
19 *Thunb. Fl. Cap. p. 563* litt. s in 11 erb. meo vix

* The Linnean herbarium contains also under the same **JMWtfo** forms
of *R. angulata*.

tamen Co com. p. t? ne? tfrkl. rt Zryh. K. rfl/Æ*no<of Eckl. et Zeyh. ftjuitu, p, IliI l—I In* /fitfnitt r*tw\l*t**l*t i of Thunberg is referred both U E. Mryrr. tnri by Whlpctn to the section *Eurafnia*; but hit detail ed d Moription of itw» cilyi and corolla, ililuujuU \c il*n*s un\ <Tfet« * furtn nf the carina, shows plainly tkrt tt is at *Pflrrymt* his he had n rin*^ tmJ my specimen MI iifttnnl in Drège's collection belong* certainty Ki <hi* section. I prcftumr it to 1x thr *Wtnc*, *w>_t << tb« one mentioned Uy Walprn «« bœui • nmiini K, *rwartfiifui* in Willdeno

Iti dry rocky awwiUiiKiut til uations, near Purl and Dutoit-kiwi; /Jrtyr.'

16. It. *rkm*6tidr**, (Wal|). Lin*n 1,1. p. 4<H) ranmli* subteretibus, iDpii ivat*»-r!<>iüil>rt» rlliptini nbloif*t**c Mil* tinsculis basi cur e*U% uitittrtvii«, venit inem>|iictti«« fluril<i> ad apices ramorum 1-A, priliirir<ili> btlfiboi iplirllt*. tat ycis liii iiiiiv iuU> æquilongis, *subiUU i* æquilonga, carina apice utriusque a Ute emarginata.— *Pelecythis rhomboides*, E. Mey | Corlrtti. p. H_T *R. cuscifolia*, E. LI. et Zeyh. | Bmtnt* \K l<I nan 'Thunb.—Mar* branched and smaller than jti R* oaM^fWi**

Sandy places amongst roclu» near TulUa^b, *Rrkfom* « ad *Zeyher*!, *Piquetberg*, *Drège*!

E. M[<. — C<ITX *PrtrrvntktM*. C'aHm fornic»U, ob?<«. Ontrium tHunilaium. l^nuicn liin;;v stipitz.turn, I-? •] er-
mum.

17. *H* <*eht*t*, i K kl. et : ZrjK. | K*m p. 1<l) nn uulis floriferis dic bofomti ««>opilH>tt*, NM Utc m-nm ^*f* ngisve acutis *solitari* ill *aub*««*flfi!ia«, calycis lacini it «rwn4iMi1i« tub** We-
vioribus, carina fornicata obtusa dorso subgibba.— *Pelecythis gibba*, E. Mey. ¹ Comm. p. 11 t**t* ^^ alpersio.

Mountains *mr* Qfttdemd, l£ri/#>< am/ 2VyVr / also *Burch*// / n. 7742.

18 K. rWm^rf, ntiunh ? FU Cup p 565) ntmulit <iWor-
nlni« rrrrtilju*, lulm oboTMLI ovatiftw fthrnnv T. ull

ppoiitU, riotilm* ad aptcet nminlorua paucis pedicellatis purii* c&iyci« Ui<->iii* 1011111 tulxi mubbrrioribu^ #*rin* fornic*ta.~f>W<y*iAi* rttrojUjc, E. Mey 1 Cttmtu. p. II.

Ottder fiokkereld J Dr*\$< /

19. R. <Uf*m, (Timnb. H. C^ p. 565) ascendens, glau-
 Emom*t* ntnulu crectia trtiuibus fli»rifcn subdichotomis,
 Ibliii oboTBttt obloafwre but uigtuUti* vnernis T. obscure
 uf,inenriit floribiu iMln fulit ultima iuliiolilar is, calycis
 fcctnua tubo brevtoribu*.—PeJtcfttoa ritffcw. K. Mey 1
 Corani. p. IS.—Thunberg't tynohyttM rtferwd to this and
 iht preorditiK •ptciw, by E. Mry«r. ar^very doubtul, owiMf
 to iht iimuttifirnry of hii rh«rml«nL

Ooder Bokk«f«kl and C^arhtiyn^ i*w *

SO* R. fiwj|(wi_t (EcU. n iteyh, Krium. pb Id 2) is ^4>>
 known to me, but from hi* drw-riptom of th« **\ I ihinlri
 refer it to tliii aetian. Walpetv cutud«rt Prhtj/mikk dickm-
 Uma of K. Mey. ** the umr, My qiBciw M> mun«d in
 Drege's oullertnin n the Ufnut m&Ml*i*_t bdoMginy to
 Eurafnia, wind 1 induce* me to tuppote tber* has been »c«a«
 enor in tlie dUtnbution »i the ipcoimrm.

Stony •ides of the uitmnum* ol Tolbftgh «ttlley_t Ecklon
 and Zeyher.

XII. EUCHLORA, Eckl. et Zeyh.—Microtropis, E. 3*

1. E. serpens, (Eckl. et Zeyh. ! Knum. p. 171).—<)*<>«*
 hirsuta, Thunb. r I. t. »j>. ft* JH 4, f f*oc*i/<f'i4 #^pnMj 1#4 * •ey 1
 LiltriflM 7. p. 153, Micro'ropv Arrtv^d, E. Mey 1 Comm, p,
 65*—A »nt*Jl pUot with the ca!ys and uAm^f of fiafm,a, the
 hfcbiu, the b«ir», corolU and pod of Loiommit.

Sindy)Juin* of Cupc and St^tl<!tibofch d istrict*, Ecklon
 «N/7>yAfr' -Drfp* ' ThunUry >

XIIL iUvi.Asutv, /W\

1. H. latebrosa, (DC. Leg. Mem. p. 201.) - H. hebecm ^,
 DC. L c. p. 5*x it et ||. Ifhemym, DC L c. p. 200.—
 Wight ami Arnott h«t« cunvcily ruoMkral tbc Ihrt* sup-

posed species of thi* genu» at ofle. It it dtntly lifted to *Crotainrui* in which Roxb. mLU li&ii mcludni it, bat i» eaiilj knoi»n by iti coiut&ntly axiiUry iaflofweaiot, WMI small leriitieuLr flat pod.

CorMiHin in oprn »u.'tiiv paititrea in l'ijirr ludu, *RatfU ! Jaquammi f Edgywrik .'* ttc in Hurdwar, If «ll»A t (C*t- »i, \$Si«) in the IVtitmiiltt, *HumeU • Ii*ymc f HyM t ric. Ceylon Leachenaull.*

XIV. |,i n xvi, *Limit^J. G. Agardk, %*, Lupin.*

Thi* geuua, clotcly allied to fVuto/una, yet di»tiiigui»h*d' from all *GrwMtt** by the tendency of the ntipulc* to ad hen to the petiole, iitHTt not strictly belong to the geographical rt\$ion mm inn. ber co. 'LfcidrratiuTi, and ii only mentioned here ior thr |iurpo»f of adntrtinf to Lwo »tipjHj«*d South African, and one Asiatic siiecica included in AgardhS eiodtefit momrapuT, althijugli arn'irit;!* tpeciet unknown to hint.

L. *t*tt\$rifaiim** (Lititi. Hp«c p. I OH anil Tliuub. Y. *Ckfk* p. W9)» «in>e*r» to lian b*«n descri bad iroai a ftjiedtiMa vt Huniuttih'M Nrither Thoi»Urrj< nor any «f tim lat*r UoUitiatk, who *hum \mntn* at th« Ci|M< bare *t(r found it. The *ilewc'}* t-lion*. mof»pver, l»-illi of Ltntutti »> i Tuunhrrg «o eiacttr agree wtrb the *Lupin*? vifbtv** of North A meric\, thiat 1 cannot help roM-luding that I». .TOU»M-JIUX vat n^ht in rou- sidering Ihe Utter *M Li<iti^u*»» ipecies, -id that *»n«> mistake hail occurred at to the *country from whence Burmann had prxMjufri it, U illdotitiw, it »• true* aay» of lit* *L. villorus,* « «rte VWenui a t^uinlc" (L. i«/*yriA*)t but the only di»tincijmift Tc *»***» are the rlowrn blur in U *integrifo* 'IK#, ami "rubicundæ" in *L. vil/(Mi,* and the cal} xes alternate m the fofmtr, acn ierticillate in Uic UttT. But according to rorrry and ti») rl-'l. N. \tmr. I. p. 382) the

riiloMttt mctiulea a vitirtry witli mldi»h puqi le and another with blue lloitrt, •• nulled iiuy be oUnrvcti in *rtvraj tp ecies of *Lupinus* M. sad U* Aowen t»T ih« N. Armww* pknl are so irregularly »ubv«rurdktr, that 0MJ may be ofiti* quite as wrll described M alicntair, or rather tpirmi.

L* *CorkmcAimnm*_t (Lour Fl. Coehiaek p. 499) ha* been already referred by || nrbt and Arnott, Fl. Penins. Int Dr. I. P. 187, to *Cro fahnarrtmm*, with which pknt Uurviru't *!«*<'iption i «greet pert ctly.

L. «/Wrwi«#, (Lwur. 1. «.) from the Kaat Coast ai Afnc» is «rrtainiy not a *Lufmm*\$, but h» d««cription it too short to r*ea» et the plant he haa so deeigWUd, at Ira«t, untl the pUn u of t hat eountry ere better known,

The annual LupU» either indiffiMWH Co, or ntcnanely cultivated iH HM Mediterranean nyioa, do not appear to extend far enough into the mteriar from the Nor* Coast of Africa, vt eastward into Asia, to U, ineladVI in tl e present paper.

—*Chrysocalyx*, Guillem. et
ret nif.—Hhesjiai, Dew.

A very extensive genui, having a very wide range in all 'warm climate*, and constantly known by, the lwnk' d ca IDS/ combined with the pod always turgid, even when young. A few Cape ipcciet belonging to the *O Ugatdk** come very ne**r to some *Lotummde**, hut rven here the line is raaily drawn, if all lpecies whrrr lx>th clurarters ere combined, are retained in *Crotalark*_t and all (hose of this set, where either the canna is blunt or the pod flat when young, are refe rred to *toiomomk*.

Thr genus has been •!vided by Endlicher, Gen. Pl. p. 1262 Into fire a* tions, (exclusive of *Priotropis* »n*! *Ampki-nomi* i), ecurring to modificatio% of the JKXI, but the diIT«-rences there givnf are in most eases neither t«» well drf; and nor ao conformable to habit as one would be led to nuppoea by rxainininf « few species only of each section, nor lure I been u ble find any other positive character derived from the flower or fruit to break up this wry natural geosuj ml o sections, I have therefore endeavoared, s/ter W ight an< Amott, to arrange the specie* into groups only, i characterised chiefly by the foliage and habit.

* The carina in *C. purpurea* has » ibon M4 r*th«r Want beak; in all the other species I am acquainted beaked.

A* tn ilie two taut fttctioiti oi Knndtidier, *PrttntntpiM* tho\UI perhaps be retained u a distinct gemit, on Account of the perfectly rlat potl. though it be so exactly * *CnJtUtria* in habit and ererv other charctn r. JmnUitmif, a name guren by 1)* Candolle to Humberts *Cttmarm dttamirmi* U too litt!e known to be referred wilh certainty to any genu*. The origi iul apcimirn «u nttkttt by Thunberg from Burmann, inwboteown herbarium Do Candidl does not Hui it, and no modem botimtt IIM «mr teeti it. K. Mrtvr. 4'oium, p. 10- I • wmpeci* ic V} vw uif iifw iini miffjnfTmn, r*) ncji m rcribed below under *LatomtmU** and he may He right if Tbuti- btfv HM drawn liii deMripfitm of th« petal* from Home tot: lly different jilant, or from bit own imagi iution. Hat this point can duly Do rlear«nl up by an in«(>i'cijon of Tbi* n- berg' • own lirrfwmnt, if li»r «iK-cimn nitU Ihrrr ; if n1» the grnu.« aligald 1e entirely tiimctid AM « btum!er not 19W to be cle *nf! up.

Serie* I. *Suri.ici^ou* », *Fvti* rimpliti**. *sttt&m*, *met m pelioto artirmt*/**.

J I. *Art+nri->*. *flhit'im* T. *bccfati rifidid pftntntap r. divaru*»to-rartio*»%oinMr%* paud-fuliaUs. 1'edunc uli Irruanukft v. *ririam oppo«itifolii*, r^imtti-dori, defWmti Mepa ipinm* ««Dtea. Lrgumen oroidcttin r. *globo#um*, *Rcs«iie, Mr|ua pubc*ceit»*.—Species omiics hie *enumeratae*.

I. C. *sKttypimra*, (»|>, it.) *rigida*, *nuouaiaama*. »-*abspinescens*, *rmmulii tumrnti»* *breri curwuriattmt* T. *gtabrin^ falii* ran ov»tis ob iiiiAtMT* uitd«kti* calv'ibutque tacaenboao*pubescentibtiA^ OT»io 2:3 i«MruUu*. *Iffuminc ovoidwt ealyo* 3-3 plo kingiore giahm v, junMtr« m>nut« tofnctitcilu^*—*Itanii breves, juncei, wffpe (vte ajib} ili*.

Uwer *KgypL** D»trt of B in aJmoct buried m thr sand, *Bové' n. 181*; *Iteatrt of the Sinai, /fo^.' n. J.M> 8. F = r!*

3, C. *TV&rfrar*, (DC,1*rw!r. ? p, 135) *prostrata, spinescens*,

* Although *strictly Indio-African region, I have included this species in order to give a complete Enumeration of the *Crotalariae* of the old World.

ramuli« pill* brenbts* pttntibut rilIntit, foiii* onHh m riu
 oblongis undulatis c&lrctbutqut villosis, ovario 2-3-ovulato,
 leuwmiirt! ctlyct £tt«fio lungtnfi gttbgfaliota pubescente.—
 PWuueuU tatpitts a-S-IVm. Ihok la^Miyio i cum Urtio
 minore ihortifntew

Upper and Lower Egypt. Sands of the province of
 Sennaar, *Kotschy!* 1*1. Nuh. n. 843i »»»»nf midi About
 Thebes »nil in the l»Und of ftillot, *DelIU, huvt* r Egypt,
Kotschy! n. 902. T«tityni, *tiie6er* K ugdom of Mascate,
Aucher-Elo/ n, 455-1 «nJ 4464.

3. subspinescens, ramulis pilis pa-
 tenti-reflexis dense villosis, longiore undulatis
 calycibusque villosissimis, ovario 8-10-ovulato, legumine
 calyce duplo longiore *Thebaica*,
 Guill. et Perrott! Fl. Seneg. C.—Pedunculi
 pluriflori. Facile a pr*4«dcat» ovmno dUtifii.

Western tropical Africa. Very flv<u< in the dry sandy
 regions of Walo, at Cape Venl, «tc, *Uprintr rind Prrrtftb!*
Heudelot!

4. *C. Burhia*, (HtroULI in Wnl!. C*t. p. S3S0) dirmri
 ramosissima, vi% *pint4c*n*, nunulin »rri. eo pubescentibus,
 foliis ovatis serratis parvis, ovatio ovario
 4-6-ovulato, legumine ovoideo villosissimo.—Stirps *C. Thebaica*
 affinis, arida, paucifoliata, sed alior, ramulis longioribus.
 Pedunculi elongati sa || ius multiflori. Otitl* Mrpi««ime C
 quinto v. rarius sexto minore abortiente.

2 Western India. Dry Mtr^T*(tJMm 00 ihr bin It of the
ma, Hamilton! h^twt*a IWJii and K>i«n»»ul, W«i. le!
 bet wctfti N>itit«4 and Hinjrr, *Jntptnrnmt'* ikbwmJt in l^MK^
 hum, *BJgntirih t*

§ 2. ... ati,
 saepe fibfomt^ F<ilii di«tirli», tvpa vmlt* »U»*uiiii*.
 Otmto Un(T«iliU. Stipule pirr* T. n-llae, nec dec « m M
 Pedunculi prr aniiiPMD oppo sitifolii, 1-2-rarius pluriflori
 Flores (niM in C V«>t« Ot C *multiflora*) parvi.—Species
 mne* lno enumerate.

Twpt«tit* of tbi* group luitr the l.«ltit of the adlrr *Alate*,

but tltr »tipulc* are JICTCT decurreitt, nut even those belonging tu the tail oppotcd to the pcJund** They alto haw to*netimes the generi J nppenauioft of tome CWycu#t but in t]be L*er groupj» the noaaaca »ro irrruial, tr uuljr become Utend by the eJoagttion of tbe linuidi wlioo U e flowering « consukimlily advaAoad, whiUt iu tbr l^fum Un peduncles are airriuJy loaf-oppoMd, vh»n tbr Auwcn bcfpii to expand.

* *Legumine hirta subglobosa.*

5. *C. btifjira*, (Unn !—W. cl Arti .1 fr ,dr. I- p, 190.)—Wall. C«t. u. S417, A. B* «p*rtr> C. D.

East Indian Pe numuU. Sh adjr puturv ground, about hedges, etc. *Rosburgh, HmmeH \ //ryar \ if :•; 'at !*,

6. *C. globo***, (\ight. ! in W-H Ct. H. MISV-W* et Ar n. I Prudr. 1. p. UHI,

Kast iivliAji J'cnn^uljL I >ndy;ul Mill*. *Wight !*

** *Legumine oblongo glabro.*

7. *C. filipes*, (sp. n.) prostrata, pilis longis ciliata, caule filiformi gracillimo, stipulis nullis, foliis oblique cordato-ovatis sublanceolatisque, pedunculis 1-2-floris tenuissimis, calycis kniutt UCCOUB infinaqu* »tiftutjora curolU triente brevioribus, ovwiu niullk»vulBtu, Lqpuione m»id«o glabro calyce duplo luiigkirc.—Specie* fiwillin**. K»li» rtx semipollicaria. Flores magnitudine *Heylandiae*. Ovula f 20. Legumen 3 Ilii- lon^am.

Western Imln. Very eomimm in ^«««y uiu*iion* in t* Island of Salcete, between Nasik and Gutpoor.

8. *C. prmhmtm*, (ft oxh. !—W. et _r n ! FhxJr. i. |» . 1^j. — Urt, Dcalcufar* A«KL Uun. t_F i 55. t. K. W«IL Ut- iu M19.

Lower In dm. (oortelluia m the IVumtviU. M>Mi ! Mimgh)T tad SuUiMgfeir, //dm. lton ! ^.diiourm. *Edpwrth I Kheecree Pass, Royle, Prome,*

1' *C. filiformis*, (Wall. ! Cat. n. Sfol) diffusa, puljQKTM, ramulis tenuibus, stipulis parvis subreniformi-

fulfil ovitii oblongisve basi angustatis utrinque pilosulis
 subtus pallidis, pedunculis filiformibus 1-2-floris, calycis ad-
 ppr¹ pilosil luctitui lanceolatis corolla parum brevioribus,
 ovario multi-ovulato, legumine oblongo glabro calyce triplo
 longiore?— i'olia saepe bipollinaria. Flores magnitudine
Heylandiæ. Legumen 8-11 lin. longum.

Mountains & Prutm, J *Wallich!*

10. *C. Aw^/ww.* (Oldh. l. in Will. CM n. 501) diffusa,
 prostrata, villosa, stipulis setaceis reflexis, foliis obo-
 vatis ovatisve nnu* ubkm|u utrinque pilosis subtus canes-
 centib^m, pcduiicafit tanutbn* :4-flor. <»n bnKari* wto
 setaceis, calyce subadpresse piloso corollam subsequante,
 ovario multi-ovulato, legumine oblongo glabro calyce dimidio
 longiore.—Planta saepius parva, *bmmm.* Flores minimi.
 Legumen vix 5 lin. longum.

height of 4 to
 50-K) fleet, JE^rtor**'

11. *C. acies* J<r>i, (H*m. ? in Wall. Ctt. H< 5390), diffusa,
 pn><tnu, pili* longis hnt», stipulis lanceolatis reflexis, foliis
 oblongisve ulinque pilosis subtus pallidis,
 3-20-floris, bracteis cordato-lanceolatis, calycibus
 pilis sequantibus v. superan-
 ti dot, ovurw nulti-ovulato, lrf<t. sine oblo>if(l
 in *C. ferruginea* minor.
 Sptciw titter ifina ftoribtw *pmrth* numerosis pilosissimis
 distinctissima.

Eastern India. Masurgunj. *Hamilton!* Silet, *de Silva!*
 Gomez! Mountain* *W'rome and Taong Dong, Wallich!*

12. *C. ferruginea*, (Grab! in Wall. Cat. n. 5358), pros-
 trata, villosa, ferrugineo-villosa, stipulis oblique lanceolatis
 acuminatis deflexis, foliis ovato-oblongis rarius lanceolatis
 uirinquir *in\om* subtus pallidis, pedunculis 2-4-floris, bracteis
 bracteolisque parvis linearibus, calyce villosa corollam sub-
 superante, ovario multi-ovulato, legumine glabro calyce 2-3-
 plo longiore.—*C. obliqua*, Wall! Cat. n. 5388 B et C.—
C. canescens, Wall! Cat. n. 5415. *C. crassifolia*, Ham. ! in
 Wall. Cat. »# 5416.—Affinis *C. acuminata* sed flores plus

duplo mnjorra et l'gumen ni*tunun 8-10 Ku, lougum. Simil-
 lmm riUm U. mJU (ex Atuerka burttli} ied Mia 1b>us
 Mr|Ptu» brcriura tt titipula *mlum* fotii peduoculo oppositi
 plus tuinut dtcurrum.

Nipal, Wallich!
 Mubiuce hill*, *tirtfitk**: EU I¹. 'Hwng l>ong, *Wallich!* also
 Ceylon, *Walker!*

β. major, calyce 8 lin. longo, legumine sesquipollicare,
 Phillijet<* ULuid*, Cjniiy •' n. 1«2»« An. ipMi<* pr'oprio.

Legumine oblongo hirsuto.

13. *E. wtvutQid&t tW njltt.!* in V*11. Cut. n. 5410) pros-
 trata, billows* vt|>uliJi IMHHi*1^ti* tlcl1<:\)n_t fotui obovatis
 ovatisve rviu» "tilotigu iiUuM* utrtnqae pilu^o-hispidulis,
 peduncul *calycis*
 hirsuti l•ntuw in.iijarRinnliAourvLU tncu'e brevior ibiu, ovario
 muhi>uvuUto_f Irgumjur oblotij^u hinuiv cftlfoe »ubtri|ilo
 lanitvinv-^C. Uirtvid, Wali. I C,*t. n. SUJ, .<• C*, C. evol-
 ***•§*, W. et AJ. Prodr. 1, p. 1 i* ti |u rta.—A sequente
istincta.

In titii P. imituh. Diadfgul lull*, *Night:* <J*U Ojlon
 according to *Arnott.*

14. (X Jbrwt/tf, tUilU, Spec 3, p, 978), imMUmta, pi^{oso-}
 ui*ptdii_f nuuuli* trwiibtu rigwluiu, vtiiiulu Unft-oLalo setaceis
 [Mtrntibui_t Mii» «vu i> ti)iii)igt> UactuUturr ftcuUii \trinque
 [Mror pj]<>«i jvrituiculu .1-i-flori*, hmcU'i-k lantvoUci* arumJ-
 iinii*, mlv is pil <»i iioiiiiiii imauupiiAtii ooralU bravioribu«»
 '•vino twUIWvulato, ^T[Mfi^n^ Vw|pc piloto oliUmgu emigres
 Jupiu liit^Ktre*—<'. Air^/.f, W»ii.! C^i. n. i4U./*. C« rfWU-

Boxb.
 Fl. lftd.l_t)' 26 \ nvn WilUt CL *i^irw«, WtlL! C>t- H.
 MI*9 ei |wn •. /r^o<,jt llon« in WMI! Cat. n_t 5387.

Imlkn IVniiiiMftW, *iitytu* * Northern liv-*lia.* *Choot, Royle!*
 hiifmoni in Uw UHMIUJA, *Edjnmrtk!*

15. D* A/lww» (I Ann. W. et Am.! I*«Nlr- I, p. IH⁸),
 Uyil.! r>t. ii. i.Vil> ex pfrtr, <t tfufeuuuu nonnulU mm tt.
 3««; tf. tuili.

JmlUa ftiiiiab, Hlphi! H<f*r !

16. stipulis lanceolato-
setaceis is lanceolatisve acutis utrinque
ttupiduK pdhutouU* npdis plurifloris, bracteis lanceolato-
setaceis, hispiduli lacinias lanceolatis late marginatis
curolk (aaiut) ptmin bmiorifeM, enrio mltfartthto,
Icguntine obkffigo hir»uLo c»iycr ri* dupfo longiore.—C.
bifaria Mr. wmluflw*. Am-1 in Nor. AM. Nat. Car. 18. pars
1, p. 329.—C. ty'ari* cole iHinU, Um«t m pro fjwi varietas
haheWJi. Full* ID»J<>ra, firmiorm, MvpU^BM Mvti. Pedun-
culi 4-10 poll kmgi. BraofM» minoreav uifiutw***. Flores
duplo insigniter
str

C<IQCIv IPmlkrr'

§ a. ^JoA#. Cwikia none diffiwit name but u»Uun decum-
tatfcft, r* omnino erved. Nttpula ouftin r. saltem folii
pedoi>cuio •ub<fl>Q4MU \An% minap tomw caulem decurrentes.
tVdimculi |wua-r»riiui tntkli-flikri, Unniiialn r. Ulcmr^.
mritu oxfti-te uppoftiufnlii. Legumcn in umtiibis polysper-
manu gUbrum,

Tb« pUtiU t»j thlt group, »ppni*dung in babtt •onwtifli—
to the i>t/f***\ kuttattimcK to U*e Krtet*, in w*diir kmnm
by their *upul*«.

17. Ci n ^ M M, (WUUL—W. K Am 4 IVvMr. 1, p. 181).
C. ovalifolia, W^«IU Oit* n* Wtl.—FloPW qo»n* m C. alata
paullo majore it b*bitai fen C* mthmkirtt*.

Indian Peni ituU, Diuilycul kill*, Jtf(fA ! Cip/. W.
Russell! M»xjihuf*iTi. Sir K Jr*»..!

IH. C. j«^rr//« (W, et Am. 1 IVodr. J, p. »H»j. C. W
iana W. Wall. ! OIL ft. 5.13*» H*^FloRi qumni in 4. alata
duplii nujorttiL! oftentm ci vmd« MAHU.

iiutiutt i^ttupralft* Wight \ Cff^Uiu, W «iArr'

19. C. «J*««, <Roib>—Dt\ Prodr. ?, p. 124), erecta, elata
nasi subdecumbens, adpresse pilosa, stipulis triangularibus
longe decurrentibus, foliis ovatis oblongisve subtus pallidi-
oribus, prduitcult* piunfltms ealyc** Urtmw lanceolatis,

*ruin** brenlcr ttipitato rtfroe plurirt 4ofeRturc.—Wall. 0
n. 5356. C *MtjtucacJU*, Wall. CV n. iS37-

Indian mown tain*, Gootpan uu) Morung, *MmmiUvmf*
DMktt and Bubaewalih juii^tn^ *Bdgtmvrllh 9 Ilirnalayaj* *Royle!*
Jacquemont! Ugpar and *Uvmrt* Nipal, *ll'Mch t* Sillet,
De Silva 11 iYoin* mijuii(*in*, /r<i#trA ')

20. C. *Wifhtimt**, (<lrmlit i» Wall. Cat. n. 5358, A.—W.
et Am, ! I**wdr, I, p. 1<l.)

IMtMITXttl i*lll*i iff HVMF •

I j llr*i<lr« ili© «bcmf lite fcnlowina; Amertraii species belong
to the ^/«A» : I.C. «W«. I*ir»b from Ninth Amrrica; 2.
C. *Ho<t4mdM*, Alph. IH\,t from Mexico, *UMTC^J dtfterr*
from C. ww/ti; 9iO» i'araMi, DC, Nortii AtsrricB; 4, C.
*imgittaii**, Linn., North Amentia; I«<X *bmpirvrifuli*; *Hehlcchl*,

I >Mexico; 6. C. *<ii*bri*, DCAT*, (C *KfwtitLu* Humb, et
Kunth., C. Vell. fl.

I *ipifimf* I Huai. 7- t. III), from basi
decumbens v. erecta, pilis patentibus hirsuta, stipulis
lanceolato-acuminatis longe et anguste decurrentibus caeteris
liboletis, foliis oblongis lanceolatis linearibusve btus glaucis
»u
pedunculis lateralibus elongatis panicifloris,

cmhtx comikm wptnwKw HtwtfiM P>1M«^ kftumiiH! WMUT ;
Affinii 0. *ptrrwv*lu* caly* muluj major i t'***>|>i in Peru,
MifiAm ' a. l'M4; P. CV p/mw^Wa, I>«v. (C. *jftmtHiU*,
Hiuob. et Kunth., C. *Mrtmptrrm*, Schmck). (3ui*n», Unail,
md IVt a; 9. C. fW«<iM, Benth., Btmul; 10 C. /^UiMh
Bffith., (C. //WMI, Alpfc. DC Not. ft. It llort. Ucn.
p. 91), Bmait; 11. C. «yr^», Brntb., UnNt; It* C.

otoptera, Benth., *race-*
mosa, VdJ. H. Fluo. ^ 7. t. 106, form* *parvistipula*),
Bras

f 4, f//««. CAUIM utwvndMitM v. tr*m_p rirpOi, CUD
titA |>|4TIU fWicrnmi. FOIM «Jigiul&. Stipub* null»,
Pedunculi pau ciHori, trnniualet r. oppaait folii. I^ I I H B
polyspermum, •tipitatiini, ^Ubrum. Bpeaea OCUNM hie cim-
merate.

•J, C, *ptadtiftiii** (Sohuat. Bohr., IM. CMn*, > U

glabra, tenuis, ramis foliosis subdichotomis, foliis lanceolatis v. oblongo-linearibus mucronatis subtus pallidis, pedunculis oppositifoliis 2-8-floris, bracteis lineari-subulatis, calycis laciniis subaequalibus lineari-lanceolatis tubo duplo longioribus, corolla paulo brevioribus, legumine cylindraceo stipite calycem •qiWfotte.

Tropical Africa. *Isert.*

22. *C. glauca*, (Wilhl & f*c 3, p 974), glabra, glaucescens, ramis teretibus Writxunnpiii.fotte lineari-lanceolatis mucronatis, pedmguh* termlnatiboft I l-ftgfW, calycis laciniis inaequalibus tuho paulo longioribus corolla brevioribus, legumit it brv vite? oblongo stipite calycem subaequante.

Tropical *Heudelot!*
in open grassy fields in Guinea, *Thouning.*

23. *C. peduncularis* (Greh.! In W»IL CM. n. 5396).—W. et Arn.! Prodr. 1. p. 18.

Indian I* ninsula, *Wight!*

§ *S. Ert*t+*, H«riw T. fraliQM «nata« d&U, tfrioH v. villosa. Stipule nulUe v. mm (ireurrents. Rwmnk Mm nales, BSpiut muluftuh, miat demum Oppowtlfcilil. La|(tt-awn gUbnun, calycc dupt> v- juries lonjpu». polpp*rmaa>.

I*h«e M« dbthigiuibcd (mm the *IHfmm* by tKdr ull erect hftbittffMn th* *Kriorirp** by HM tmocrth pwl, AnwMg tfc* Cli^ri^r th» C. JfyiornM^ bai tb» Wrg* pod of ih« *Mrrti+o box* the duwmiNtnt or At MM MP—ding habit and Ui« Urge vary hin«to ahrx •ifcaikto it mom t» HM remaining Caly-nitf, which hit* « pod thorter than, or timt rneb exceeding, tbeolyx.

* *Fol UI supra glabris.*

34. *G. ^fii««t* (Linn.*—W. «t A?nJ—*PnAt.* 1.)• 187), Will. 1 C«t n. 5106. *C. VoHlmm*, Sdlftitdk > DC. :• Prodr.

Tropical Asia a nd A«MTK«, m ibt M» ODM! or m inaritime districts. A hamfagui >p>rici oAm c^liir»i*d in gardens and ih«rafor« in toow «f the ttotiooi it *mvj* ooft be truly indigenous. Indian Peninsula, *Rottler! Heyne! Wight!*

Sykes! etc. Bciigt!, Roxburgh. iUnkt uf UMC Irawaddi Wuiik h! Sand* near the ICA b the i*Und» nrar Macao Vachfii' MUtfff' Iktckey! Wert ludie*, Hydlrt' SteMotwtm f Surinam, Hodmutmn I n. 593. M»r*nham, Gmrdttr f n. 540&. South Bratil, berth in garden* and wild, TVnerf e! 25, V. 9eriera, (HcU.—\\ et Arn. I IVtMir. I.'p. I^ti).—Wall. I I at. a. SUM I. ^ wf, »a* HlJlcl 8p«c. 9« p. 977* 0, mmcrupkflu, \V«innu SylU ttat 2. p. j<. C. cunei-Utag 8dinu»cV, SylL IUtub. 2. p. 78, (*Dolichos cuneifolius*, Forsk.)

hulia, A ctJtmun bat elegant plant fuutrl iit m<>t parta of IndA, Hntbmjh! Htrgunj and Nihmagur, Hmmtitim f Mountains of Upper India, /^*/y Ihdhousir . * fifty It I Jaquemout! in ganleuiv Rdgmerth I Auun, Unfit fa t n. SOA

26. C. /jwimifrt, (ip. IK) eroeta^ clata, itipulia minutia subulat is, follU cliin^atii-Uimtiilatii utrinque angustatis supra {Ulirit tuhtna ntnuli* rulyi ibuique acrieo-nitrulitmm, racemis multifloris terminabbiu, braotaolU infra medium pedicelli setaccis, kefamine aaaatb gkbnv—HaUtu <C. sericea accedit. Pubes >ria% muHo deaaior, in pedunculis calycibus foliis-one juttiohbaa aubfuUa, tkmuni albida. FUa 4fi THAI, longa, acuta, uti in affinis pellucido-punctata. Bractea lanceolatae, acuminatae, 12 lin, langve. Flom magnitudine l\ rWawr. ('alj i pmfnnde iriJaWiatui Ubto *uprrt<irv dematn fere ad btain (isto, niferiore rymhiformi mtegru T. breviter rariusve ad coediiun trindo. VexiUum dorio lineo longitadjnali pilusan*

Aaaam, (Herb. 11booker frM Mn. March.)

27. C. Ies.rAnmrf/., (M.—W. et Arn. I Prodr. |. p. 186). —C. /itfwa^air#t Carai. I in W«U. Cat. n. 5407.

Nilgherry hills, Leschenault, Wight! Noton!

28. C. *sericea*, (Nees, I in Wall. Cat. n. 5393), W. et Am. I I milf. 1. p. I w;4

Nilgherry hills, Noton! Uiykt f A fwr garden specimens of *Pudalirim* Jrrtrrti nccor Miimnpt iboae of n. 5393 A of Wall.

(The only American tpeoiaa of tiiii triHip wilh leave*

itnooth*bo*c* which I haw wtm^hrnddtm the above-mentioned C. rrtuM, u C. rbypi/tif Broth- from Br<-l.)

** Foliis supra sericeis v. pilosis.

[The following Autumn tpniii abouW b< here placed : 1. C. nite»t Ilumb. et Kunth.* T*>pierf Mexico, Columbia and Peru, very variable tpcciti hating •» «tetiti»« WM^ and to which niaj- [irotMblr be referred C fcw*«*f*i Scfcbdit. C. breviflora, l)«C. and C. m*tuUt*, Schwirk.; 2. «C. foliosa, Benth., from Brasil another T «T gambit pint, sometimes approaching C. nitens ;

C* fm A br ^ lfenth., BffMiii 5. C. divaricata, Benth., a, divaricato-ramosa, rtipolk «U* I K Mi« tllipDCM Ua L••***«• ^ «*Ut m u r r o-

floris, bracteis bracteolisque sub calyce maximis adpresse pubescentibus acutis corolla ton* C. Vrrttfffiira, Benth. in Herb. Mus. Viend. MS. non C. Dmtt, Vauthier, Pohl; 7. C. Martiana, (sp. n.), in

foHu oonfrtu oblongis mi cronatis margine recurvis discoloribus utri s dense sericeis, racemis brevibus paucifloris, bracteolis sub calyce bracteisque lanceolatis calycibusque hirsutis, oamQa. calyce parum excedente; Brasil, Martiaz, A. 1142; 8. C. 7VI»ifiwi>, (sp. n.), erecta, tota pilis longis aureo-fulvis hirsutissima, stipulis minutis subnullis, foliis sessilibus obovati s lanceolatisve obtusis acutisque ntrinque villos Uv rmcrmii lunge pedannUttia multifloris, calycis hirsutissimi laciniis inferioribus linearibus, bfiect«or» rapn mcckMi pctli.rlh bracteisque linearibus, vexillo prvtr lint-Am donttUm jjUlito mly w lu«fiorr » IHttftt Alegre, Tweedie.]

29. C. salicifolia, (Heyne l—W. ^ Am.! 1 W r. 1 p. 182.) —Wall. l Cat. n. 5359 A. Legumen bipollicare. Indian Peninsula, Heyne! Wight!

30. * . *bathmta*, ((inli,!—\V. «t Am.! Prodr. 1* p. 181.)—
WILLI Cat, n. S894. Plore* anipli.

Nilgherry hilli. V«flrt ' Wight f

31, C. *ttmtjipr** (\V, ct Am, Pmdr. t. p* 1B5.) Species a
mt rion riia.

Indian Itaiftuila, Cokmik, Wigki.

(To continued.)* p. 587

*A Tribute to Mr Jjrmorg if AUKLBKUT VO« CHAMINSO,
(especially with trftrtmc* to kii devotion to Ata«y)> by
D. F. i> . VON SCIILBL MTCMIML.*

(Translated from the (iirmtm.)

WHEN, in the yror 1824, I l*gan executing my pUn of
publishing a peridicl «ork on BoUny, ct>rt]ic t] upon
ptirry ^entific principle*, t rrcirwl much encoun^encnl
by iie pruniMd tBiittottgc »tlij co-operation of ft rery cele-
hnlrd tndivklutil, who, M « mtn of lftntin^ Was possessed
of rinowi *r, quirements in many br>fches of knowledge,
who hail tnrcUed much in distant juirU of our wrttl and
lastly, M * poet, had txwii Admitted htmng the <;vri.i«i
naliun, of which, how>ver, b« vit m>t bj- birth, a uatire.
Tlii» [w^4in wa« CiiMni«^i, ami with him 1 wu cofincctol
for numy yean; for though he vat coiuiik«ibly my acuity
in ajjr, yet our mutual luvr fur the ttUily of nature rrmletni
a* dote and intimate compariioni. Ilin vuceaaful *pocam*
harr received their due meed ot yaw, «nd his jwraontl
amiabile qualities gkitml the affection of all who knew him;
but Chamioo in his quality of a Hotaint, \m ixver obtaiind
the credit wtih he dcacrci* and ujnin m\ lhc>rt*re, diica
the pleading though mottmfo) oflk« d ctol« of recorxlitij bit
value, b thca« pagevt whirh h« aMi>t«cl to original* ami to

• In th* F_rawMniiaa «f giWirilj^ r. 4H_t f Colonial Sykes's have, by
mistake, been stated to be from the *Purjash* instead of the *Drocon*.

† "Lingua, Ein JMUMI tut dw ¹¹stanik."

fill* and from *mkiich* hit vmluabk omferibuiiom h*« been
mam withdrawn b* fyur yaw*, a» it it «o lotig * tim* since
 Chr. mi*** *dwd*, harms turrered hi% wifr hut » »hdrt period.
 It i a nwUneMy ocmiidunAltti, Uut in lit in

ptoacttabfe character and **ll-w««d &OH* of ihrir ut»**r,
 VM left M ml inKenMW!« U> hw fumly of arwii diM^M*
 much| « trU'-toMi^t Botanic He 6m
 of Genera whm M»Un»e dc SJMH kid »

In Botany and the earliest companion of his
 botanical excursions, having exhausted the immediate
 vicinity, urn wnw dut to *. I Ji^id md tkt coountry r*ikod
 Mont HM fl#m O iw^ii Iwd tU «nt fourtdntton /
 bit iwllir rUkniim of pbot«, to vfcUl N«4MT »nd other
 scientific fnrndi awi* n r Wftddkmiu m tfer miy of pre-
 sents. In tW ^nr l«lt|lht wmfytatit wi mrm.nr went
 to B«llin, tint h« nucftt tt*idy dim, and zealously joined
 the ttlnn of ruffefwi^ tiiftftig lh« Imii of natural
 science with a nrw to qualify himself for holding ultimately
 a |rofessionhi. A t thai time, the feeble state of my health
 having compelled me to relinquish the military career on
 which I MO Jin 4MMPM» I was much devoted to the study
 of luturr, tftti in 1Pl.t, I became first acquainted with Cha-
 misso and via »mt to accom fy b» m W» botanical
 excursions. Wld do I itntmhm iw i^t faAanH of
 these herborizations ; oo foot, w« M*d t set out u {ton
 long journies, «rl ic ftrn tod m .«to »*»mp« nni thickets,
 where w* vcra attwrmialy aakhtd with heavy rains and
 scorched by thi hiwlag Mnr* T»tt«v« tut* and be ready
 for an eatW moniiiif »utt, ir ofta^ «Upi on the ground,
 without any hl ter at nit for it «*» chiefly on Saturdays
 and Sundays that we made our excursions. Chamisso was
 ever the foremost, the man distinguished fa* energy of mind
 and determined perseverance among our pir*, which often

consisted of many tndtvulual*. An antique garb, once the •tote ilre*t of a Sooth Sea Chief, mi*ch worn, mended and stained, with a black cap ^j{ < lutli or velvet, a large graco box suspended by leathern itnni over hU back, and a short pipe in bu tuouth, together with a rade tobacco pouok t such wai the seti* in which he willed forth. Atid it may be •opposed that when r yenin; came an-l gur fgfanij*t waa weary, traveJ-toilcd, he did not make n very <NM1 did appear- •noewlitlr Iwunrig a jH* trt liaiilllarcltid rratunted vitji plants, he met, ou return ing to tWrhi*, IW 6nm wtomte of that capital ttll in tlrcir Sunday altiro and walking in the outskirts of the city. Mtny a good-huiEKmrod jeai did be pa** on those individualt of our party, who preferred a byc-way to th* crowiled atrertt on iuch occasion».

About thit time Chatijia»ii frequently rUited the csUte of Tot int von lurnplitx nrrar the Odr; hrrc he amposed his wcU-kuuwu romance^ u PcUr Schlrmtlilf or the Man without a Siljidow," and al*o daroted mu ch ti>c to Iwunical *ti dies, assisted hf the Comitt's s«rdea«r» Walter, and rmUivhed taw Annotations to i KftnOr* Fioia of Bet! n. Δ<|uaic plattta, especially the p«ius PuimntyHom, engroafd his mtiettkm, antl he devotad mneh tirtif to stwlying thi-tr fttmtiure. iWt a wUcf field was soon to ajwtt vpoti him, for in 1s15f he engaged to aem)mpaAy, as natnratUt, the rtpcdUictu fitted out by Count Kuumtaff and embarked at Col*tihagtn on buarU Ur ship "Rurick," that lir mii^lit circunwi*ii;iiic the globe and obutu aomi kn«>wk^lgr of tmpieal and arctic vegetation. A three pear*¹ voyag*, howetvr* evnrinood Cbamtasu that many difficuhsn and dt*apptntmenta mmM ercf attend such MfVdkkms, <jjil that th# limited afloimmpdaaio* mC a vessel, with¹ 'he patwnr ideas ll iln- c^aniatii* and ibf¹ cluuicw of acctdent» and ssany otK«r obbtade^ arr apt to defeat a nat*. ratbt'i best brtentions and outaatutirs. Chat Chamisso's energy and ma) rnabVcl him to overcome many nf thaw diasdi lagai and to araaaa a rich collectiiv, particuUrl> wherever be Isnild at seasons which ware favourable for Botany. The c «»st at Plymouth, wh<rr? bt Imtrhed soon after taila*

afforded a happy augury »« the *Centaurea nigrescens*, a
 spec *M new to the *KmjfiUh* fWu. TWir iUf «M ilwrt ft*
 Teneriffe, and thr autumnal MAMHI uitl rainy wr*Ui« r p*»*
 vented the BmiUun cdfttfU tft* *tham* of Irppiiii lifpfliiii made a
 most powerful impression on his mind, and he collected
 Wflriy, in 4*to irf *ttok ft terW of wet iya •% injured his
 specimens, curtailed his excursions and partially destroyed
 Utft paper in »fucfc h*» ftiftMto were deposited.

Nothing am br miirr vI^ r^r tuft llaUm»t iKui tbr em
 tfc» rwny M»ib bft4 fmtmiUd in Brail, the hot sun had
 Moratai «j] ftU v*iputi<m in Chili. •U-h hr reached in
 Februfcry 1816. Laatiing <m K»mt«dMtk a in June, t*«
 t b* wckcoin^ wwlMI to kM atowt if two chests of plants,
 which had collected and left
 behind; and though no particular stations were assigned to
 the vcmtl «p«WH^i^ jn tlwj were valuable as contributing
 U» iHaw ti« piiJiirtiiwii of these countries.

The iriiiYt ftttd UIMIA «f ib* seas vluck d.vuln America
 and Atia, ft**** • neb harvest and recalled to the mind of
 Chamisso those alpine meadows in Switzerland where he
 had formerly botanized; a considerable similarity existing
 both in the forms and affinities U tWtf vegetable produc-
 tions. No part of his collection was richer than this. The
 sandy shores of California, hitherto hardly known to Bot-
 anists, wore their autumnal garb and exhibited many of the
 plant MM which bars aino* bet introduced to our gardens by
 Dougl Chamisso gathered largely in the Sandwich
 Islands and the interior of O-Waihi; though the difficulty
 of conveying *i«l pnarr ving »pt«ii9cns ilnri»4 lb« TWIT
 season more northern districts. The
 group was quite completed during i-Vir longer stay* *MI ft
 second visit to the north, especially to Unalasehk fti fr*>
 duced valuable additions to the former stores.

Manilla tdaa yielded their trr-mitrçi, and an excursion in the interior of the latter iaUnd convinced our Botamst that tta luxuriant vcgctatioti it ivplrtr with iutcre»l and novel'y.

The last htrlKtrialwn that Chamitto waa ahlr to undertake during thii voyage, naa at the Cape of (joott Hope, when, acrnmpained liy \lm<ilt and Krcb*_f ltf tit-'ected several things that had mil hern remarked in thif |tart of the world. How Many rich and tenluu coaau wax he compelled to pass, how RUUIT waring paltoa vainly beckoned him to come aad «Um ine their beauties, a* the »biji bore htm away lo tea. Ar>d together with »npprei«ed wiilw?* and frail leu rrgret*, how mortifying mu often the ipectacfe, when the uhjeota which he had coUoctcd with w nmrh Ubuitr were destroyed, and hi* seal fur æwmee waa alightrd. Tlic only individual who entered at all into hi<i tunic*, though ho poaæææed not tlie laiiw cntvvy in collnotia^ waa KwltM-liolu. Iie t0o_p gathered lome plaitta and pru^ted by the liberality i/ Claa-tniatm wbo exchanged dupheate* and f^ave him ^mammu <4 whatever he could •!**. Raehadiolu himself described utoly m lew ei hi* wpmrnm** but ai be cotumuniw ed them lo uther writer*, we find hii Can* ca desi-tibed by 'C. A. Meyer and amite few D\lur phuitx here aaiti there by ditfcrent wriian.

The cipedition of tlie. It mirk wi» one «4 no comiihiu importance and expenæ^ hut tLtlil liliaiuihMO *u* uhli^wl lo pnhlMh hie eollectiuu* at hiiuvtn co*4. Returning to l'ruaaia, hit adopted oMudry, he pweeiifd tJw aohigieei and mine-raJoj cal portion to the i ai vmrtv Mu * i » at Berlin, and eututittuced arnMap«g hi« plai^a atwofdiutt ^ tbc_t places uf (rowth and attftml lwub*«; «oD «t«c<rta4ti • how he should himarf he able to lay tam W r t the w«rld. and ywt willing to lentl a btlpui^ Uitd U> t*km natofalwto, furrifncn and alto*. In the year 1>|» h* ^»r« hu H**»»culmr*+ to aw_T that I night rerntrr wore juried my tiiandbmiirrT ^<*-tanice in Hm»»ntlr€M ftm4*Mit, Thv«e new ^naafl, natives of California and I hili, rni Mwinzqfik, rudbceW/xm, and

Euzenia, were presented by him to President Nees von Esenbeck for publication in the *Monatsschrift für Botanik*, in which work already appeared, from the pens respectively his friend Einwallner and I. C. Trawli, tk *Fantfi* and U. C. F. K. hid out Uctvl 4 «m_{fi} hi* mw».

In 1811 *n hoac<rw> daplonu «r<<w th<< University of Berlin conltfnd gn bia» tite Utk of 0o<<tor «f Ituloatipfc*, •Md the min wacr t » Ah—«rii ippoilod IMO Assistant in the Ucrbn Bounanl In*ttuittm_f ftMifini NM to oaf f>rtt-

Botanical Garden. Accordingly he rrmu>.'-l Mi mmUm to tW village of Neu Schöneberg that Hi might br MI tb<< pi ^ ti_t MMI h<< began making a collection of plants, and commenced working on the plan to publish first numerous beautiful species of *Reed grass* he had brought home, illustrating those especially of the Prussian districts, with figures drawn by himself, aided by <mr mutmX bund ardt. Unhappily, the latter, who was Professor at Königsberg, and who had been zealously preparing a *Museograph* on the life, and the gmH fin^ »S>wh ttBctmiif io tU «m>m<< of 1822, destroyed Chamisso's peaceful dwelling, and the latter spared human life and his valuable collections, materially damaged many loose portions of his treasures, and induced him to quit Prussia and reside in Berlin.

Botanic Garden give him full employment, and the Royal Herbarium, founded by the minister von Altenstein on the basis of Chamisso's collections, held on an agreeable prospect of octu|mtu'u to our Botanic Herbarium » as placed under my apenal rharf* and temporarily lodged in a building tottr tlw HoUT. ic Ga rloq, wbirh •ffitrdtDf. however, no accommodation for the summer was provided. I returned daily from Berlin. Winter wottlwr or n w - m>f. vet or dry, my friend met I u*wl ngokriy to meet ^ ere rrwy »onfan<< to pur*ie our vutnimni kbuun.

Just at this time, Chamisso was ordered by Government to prepare thirty small Herbaria, for lit* por|KiM of facilitat-

ing the tturiy of Botany in vhoou, which should contain the mart known plants, both wü d or culti vatrd, itfrompiinied by a sort of explanatory uatalagw; in vhorta familiar Gramntir of Botany. Tbit Uik h« executed I and wrote a " iiUnor at the principal botanic*] products, eitMIT wUd or cuifi-vatrd, in ti e North of tirmmany, rmpmnJlr tl*r i most Jieful utd the i most nox >oiu kind* ; with iome grncffcl ttmirb on At Vrgruhie Kin^tom ; by Addb. Vt» n Ch«nua«s B<rlin, 1827." In il.is littl« work. ChtmiitM) endravuarrd io call attentiim to the more ttrilfing «a]Meota of f he vegetable world.

The beautiful C4»Mertun uf FrniM, which he had confid«4 for det»cripU<in to Prof, Knulfim of HJh% apimrrd in 1824, bttt *\ yam rUji^d from the I ime o\ our »ul*jrt-t'» return frotti hi« travtli, Ut*«rr ttir thin? mnrc than ! agments of his fliscovrici was giwn to the world. He bnged to publish than in a more ootaplete form, mid when I commenced my exrlutiwly BiUmmkmt Jv*r**U the finti, Ch»-misso •et Iti wrk iu ciirnrst On hi* pknta, that he ndght en.HmoB this opportunity oC making ti*e» kn^wn. It wu deitnt¹le to no line *U> thewe nujn«rucii ui described pi ai><t, existing in the pubfc rnilt'tiuii, «lilc*ti ① e ft tivity; fof8eUow in the Br««*IN and of Mutidt and Hrr^iuv it the t*a|w, had detected . and to these, together with Chftwiiw/a •discov (me« ft tetics of p*t. rs in the Linitma wa» Uerute*¹, whi rein *• strove to define the ipreimci i before UA and to jpr« Kf nrrai remar\s vijMiti 1 ;i ni, uit}j (KdUOlljJ Uustrations by plal*¹-. TIIM* tin¹ ii n' vtii pjaiiti »rrr ttfrrty *cl1 drHnrdr ftIKi jwib-lished, except t-« graoaei and (*jfenmr*.

The fortLMT h«4 hern grt«a by CII«AI««O to bit friend Triuiui, that wddblif^i* hbovrvr m this drpnrment t f Botany, and tb* other p«t M iir had r%erved (bff hu own illustration, but ;ost at th» period. tU firr. M already IOMK tion«d, put all iis work inti disorderT; many of \is specimens w«re lot! in the hurry and confusic, n atlmdanf cm that misfortune, and worst of all, hi* tnrti KyvMtnhartJt W«A r*» longer living 4 to aid Kim, au »««(! ll-»-v •• re laid by for awhile

and then the appemacc of M. Mcpr"* work forestalled many of Cham njRVi diaooveriea. For HHH! of the *Carices* in Eschscholz's collection having been imparted to Meyer, that author naturally puhlahcd the new tfictft**; and although Chamiaao't ejection m still inotr | : rtmin and t eagerly proffered my aid tn dtamibing them, and he actually had commenced the work, yirt, ju*t at this conjuncture, my removal to Halle prwd the unfortntiatii cattac of the task being finally aband*ned. So, likewise, pa*—d *ut of his own possession thr beautiful outline* and analw* which Chamisso's hat>A had luadr of th« *Carices and Eriophora*; accompanied hy dnenptioft*, d n n «p from numerous specimens. Still, much > that in ww and valuable has been made known in rariom wayvt Lessing having published all the *Con <pomt+, Bfttithxm the Labiate, Schiede the Lince, De Gingins the Viole and Ernst Meyer the Jusel. In the heautiinl mafH^ra/dl by Count Straberg, Chamisso's Sazifreyt* ftnd ci plicr, J* d, si MJT their dIKtiTttrr bad withdrawn from 01 botanicfil Ut»oun, hi« &<fmmim*p+ bar e been described by Vogli-1 in the Linca and his J?rir# by Klotzsch. Thus we mm bow frady the tivaaurat * Inch tl this eminent botanist and traveller was enabled to collect have been imparted by hnn, v b ni w p» thoQa^hi a yovs **. •flwl be made of Ihrin. UppiU tk-, oU* *p4rit o* bWr%fcty is gaining ground among I^>tattnt»>nd ««pm«B«f Ok* aaimw minded svarice with vihtch atttmlbfei WM « tm» apt to krrj> U> themselves every thin 1 bat thir cipiaicnw a»d iaymi o» »<ww. A nimilar dh>puallioii *a» etweed by ChMBta*ok when br pt^» •tinted to the Royal h'rrharwn a ifurinwu of wmy thinf he lmd QOA ted, § anne ur; ihu cvnditHHi to the aali of bia plant• after hit droaaa*, thai the pufrliaafr iboild be obliged to do the same by a !1 *urh apatMt M ««rt •not already determined and pobttabid. Urrai, tuo, waa the wtwwt which he felt in the proiptrity of tht liiaaaa; b» aid*d H by hti own frequent cantttbttoni and ahn by the Hill |reater and more unpleasing tamk of ctMrcctiitg the printed ihcttii which waa a truly laborioIA IMiniwaa. and be Urihcr promotef iu suc-*

cess by inciting that every prrtun to whom he gave planU for descriptive it should print Uurir eaaayii in thin publication* The [wrocl» from Schicdc he awtialed in ditributiig atid desrrihiti^ and the MUM by Hie collection of Kriiun «high mlmt tpticared in tho*t p*gc»-

Want, nf I'lmmiWi botanic*! work* were executed while in ray company, u we tat and worked ojjjKwute to each other at one table, examining and determining and consulting about the pmgret* of o*r klxnrtr* He either buUniaed wbUe he walked by th« path tbal louU from th« city j^tr» to Schöneberg, • r rev »lved in lii» mind %omc poetn, which)m speedily committed I to |*p*f on critcng t)ie Souie, NO tliat 1 was frequently pmdrKcd to l>tctHDe tht* firii. <1positi*fy of his flefaiit iduu; and a* m friend bud nut enjoyed t'tone advantage of early eiumtium and HM* II *ading \hwfa te«d t • iin|Mrt I me* in one's own |«i*rfi, au he¹ wai peculiarly glad to a«k advtee aad be thattkfuUy recr u How «rll» Ita«rm_t niiminn n* able bo »Und akmc and to work unaidedf beoaaa evident, by hit eaiayt on many groups of pUrit* »birh k* vMnMnoed «ad oxupJ^ed »-ithout any help<,il i f>eriod WIMTU severe sickness o Mijjetl me |t<<discontin»% my liter* i occup ab*cnt ad to my self frequently from the Royul Herltarium whirl* ii situated at ha)fa«tut)d distance from ihc city jjairi. H » much to be wUhrd that ri.tnni>Ki> had been m*nr dintnutfu! of bit bodily |H)W4n_t nut rukiiiy Uii Ueallh by incewant ct[H^«urv U* nkn wind, and ftiidu, utilth OaUMtd liim to contract severe colds, •m] I thought on in 1833 a liaiJ cough, from which lie never ititinly NMSth red, but » high finally caused his death.

Though no tatls or bftdgr u/ boiMjef wat r onf>red n tbi* celebrated botanist, •ad only *o itktuu*|ucwiu* Wling plant among the *Amaranthacee*, JcaciLbtd by bu (Hend Kunlh. bears his name, yet he will lo«f he remembered as an enterprising traveller; wt imluatium butania and »ti author possessed of much mid vahud ability in different dtpartatnte of literature and scienc

Smith AitrtHa, by W. J. II.

(TAB, XIII, XIV. XV.)

BACTERIA, ftr.M\$î.

Horn hcrsuphtwitt. Prrumtkmm hexaphyllum, cartilagineum, sepalis equalibus lanceolato-subulatis, basin versus constrictis **quit trtkrubiis, jubbtfttridibu***, nempe tribus magis interioribus. *Stamina* 6, persistentia, sepalis inserta: *Filamenta* subulata, cornea, **•nn^i ntttHl nmwliutit rificia ct cum** eo decurrentia: *Antheræ* lineares, **Ri>gu<t> bad** affixæ, **d** loculares, longitudinaliter dehiscentes. *Ovarium* 1. *Stylus* 1. longissimus, **•ubukto-a«Mhtk_v Hjpdtu, tcut*** trigonus, persistens. *Stigma* acutum. *Capsula* coriaceo-centilaginea, obovata, subsexangularis, **«vpcn»** truncata, stylo longo persistente terminata, 3-locularis, 3-valvis, valvis septifragis bipartitis, **locutU mono«pcnni***. **basi** separabile. *Semina* globosa **ad buiti Urtulotwa ut** videtur affixa.—*Planta in oram meridionali-occidentalem Australiæ indigena, acaulis. Radix crassa, fibris grossis paucis emittens, superne multiceps. Folia radicalia longistima, bi-tripedalia, 2-3 lineas lata, lineari-subulata, cartilaginea, rigida, pungentia, arcte striata, intus canaliculata, dorso sub-carinata; basi eximie dilatata, duas uncias lata, membranacea, pallida. Flores magni, folio mm* **consis, 'm/M.** *etiam magis rigidi, solitarii, in ramis brevibus axillaribus bracteatis terminales; bracteis numerosis foliiformibus imbricatis, 2-4 uncias longis.*

Bacteria australis. (TAB. XIII. XIV. XV.)

Drummond, n. 34.

My **tint itifctmtioa respertinf Urn rcrairk*bk** plant, was in a letter received from James Drummond, dated "King George's Sound, October 15th 1840," extracts from which **h** **mt Ktnm in ilie lint |'ol. of this timum*, p. HO. • Hem** said Mr. Drummond, I met **«illi Mr. Pwi., WHI m* |mv***

licen huCmiiiing tngcthr, and have found a remarkabk plant belonging (y *Aq>kodetbm_f* so nearly allied (in general appearance, and especially in the foliage) to *XwUhorrh^h* that I at first thought it is one of that getrai. The *ae*d-**t*el* and *reed**, however, which are situated in the axilla* of the *Iwwr* k-avrf allowed us our miitaUc. This plant is common in the neighbourhood of King Cfeofgt'a Soond, about the Settlement*, and fruit the luronaptcucu* (or *rcucMtled*) nature of the *in* *ilnreeceiK**, has doubtless been overlooked as a cucurbitif not in flower. The style which remains on some of the green *eoed-vwaada*, *t** full 2 inches high and triangular at the base. You know the young of the *il^vrera*, as the *ataaqo* for them WM entirely paat."

*8*iu>a* *aeed-Tf*>dM* accomjiauitd (the Utter) but the *aeeda* were idiuidatdy *wiwi*, without any *AUttntt* *erarrtinationD_t* *AIUI* they failed to *gi* *rain* etc. A few months after the specimens arrived: but the *ae*, as described by Mr. Drummond, *exhil>* it is *>lowcti_#* *amli* what is worse, the *capauk** are all bunt, and *tUa* *acnU* *Kan* in every instance *eoaopedt* even *l>* *tlai*c* *capiuka* with the *rnlire* *>tyl<* *rwnatning^* and **!><<<* the *ljumiir.<* appeared to be *b<t* partial. From *<nbc* *apectaena* it is *ruffht* *apfi<* *ar* *praiumptuotia* to *ropreaont* anything *bka* *6owen* in the accompanying plate; but it will be seen, from the *bar*)j* and rigid character of the floral *i-uvlope**, and the *vrn* of the (*iUroruu* of the *ftUinrna*, which are perfectly hard and *liarny* that they have undergone little or no *vh&itge*, *am* *>aaalng* to the state of over-mature fruit; the *<* *cry* *urary* and *<ttlc* *main* their perfect form in *acvend* instances, as *ju>t* *ttiacrvfi*. even *alW* the *eacapt* of the *ateda*.

U_f>un *ahowinf* these *apedaarna* to Mr. *ilrown*, that " *Bo-tattii-^runi* *itrinevpe¹** *itoinrduUfly* *rrnqapiard* *tnftn* as a plant which he had received from Mr. *WiJhani* *B*n* *rr.* and which it is *hit* *wiah*, on *6ndinc* it to be a new *fenut*, to *dedicate* to its *original* *diacoT<n?f*. And *aurety* when *U_r* *Ubutara* of Mr. *Mailer* in *tin?* *rtpoa** *wharf* *ihu* *plant* *t>* a *daftilnn*, *an* *conaidered*, no name can be *m<r<* *tuitahlT* ***** *to* *"o* **** *markable* a plant, I *adupt* it with the *^rc<t<* *at* *pkaturt*, *anal* only *tr&vt* that I cannot *>w* the *medium* *a(* *making* *known*

to the public the generic distinctions* of the illustrious author and his views of iU irlimti-*; |ji rttptird to whttb -* will be seen lh»t Mr, Drcunmood n4cn if, in 41 pfbUWI ty on •ocowU of the Ttumbkncv thJ foliage bran, to Xanthor-rhaea, to ApUfWn*. At far w my imperfect JJWM*!*** will allow me to form in opinion; 1 should bo nth«r di»-poved to nf«r it to *J finer**: A mainly, however, I must confess, on account of the gtiunftceotu of t»Ui*r homy i*»n<*-.* *'' the penutOi. ^

Barring the absence of flowers and seeds our specimens are in a T«ty ipwd «*!«.-Tb* root i» •>»«, b«t «»***. oblique, and may almost be called a rhizoma, from the sides of which descend many coarse fibres: simple, and about as thick •« ft tvwt'i quill. Tht mmwut of dw not dWklrt ttn several hiMtW, each of which U « dmw dartw of k«tM* tn outer one* ihort^ S-6 iocsw in to**, th»* mnrr oni*f «*- feet long; thej* MV ftU UnfU^ttbtM*, v>M» dry, of a dingy green colour. MI K»r« «i<^> *»^y ttrUt*rf. nunl. flfefcf taccous, pungent, cnmnelkd on th« iwvr »wfic«, tti^tly k ^ W «•

* Since the above »» rcmt^, Mr. Brtmi •». h^t tU kindness to l»U« U my hands his distinguishing characters and remarks, as follows.

BACTERIA.

Char. Gen. PERIANTHIUM scirpoides, regulari, filiformi, persistens. STAMINA sex (ipsis basiibus dilatatis coherentibus foliolorum perianthii inserta: Antheris basi affixa.

OTABUM trilobulari, loculis monospermis. Stylus 1. Stigma tridentatum.

CAPSULA trilobulari (demum) sexvalvis: valvis a septis invicem in columbam trigonam coherentibus dissidentes.

SEMIN adscenden: —otum.

Planta, subcaulis, radicibus fasciculatis.

Folia linearis acuta elongata (pedalis-sesquipedalis), planiuscula, nervis striata, rigida, glaberrima, basiibus dilatatis menbranosis-scuriosis multiseriatis.

Floris pedunculis lateralibus brevissimis terminantes, multifloris: Bracteam imbricata foliaceam a basi dilatata ovali-concava basi-subulata perianthium via aequales.

Orn. Affinites. Kingia, Dasypogon, Calcectasia, Xerotes et Bacteria Tribum Juncearum Novae Hollandiae propriam efformant.—Brown, MSS.

Bacteria australis.

All oras austro-occidentales Novae Hollandiae prope King George's Sound. *Char. Gen.:* Baxter.

the bark, theectgc* tcarccly rough ; the bajwf arr remarkably dilated IO M to be 2 inches or morr hroad, ckw*ly imbricated, tncmbnutaccuuj xtruiicd. |v»lc brown, Frwm the aii« of several of the uuter of these leaves, an%ce nuuierous abort stalk* or branches, dowdy covered with imbricated bradeaa res MTihiii^ the leave*, but only t<8 uuh»« W^g, F*»* broad bases bearing a I art* proportion la the tubulate bbdrr ; and each of thru? iLatka or braitchea bearing a ain^W very Urge fl(i%rc)t longer than the upper bractau* The |K*-i*uiit i« of li MilmUte- Mpala, aa above d«acrthed. The** and th• ttantent and »ty?c areni iv remain till the fruit 1* tjutte mature, and iiidci-d I «ng alliTp except that, when the tiirwr double valve* of the captule are bum open, they terMraje from the upper port o; the s tyle? or only carry away the bam of that organ. There is a peculiarity in the endotarp, which ia &rm and liitrny, and which ieparatm frotn th« baae, apparently r»la*»i-cmily, afidnmauia attached to th« apex of the valve** When these nlvet are fully r.xpaydnl, the three pUoi of the dissepinwrit an mcru in thi cent t, m ahowtt at TAB. XV, /. 6. and the point of attachment of the «*da, M it would appear, i» at the ha*e of each cell.

REFERENCES TO 'IHK PLA'IES.

T#a. Mil. XIV. Ilutrru aMUiiliti mi, m»i WM <d th# longer leaves cut away ; and showing, among the outer leaves, the copious bract IMtarf flowering, or rather fruiting peduncles.

TAB XV. A / 1. Flowering bracteated peduncle, f. 2. Flower renoinl imm IU Ummtm, / J, fnut bdbn tW fuU bursting ; but which M at the same time probably a representation of the pistil. f. 4. Sepal, or leaf of the perianth. with its stamens. f. 5. Capsule burst. f. 6. The same, the valves more expanded, and exhibiting the dissepinments of the cells, from which the valves are detached, and showing the separation of the endocarp of the valves from the base :—all, nat. size.

Figure and brief description of CASTANEA ciiiYM>r*ii»LA ; by W. J. H.

(H200000—100000)

Of the few species of Vhntmti thai are known to «*, the

majority tr« i* tlm of tfi<s **Eart Indie*** or the Indian Archipelago. The well known tree &mt, *Csdmm* V< scs, jJ habits the South of Europe, **tad** author* fam d«rib«* to the Lmted **Stun** of Amerkt, U* C. **^Mrfcmf**, «»n**7 differing from the Kunipeui «|*ot« * •»<* C *pmwtl**, >J very distinct miid **littidwMM** tpwrw*. But it w« the pood «M«P* of Mr. Dnid DougUi to dweowr, m North-western *merica, a new ffpecie*, vbirh in the bc*ulf U iu evergreen foliage fur ? v<>nds Mxy hitherto known t» t"» an J which it is the obj«l «f tliif MAIM to iUtufntc with ft figure.

Castanea chrysophylla, Dougl. nat.; *foliis sempervirentibus lato-lanceolatis coriaceis acuminatis integerrimis glabris subtus aureo-farinosia.* (TAB. XVI.) *Hook. Bar. Am. n. 5. p. IM>*,

IKM Com mm» qn the Grand Ila; ids of the Columbia, **Upe OHVird** aa4 MAT M Mount Hood; N. W. America; **Utl** antly **tftbafactifi Utt hill**». *Douglas.*

Mr. **I tottgiai tpdhe uf thi** «| a tree of great beauty, varying in hei... The branches are clothed with persistent evergreen leaves, 4-5 inches long, full and bright green colour above, below, the younger ones especially, covered with a minute farinaceous or powdery substance, of a rich and full golden yellow colour, in age, however, becoming rusty, somewhat brown, quite entire. From the axils of the leaves arise the catkins, of which I have only seen a few in flower. These are scarcely 2 inches long, including the peduncle. Sometimes all the flowers on a catkin appear to be **m*lc# MMI •lawatiww tfat W*** or **tLn ^ ur mow**, |,rar, ones **ire Inntnic** The **bttrr «r** succed.)fil by a few clustered fruit i, which in my ***K-r jiuurH *i** e immature, **m j j j ^**, is or- i)ifMry-*ix*(t niafbles, *hjn* <lently clothed with **tttUier** long **ttnight copkiui prioUm**.

I am the « «Ofe«niioi« to direct htUnlwn to ihu pU... for there it ft good i^ioA to WUeir*, fro*... would pro« penectly h«n)y in r(lw fl^... ^^ be- <mo*e it ht» b««i my ^_K1 forttm^ under the liberal patronage of the Governor and Directors of the Hudson's B»v Com **paoy**, u, unite «ith Ute **V*^ ot Derby i**, sending

out an ibfo collector, (Mr, Burke) to North-wcttem America
ami California, through whom we have every proipct of
seeing thin **tpkndid** tree introduced to our own pleasure-
ground_x and jllantatio lift.

TAB. XVI, A fruiting » peri men of *Caxta*ra chrysophylla*,
•nd * flowering ctkiti *t—mt» size.*

Dn cr'u /nrwffjitrirt of \>tt \v trim from Sr> /Cm Jand;
by W. J, II.*

(With a PUUSTA n. X V U J

Tlic ^cnui *Drapet**, of the order *Th§nelea*, w»« fin-nded
by Labarek, up m ft »*lit»ry »pecte« dcLcdltl hy Commerson
in the Strait* of M-i.^rlliwu, »rul tmmrtl liy him *l)rnpr<es
mttMosa*. The Mntr plftnt Wfi found by IVL'rvittf on the
high est poi fit of Muin t <hätellux L tli« KMIMMUI Islands. I
Imvc ttrefitl^t in hjiesluiu^ of u nrw *Calceolaria* uf New
Zealand (leouc* IfmUruui, TUI, A, TAM. 1)1 I), hut occa-
sion bo ub«erre au ftfii i i tJw; vefrtutioii of that country
to thai irftlic more temperate (rtrU of South Vm^rioi, t**f-
ticularly ia tJie Mwtemv of n rlain grnnei which hnl |»ro-
viously been tuppoKd to be puctilUr to the extratropical
portion uf tlc>c urtut South American Continent U The disco-
very of a DPW *terapttt** in New ZcaUnd icnre* to tirvngthea
Hull ftAnitr. I fat received he4ttttfni ijwtmrjii of this
sp«ctc« Ihft wrtr gathered Uy |>r. Dirffcitbpeh^ on the lammit
of Mount E^RMMit, and 1 hud tta MM in ft collctioo uf
pUnti Iindly ^iv^ n me by Mr. Bidwill fmm thr summit of
Totifmrim, moother high mountain of ||ie Northern lfUnd of
New /caltrut. 1 lure the plcmv* to nunc thi« »fter its firtt

repente
rant*issimo, f'ulii* ilenM imbricatis linearic' m t obtUis apice
tis, flori KW Wviuime | pedicellatis foliis immersis, peri-
anthiu lluce «quftiuitu, perfioeUU onrii »que »|H« Uriwtu.
(TAP. XVII.)

'UP, High mountain* of tin Northern UUiul, New

anrn,

Zealand; Mount Bgmont, JV, *Di^fmUm/k*. Tongam
mtrtM, T f

Dtaca* Ttiia forim a mail Vow procumbent shrub, scand-
bt^ out fibrtHtt ruou from btnaath ; bakm w*y wood y, about
the tbipfcutai of a OTOTA ijinll and bar* of leaves* but marked
with tli* ac*r» of fallen «a% Bnaefcci very numerous,
a awn ding, clothed with muawma» drnarit imbricated oppo-
•ale tsmall lcaT«a, which aft linn>r. ubt«ae, pUrw alii* ve, con-
nx beneath, lb« martini riliatnt and \k> point it t<fmina ted
bjr ft Uih of bain. Tb* flim«n are minute* ajgrtfated at the
ap«m and alma* wholly imtMenrd in the ttrmtiwl leaves.
rc«iic«U abort, very h*iry at the top what* it is art
IVrtanth, v with t'« tab* awoititi bei ow, cont ract*4 above;
Ute limb <f kMir apfa*4iftj broadly tfvti* acfa»ci>' slightly
ciliated at tb« marfi«». At Ih* moiith of th* tuhe and oppo-
ait* th* tafmrrtu are 4 obtoa*. abort toalM. Stamens 4,

«rrtcil «1 th* month of tbe UW and ali^mata «ah the
HBlai wn& IIM lube* of the periai •• patftinlar, 1
bd»vc. it d.ffrn from all tb* othrr 7%ymttrwt for they,
wbrn the almmcia arc c^ttal in tiunbcr wtlb tb* segments,
or iwtt, a» - • k
equal in length with the lobes or segments of the perianth.

Antlers subglobose. Germen oval, one-celled, one-ovuled,
bearded at the apex and tipped with the style which is longer
than

Fruit mucumen-
taceous, ovate, crowned *iifc ih* baafd «« \t& of bail, one-
seeded. Seed sus f r i . «bmif . Albumen fleshy. Em-
bryo intmrf*edt th* radirk dittrtni Ui I be hilum.

»» T bu KVII. t>r#f*(*a Dic imUt hii ; ML •?* se, f. 1. flower,
open, f. 2. fruit laid open, f. 3. fruit laid open, f. 4. fruit laid open, f. 5.

1 fL the «aiMe laid i / . H. fruit laid open,/. 4, w d ^ /
t an Umtugh wriicailf,/. <L Kmbrnu mmrttrf frnm the
I, / 7. upper, ant]/ I, undrtf at*!c uf a leal :

Figure and Description of a new *tftfirt qfA* RAUCARIA, from
Morton Bay, New Holland, detected by J. I. BIDWILL, Esq.
(With a Figure.—TAB. XV in. a IX.)

Perhaps of all fona4 trees, certalnly it allttePm* tribe,

none ha* netted *o mich mtrrr.t atnmtg boUnisU and cultivators u ih* asvral %|*cir*uf *Amururiu*, whether their rait fixe bccoiuideml, the aingularity of their branche* and foliage, •tiff and rigit indeed in icwe, hut graceful aluwat aa ostrich feather* in other, (especially the *A. .+Mtrim*)_t or th* circumsta ic« vf their inhabiting only the southern hemi»* phere; each kind being continad to oartain and rather rr»- tricted litniu. 'The tint that wi» IUKTWH 1*1 Eunptiana wac the *A. im*ric*t*», «r *Jmrpk #****>* or Chill *Pm**_t which rears ita l«>liy •ammit to a height uf IJ<> *fat au* along the mountain* of Southern Chili, only in the interior, and *U* it appears only on the vouthcru tlojjea of ibe Aitdea, ao re* moir firOPJ auy »iilleta*tit that I nc*i?r tact with * traveller who tiad aeen the trea in iu native fi>re«t«, nor h«ar<l of any thait imi! IHTM *o privile c^ccl. tava Ktiir. ant) l'^ron who lint described it, and th« afcompi shed German naturalist, Dr. Pöppig, v\itt*r hit bly iUrtt*ttmt aoDMI*t M thi* tnM- I hava given u% th* fij%t wlaaaw oi tkw *. Cjaipafiiwa •o the Bola- nical Magazine," p. 357. MS« to waafp I aaaat refrcr triy naoara* The excellent Menzies had the honour of introducing this noble tree to Europe in a livin fz%i*u. *Thm* aarft aaadi are cat*en not only by the a ti»m«»i but 1'y the dfmnUb Aawrkinna at V«tpa- raino; :iu*! it vu at the table of thr Gove mured that capita) or of aoma uHiriil i-hamrtrr, that Mr, Mnttaca wma atruck with thair appearanot, at tboar of tome new Pine, and raqaaat- «d permiaaiOffl to tak« aowe with him, Thcce he planted ia 175 «> on board Capiatit VMM uaver' • ^h»|», and five young plat.U mcrm narad and hrou^ht W the It-vj CJardMw o/ Kc*. There they Atmriahwt, aad all, h%x oa a ^ ka*« b«cat vrc« * way (the last in lfti) to bar pr«a«mt *l.j esty, (l«r*n Viduna, for the pieaaniv ground* al Wu..i» or); and tbat fnauiinf ia at octoa tha pride mid or tvattwaft of thi» *»tahli»h*arnt. and luu fut the third Anwr borru* ooMa, but wtudi laiiaa ta vf hate attained to a large w e, for want of imU« flv««ra, bam provecl abc^rtin aiul imperfect. To us this sp>«^aa* is the more Importanu a* hcittg th« only uuc tin t proves sufficiently hardy to !>car th* winter* of our dimat<, and hithert> ih* ae»^re>t frg*ta have Uonr it»»o injury; «w| aaadw t*Tr been

imported and reared, *» U well known, by our nurserymen to « great extent, so that plant» which a few year* ago, could only be had, m d with difficulty, at from tw to f** gvii each, nay now b« had fur lea than thai numtwf of shil- li»»»•

i Lowly allied iw A, mhrirvtn, and foe a ton* "ime con- for indfld with il, ti another S» South American species, but wholly omned • the eastern afck. H d I believe only in the far interior mountain*, of Brazil, in a mwb motv northern latitude than the totmn, md vmm^tmCif 1*« hardy; this was at length distinguished by Richard, by the name of ii. Bntri/im. It u morr Ut and tfmvdinc m tta K»brt and the more graceful tr*r qf the two. Tbry art however both of them ftiaaraabk far » be graat »w> »t thc4r d* ktr, the «rtUmt rrmotw! fntn U^ atMa* farm so characteristi • t/t t |fl • j • " T *H toe i ••+ytT0, The only other species hith tr%Q known to ua» fffmiit *• very different ap- paaranee frt*w the fec^tiwr far* and «ao of the leive^ more resembling tho*c of fame Jmmapm; IU y are ike /Inw curia ••••• inhabit i w HHIJ different part of t St world fro* tkojt rtfw noticed.

TL. first of Own, naivety A. canifca, tt a diate very for which «r* «fv iniWitaJ to Caj»aw» Coot<'s second •vja^r. On apniuathii% Nnctfvk l^knd the oAr% • observed a gigantic tree, rearing its huge trunk frequently to a height of 40 or (W iVet, Hkc a batatas e<fci—t below the branches. This prove tl to be a new ^liwvrM. tWutfti at first named, by Forster, Cwprtwm* mhmuv; it m then «flubd fljwlpft excelsa by L VIMM rt. 'iftfwrttTM r#ctiMt in AitriTi'o Hurtm Kewensis, Jnil <<Jilmn_t ti*l*am httrrojAyll* of S«iiU>ury, Altingia excelsa, Don mit, by l«budun ia hi* •• Uotu a Bri- tannicus," hut again restored to Armnmrww in I»u4 - Aftarrtom Hiiuiiikmm/1 Of thw majestic tire, 1 ind a rtry ii iug aocout.t in the Bou»ir«I MH8. of it y frie «i Mr, Jwn« rWkhwiat^ IK>W I^UM, ,,*. - xhi* stately t t « h«ure to the Nonray 54!^^, |but it, braiidW* are in nwkre dtitant ^horU, ami uattally about five in a *U*ml Th. younc bteral btmnehHi art deddwma, cc at fetal ib*y

ftll offTm grm» Humbert. Some of the *M iron* growing in wood* arc 150 feet high, and a few an about 200 f«U Tlw trunk* of three on Mount Pitt, Miplk I»Und, measu rrd J»» £7, and 29| fret in circumfctncn, at I t • t up. The two lip* of the scales of the cone become united "»d form ft lig- Ream oc/fving to Lho v>cdH; Htemd t^ thin n A ftethT* terebinth- tceous coat, containing a milky ruiutnit juice; the cone rc>ctnble» a globular pine apphr in form, iund has the aealet deciduum. L«rge qusuxities of reain, likrr frmL- inome, are exuded froin inci*ioni in tbr bariu Tlie (toil or U u*ful for i ii*i4l« wofk, but it *oon]>cnl»m when tfcpoi to the wiraTher, c>pc' mljr wpoita in th« grouiirl. Tbl knot formed by the largrr liinha of old tret* w) ich loM in some measure their regularity of form, art «lo»e grainnl, and afford handsome uwterial lor turning ftttl inUjing. Under tlw bark oI dead trr«a gmba of certain b«etl«« fetid in great quanlittea, nuking a noia« in jpwvitig llicir wnj hi wow trtr* that Uive not tong In en felled, lile * *)tuwrr of rum. Thaae aflord fo>d iw» Phillip UUud.uunliu-liw well «a on Ne M*ikn atkd Norfolk I&hwd*! down to tye muguia of i he cliffs, where the sea •otuetimea hrctka^ tn«*e Irwi abound with « unglar¹ bird of thi« pamit tnlic, with lung mandibles, and luring aAM re- •cmhianre to a hawk. Tliu bird it ca>itr tupturwl, ajul is not in i* found on Norfolk 1«Undp but may havr beco d<>* iniffd there* In tlicr wuoda tlc Norfolk Inland Pine hnvers a hundred feet aborc ilw tit her tree*; it ii not to lufty in the •ttallrr dump* on the o|ien hilU, nor when Military. Trca* of thU »p*rir* pUntoti in Sydney fir*! produwd f«me« in 1837."

A very interes•ing Rroup of thcaw tree* i» rqrtaent«d no a plat* by Mr Barkhouat in hi» eicdknt "Narrative of • vifit to the AimnUu,^M n colonie v

An i i w w w * pod dm) mcmbJIng iht« at first sight and suppo•ed to be flu? tame, wt* atcn by Htr Jinrph BauVi anl Dr. Sclatidrron the cut emit of Nev, ||,|!,;al. in Cook's ftnt royafi m 1770, and »u naturally Mipptfd to iw the same species with that rumined on, N.ifiotk l«Und i but it

was left to Ur. Allan Cunningham to detect the differences, and I to «wl bom* specimen n* •* well k livir.f pfcttta »• <*. Royal Geographical Society, uml HI wJiHi tto ftMbtuf ^ mr « ni **.>• *Ht*gk4HBn* w*% ^rrn wt MT. Alton, f fnni if» nbtflloi^'^ *™ the Umtr of Moreton Bay HUT. it >iu br#n rslkti t the "M tariWI Bay Pine;" IMHI is by twit means 11 to that «W "It occupies a space of 100 miles between the parallels of 14° and 29½° on the eastern coast of New South Wales.

Itttfac to a brqr> of from 100 to 150 feet, with » cwifc of from U to |« Cwt. tttffl m clr*r trunk «^ *0 feet. It is to ^iM «f • than OiiMiDJ irtm iW I liver > '***»• tude 28° and to the extent of 80 miles inland; but the trees are thctv w ^ fr t n i l y MMM, mtd ftwffccr IHIWHI tiny cotjrrij fBnjHMBV- M^ IB^OBnini_T Utmfiwtt_t IB vrMVktIV OH IBS H>kt_t Wtl.in I) influence of th* Mi ft; r."

As *Araucaria* «liffr rcntarUhiy in tftctfir lolhf* if«In Ukmf of thfl NffW World. It was therefore with no small degree of pleasure thmt ibr Lnww Socwtf cvobtd • | n w i cation from J. T. Bid«ill* &WJ, tktft ra*4aH «t Hj^wy, |<ving an account of the interior from distinguished from the Chili Pine. A specimen of a branch with foliage the communication, and • state- mri that the seeds of this Pin « • « extensively collected by the natives above Moreton Bay and used MitMMI, hi g roper which Mr. Bidwill subsequently made to Moreton Bay, he resolved to visit the locality of this remarkable tree himself, and in tWwumtr •/ 11M present year (1843) he has brought to Eng UI not only branches and cones and male flowers, but also a healthy young living plant. This noble tree I propose to dedicate to tu d i m m w, who b »«t o«>f a successful cultivator of plants in his garden Sydney, but who htt brt-n tlw means of making many novel plants of Australia, and more especially of New Zealand.

ARAUCARIA **Biowim*** Hook.;

Foliis patentibus (IVAtis {HltlgVt»tm»CUIMliil tis deaurum '».*
 insig literiitUuti*i. i mentii turaimus in ramulis propriis later-
 alib» it hirviiiut armftit offc it^ W bom maxii nis, squamis
 kit* late aUto thkuiu bt-Ub atis 4FM> ua> nin w.i apice
 numirmto iw&no, irt||W< ttCutv b^moft. (I ih. X.J

HALL. M Hi it KlndMa« rtui^v Bfh»tt», 7*¹ unUt, N. W. of
 lloreton Il.y, Au itnba. J. T. Oirfwitf, Km q,

A Ircr« iigCTwJinf tu Mr. II dwill's No Ur», Mgr^wir* from
 KM) to ISO feet high. with * remarkably >• tout tr «nk, which
 scarcely I^HTt lor on* huf* ot it« hrigUt tirom Ilie base,
 covered with a »tuiMilln#li ljUck Ijiir'h. DcaJ Ijfmnciira tim*
 meuce at a)»mt half way, and oonliiue nearly to Uie m
 where the ii ving brand«rf am atcn prutluch aU>ut sixteen in
 • whorl, the laffcct of them ne 1 ij itiuh h\ > diameter, IS
 feet long; bmahtite dirtirhgo* I(foat long; these living
 branches are densely crowded together, occupying in adult
 trccat not 1-3 nLp art of the wh «kt L eight of the pUati ;but
 this wogtd not b» tW ca—, gproliaty. if th ^ t n v g f c w w t l *
 open ootttt ry); H, p adwr vorti- in tl * <<*.•• wbidi I l l
 the opportunity of e
 except on those rromition which rise above the surrounding
 forest, and they fa • in * very obtatc outikal 01 almost hemi-
 spheric il b*»tl/* [HtrfmiL] Lmvca patmt, avtm times al-
 most M»ii ding out at ngbt Miftw, ipinllf *nw^cd <*i all
 sides, i>v»U jMJiitfrtity •cuuuatff, Wi rmarkn(>l)- hofd »-i
 "firm texture, *liuliUf oottttw ftbov^t m U the convex be imtth
 «nd marked or ipmwtil gMMNftUjr wuii two !••»•• ^»«n t
 close a rromion of the base of the tree, the leaves are
 green, glossy, when seen under a microscope beautifully
 it r»tiif» mttM I AMM I W u 1Mb, W m.^iK>aU)r 1 i*«ve
 inches long
 on some of the youg and more
 or less secund. In tin? jruuttger im! term n«i UamJw* the
 leaves are rather crowded. cat seen it rromion of the base
 of the base may be observed, especially at the u

side; but in proportion as the branch enlarges by its growth the base of the leaf becomes more and more dilated so remarkably so, that the diameter of the dilated base is equal to the length of the leaf, and takes a transversely hexagonal form, bounded by a white line, which separates it from the surrounding leaves, as is shewn in the lower part of our manuscript. Thus on the older branches, the leaves resemble a series of flattened hexagonal scales, with a leafy spine projecting from the centre. The cones are produced on the topmost limb as close to the central stem, rarely more than ten or twelve in number, varying greatly in size and in form, from spheroidal to pear-shaped, the narrow part downwards and oval. In my specimens the form of the cone is nearly oval, or approaching to globose, flattened at both ends, about 7 inches long and 3 broad, it is upright and seated on a short leafy branchlet arising from a branch of the main branch. It is composed of a number of very large scales loosely compacted, and inserted upon a central column or receptacle. These scales are all spreading, the majority of them nearly horizontal, about 4 inches long and 3 broad. When lying in their natural position they present each a flattened face to the spectator, tapering to an edge or wing at each side; and toward the anterior edge or apex an acuminate and recurved point appears, and these collected reflexed points are so stiff and pungent that the fruit is hard as a perfect state, even when it is green on the hands. Above this seems to be another smaller scale; when the scales are separated, this upper one is found incorporated with the lower, or, in other words is a duplication of the scale itself, and may be accounted for by considering the leaf as a leaf, of which the upper base is still more dilated or prolonged than in the leaves of the tree, and that base folded down upon the upper part of its own leaf. Be that as it may, these two scales, or lips, as they are shewn in our manuscript, soon become conjoined into one, and the whole of this part so united, forming indeed, the surface of the seed, is a very soft pulpy substance, which when upon it, the

seed; thi* part of the scale, therefore, in the con** soon
 (lrcay«, and on bring torn open, die seed* of a rtry large
 size and obovatt, fall out blackened with the decayed pulpy
 matter. 'Hi* s«cda arc L* or 2\ indie* Lung, and | of an inch
 broad.

Heaide* the specimen* from whit h the &)ave description
 is elithy compiled, Mr* Bidirill hi* also kindly ftiruiihtd
 nle with male catkins* of n high me ta repfe—ntod at/. S.;
 l m wliether found on the ama» or * different plant from tins
 female, or on what part of the branch** they ant produced,
 I ant ignorant. They are about 4 inches long, stout, cytin-
 (ricalt apparently terminal m *hurt leafy branchc*, aud arc
 conipomd of a gnat number of ubiong vaki dually oom-
 packed, pitMfjiinR each un the oututlc a conrcx apex with an
 incurred point, beneath each teak are apparently *ii or more
 oblong anther-cell* longituditully placed j but their exact
 nmclurr ii not dutinctly apparrnt.

" ilie m tive n uae of thi* tree t* /]a«nt4i**f% « *Banya-*
toajt. Tlw fruit it is aaid tip«tM only atux in thn years,
 aiul thm praeki period of the year when it doe* ripen seeds,
 due* not *e«m to be known to the Ab.irigittU who Ti*it the
 trees at diiEervnt period* to mark how it advance*. The *c<d
 whidi i* twice ailing a* that of tl e Chili pine, before it i* ripe
 ii very awcet, but acquire* the amn bc«a-ltb* Sftvour, whirh
 lid been remarked in thoar of A, *imbricmim*, aa it approaches
 maturity. It is greedily eaten by tha native* at all time*,
 before ripe«e«av raw; and when ri|», ro**ted and poondad
 into cakM* I km tttrrar lward of any white nuui «bo had
 lasted the rip# nerd.

" The wood i» *my doa« gniatd, and it mad to b« very
 dornbk; but I do not know thai any perofv cw» tail thia, tW
 I am certain that no lnc ba* mm been rat down. I have
 aeti a piroe of wood, but it wa* rut from a pUnt 5 inches
 thro tigh and «joaitr, and atrongty — mihlld K*» ri (*Dag-*
mara australis), appe«hnf, however, finaw and closer
 grained." Bidwill.

\ . . \ V |] f . \ E \ . HA U Hn**h uf *Arucaria Bid-*

with. N««r d» IMM U * >*vn kmfy hrmtk fnm which the
 cone | I ii >wiii<1 /. 2. unuMttly tuned It«f tmm among
 others, on ft TOHtm QfSMn i. f. 3. male catkin; f. 4. antheri-
 ferous MW from UM MimtBi— *m^gmjt'* f. 5. «o«*{ f. 6.
 apfwr view of * w*k rwuoTwl from *tkm* nuw; / 7. side
 view of the wne :—»D but/* i. Mi. «**.

*Figure and description of a new species of SENEBIERA from
 Patagonia* [^]r6y W. J., II.

(With a Plate.—TAB. XX.)

fiIXKMKRA RHYTIDOCARPA, Hook.

*Gracilis procumbens ramosissima, foliis linearibus integris
 r, |iim<i>tih<:ift, floribus minutissimis diandris? silicula orbic-
 ulari compressa rugosa. (TAB. XX.)*

MAR. Patagonia, *Tweedie.*

Stctni slender, pfucamWnt, vrry murlt Immdied. L
 scarcely an inch lon₄ llic tal^fftt of tncnii llnMfff glabrous,
 entire or pinnatifid, with fe₄ r segments, acute
 at the apices. Corymbs small, of few very minute flowers;
 •o ininulr, tkut in tJ« dfW «Mt it t« ^UftMh to distinguish
 the ₄ re sepals. Petals
 none, or MA «A««r» u — 1, f.* l 1 h*.* to l«it seen them
 in some flowers, small and resembling minute scales. Stamens,
 in the ₄ here examined, only two perfect, opposite;
 there Art t* sides four (in two opposite pairs,) abortive fila-
 mi lanceolate, each with a tooth near the base on one
 side. The perfect stamens have the filaments singularly en-
 larged ct llirtr base with a depression on each side. TW
 fruit is racemose, each raceme with 3-6 silicula. This is
 nearljr oHitrgUx, compressed at the sides, and singularly
 wgn kW ttf nmrti <ftl, pita. Valves hemispherical, keeled
 at th« Urk,b< not winged. Seed one in each cell. Embryo
 with tW cotyledons curved ttpon the radicle, the apices again
 a little curved.

The affinity of this among the *Seuebirr** is doubtless with *S. mrrata* of Per—oil, from Monti- Video, and figured in Deleuert's Iconee, v. .'. t. 71. Hut that ia ilirirc aa large in all its parts, and the leaves are ip*thulate a>J •errated, quite unlike those of the [resei plant, which I have only %ovvu m coll'ctions from Mr. Tweedte, gathered as I in!er from his



Fig. 2. S
notes, in Patagonia. same

TA . . \ I, Flower. re/a: tuMBS. / * . Ki|w
iliola. /. 4. with ihc valves teparating. /. 5.
eeltnid open, y <>vcl from the *onl:—all
ni leat magnified.

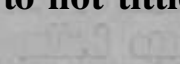
Enumeration f/PoMOT, eattrcttdby HKRHZKYIHKU in PITK:
HA 01| by the UKV. M, J. UtJKELKY, M.A. I'.L.S.

(W//A a Ptate.—TAI. XXI.)

The collection placed in my hands by Sir W. J. Hooker, to w liotc <xtensive herbarium it forms a mmt voluu ble addition, though not lar^r, is extremely interesting, not only from the rarity or beauty of pag;-tivulb: species, hut from its general character. From the nature of the case, a collectio o/eii deeeBiflioo, eapecmUy where the \> principal object has not been to obtaii cryptugaiuic plant*, cannot be n regarded «a at all perfect; but an the ip<cimes » HVW <viden itly have been ooUected M they ca ne under n tice, withut any reganl tu nic or beauty. they may be «onsider t-d a« in wr « meeture indicating the nature of the myeukigioal pro ductions of the country.

Taking the order *Uymmompcte** in its largest tente, as comprising *L^ioperdmcem*, the mass of the ipecies brlunga to it. Indeed for tr specie* only belong t other <>rd*rt, viz: a *Peziza*, a *Spharia*. And two *Hfi^kfUom paraMtirt*. It is r•rmarkable that there in not a tingle *Sph+rw* of the lhb< *Hy; porylon*, iH ich o :te would certainly expect to be upreinn ted by at least some one of those species which are coamopoUus. I ant the more inclined bo think that the collection i» indi-

cative of the real character of the neologie Flora, because Mr. Hmrnj b>a* ioJormed me, flint in the nti|hbmtrbootl of lite Cape he obaerred nothing but what appniml to him to be European form*

Of the //••iaunifPifw, the p««ter put beUm* dthff to the ^CHUR Ayaricu*, ot to tho liyeopcr&m*6rouM briiM. TIMiW are but four, or at most ftrw fol^M^*o*«*^v/hich ia » ptrfect Profusa. The *Lycopodons* are most interesting, belonging to nwny genera and prr^ntn*? two at. Wtat wbtch tre new. *Bmimrrt**, *T*li»ttom4t*, artd *Vffla»ftrtni«i tre Wprrr•dited by turoj^au ipcirir«. *Lf9uperdam*, by a variable, but beautiful Dcir ipenai and by the cot umon £. BIUW</I^ *Podaxon* by the old species *P. carcinomatia*. Besides these, there M the curium .TiiPlif—i CIMuafM. Kn, (tee |* 200, T»K V. of ihr pment voluroeO «nd two «j*ciM which 1 fern been obliged to refer to two new (letters: *Poippbtiim im^ai-mam*, (ice p. 202, Tab. VI. V II. of the prctent volume), is not in the collection, but it mu*t be r«fard«d M another character of South Africa* Myoolu^y. It u curioim that the feutu Cc«if«rdtic« not *ppr*r in the collection, nor *Wr-iWmMi. fliwfafU U wyleotJ by MfflrriirnM, » hich is th * nore »itrr*»ting^ a* bckmgitif to ft «|»eie% or |nwp of species btUirrtto hot tittle uacbralood, UnMiffh proh«bl|r, now Desvaux has  be found to be more « MMMi |h«n might be »u|>|*»* d from the imperfect notices hiihtrto rnrred.

I hart tAfyndy pointed out in 0,» JOWMI the importance of the genus *Secotium* > axuHctitu MM of UX *hypogeous Fungi* wiih *Imvrdimmm** Other point* «>« be found under th« r««pective tptoitft 0/ wtuch 1 jiftictvd to give an enumerat on.

1. Afinctu (UptoU) Zfyfen, BAi pttao ftmplo carnosu me J I O onato; epidermide tupmc in verrucas minutas deorsum in areolas subequamosas diffracta; stipite cavo levi immaculato bulboso; annulo • obili crasso membranceo-marginato persistente; lamellis remotis e sporis alutaceis. *Zeyler*, N°. 92.

Uitenhage. < >n windy ground. January

IMcti* rt inclir* aero*** at Umgth aom<*whnt Mfpunded wil
a broad obtuav umho and incurved, vihitr tinged with brown
in the centre j cjwirrmit tmwth al th« margin. th*n efwfkad
into iroofo, which* toward* the |na\|xh, bccuue unuuu 0 ni-
ral wmiti; f|«mb thick.

Stem 7 tnc)ir» lugh, { of an inch thnk in the oentr, run-
nitig up into t'r# ftali of th« |iileut_ white, nearly smooth;
t(juaj, or tifttfly *», nln*rc, bui^XHit lxrUm, li^|fi«a> but stuffed
with a frw lint- lihhUr. Bulb 14 inch thick, not marginate.
King largfttfrtck, ptrsiit£tit_t nuiv< aWr with a membranaceous
nu rgin.

GiIU perfectly di*tinct rram the ttrm_t hrnatl, utt-r«4uuc<l
In mi r 1 J< >|K»fci, which an father U^r, elliptic, with a dU*
tinct peUurid Uirior. They ur coLouflet* wlii-n utrn b
tr*n*uuu««l l'cHt, h«t twi Puluimi in situ.

Tlitt mafpiitemt tficoc* i» rlcnrir dliir d to *Aq. procerus*,
bH< lffers in Mitf it nt ul |KMnU_ «»prri«ltv in tdr Un-
^t! bured spirr^. SvvcnJ r one species « III * at*-
ion occur in the southern hemisphere. |mm%g* Mr. Ijujn'n ilr* wings,
in tJie poiNMim of >lr. Brown* *rr wpr*entation* of two
•jngtiUr atiJ bcautxftd »p«rH s, and Sir W. J. Hn.i.thi» a
wry curiuui fitH* fnun Nrw /ir.iUitd, which I «htll liupc to
descrie at some future 0|>|v>rttmHT.

convexo-plano
carnosula • abtiliter atot tmtu-imunoao tWttum gUbro; stipite
brrri jjmriU far.' . |u sinoso-tomentoso; lamella1 dtttantibui
latiusculis crassiusculis lunge decurrentibus internodiis paroso-
venosis. z*yh*r> ll. ioe.

At the bwii <f iijmw* atrtD* wltirh arr unmet**! in sand.
Uitenhage. January,

Wkun^ of au Inch Imari, pUno-oofm-*, UifilitiT fle^hy,
with ||*r m»rgtii very thin and ftcntte, tlien dry* of * pallid
odjrr, likr Jjr. prwrfrt. Stem aUuit hall an int'li hig^, half
a hf>t thick, routing belw_t *t-itfed, at teti^th ho}1<nr, clothed
with pruuuut do«Ti,cf the Maw rulout as the j*I-us. Gills
at length uf a rieh rufou»-brown with a pale edge, rather

broad in the emir, decurrf nt, and extremely narrow at the base, where they are m*ro lines; interstices poroso-rugose. SJK*fM»^{luir*} ohfonfi **ult«i obove; vpieuln nihav Um* f

Tin* Rfxrid hai the ludkit of Ap, *fif*t*fi** "and graminicol" <vJ«. It is not, ho«nrrt doady nUirtl to thf former, though belonging apparently to the same section of the sub-genus Collybia. It is rather rigid vlttfl drt, and the gills have a very peculiar)tppc«niiCf, liLc tkJil of the hymenium of some Merulii», a* ^ wictj irvali, th«y t w incli to be gelatinous.

5, Ag. (Collybia) wwjfrirAw, TJ. aV| pileo hemispherico demum plano Ktbcmmiifto pii* l>evibu • twluntlbu* mollibus fasciculatis vestito, :Ul>tr«oBbtr; stipi tr gr scili velutino coriaceo; Umrlit dkutitiba* k«itrr trfucmt crassiusculis. Zeyher, n. 111.

Upon IK !mrd Kinti of draifol g^{TM****} Uitenhage. December.

l'ilcu» 4 of *n inrtt hm«d_t tt fint rt«inf from thr matrix like i tittle* Mr mien* Tclvctr ball* At length expanded and nearly pUnfl, p^pLiaK-, more or kia KKHd, subcarose, clothed with short sof, r-luti^ WMta b M M hairs, which almost vanish in ottl i|*rrtmen». ifUai | - $\frac{1}{2}$ of an inch high, $\frac{1}{2}$ tif a lino thick. »traigl>t vclrcty, toiid, ewiaWUS consisting of wuit^ chitting, ailkjr 6bn». Gills distant, slightly ventricose, narrow behind, ochraceous, slightly ad-oextai

EltKnwiy kVr Jj. tikfUmm, rmr. prvmtmt+Ut, vf ***** it kai prr<%«rl? |U katnl, bat H ia prrU»i»Jy itutinvt. ba o | •w nun RCAay_t uw lhc pvMaVMWV Mfl) ft ^wy OI^W** .PP**¹¹^ - Th* ^otoor vt tW |akaa fend at«tn, in tl* dt plant, u « naJ&Rj faw uriuni. * | hrrp «v4 brcn fei to ^{f*ni^} pores, but Www thai lhci air »h.tr_h tkcSL gh the gills are of • *ltrty i* lirr it rvt#aaMM alav »rry ri Jik IS«««, a lctfUgtfi 11 lufew Ollil from Nees' t«ixl Kr»nil}hn; s' figures. I have ntwf* b«w- ever, seen any dark-seeded Agaric with a stem of a similar leitn*r.

4. Ag. (Omphalia) *umhrlltfrut*, linn* w. *cinnabarinus*. Berk. Z*Yher, ti. 4G.

<>iirarth, Uitenhage, JUIH.

It is very possible that this may be a new species. It is no, certainly very closely allied to *Ag. umbellifer* Sw. These are the same specimens in the same collection, and are not in any other order. When fresh, it is in the same order.

PUetti J Q| W) no it linnit, tiittfulir^f's. Gills disUn(li*-CUFTciit. Stem | MI inrh **htgtij** flttnuntwl «l lluj t*»e.

5. Aff. *iñiut!rm* «) *anmioftin*hirf* Bull. Zrykfr, it. :05.

Uitenhage. On cowduug. January.

It has a very strong smell, and is very different from the other species. It is found in the same place as the other species.

6. A.J.B. (N^uoorui) *ares>r.ittu, n* »; piloso hemisphaerico sub-carnoso {^Ultrit. tll|rite gO*) [imu-t. areto b 4St «J«vieCu rmi radi-cante j ittfirULm *nh argillaceis latis planis dente decurrente. Zeyher, U. 110.

On the same place as the other species. Uitenhage, December.

Pilru* is an kneli I broad, perfectly hemispherical, obtuse, without any umbone smooth subcarnose. Stem in U iwrh high, •arrcly I line thick, nearly equal, except of the bur, where it is very thickly branched, *»nl ri.»it* amongst the utmlt collect-ing a litUe Wl »*Ktui it; tsmooth, »l rongly grwovwi* after the niMTinrfof tti ftlli««t wlim ilry, ^tulitil with « delicate cottony sulj%uticvt like the pilcm uf A pdlid octal* Ring non-• <Jill very !>m»ilt nratlrf nUin, ftdntr, witli « decur-rent tooth r*]T colour r«L S|Hirv*t «tl ptic, |M!C)t-1l.>w-lmmn,

Cl. »Hly oil ed to *Ag. Vervacti* and *arvalis*, but differing from both.

This is a very good specimen from Pauiet. under i. r<erracti, gives a tolerable idea of its general appearance.

7* AK< ',N»w*in<)/i*r/torrtf>'y/ Per** Zeyher, n. 107.

On the same place as the other species. Uitenhage, January.

6. Ag. L (juhr<r<») *frfMftbtfmi, u, ** -, julni campanulato sub-hemisphaerico umbone ajuoultlufftii mrnihrttiwYo »ioeo rugu-oso ; ilijute ten i Ivoati* f kurtitnt imbttreuaUt glabro ;

lame Ua dUtantibu* aacetwlcntibtt* •ubangt»»tu adtt*ti* mm
 tricofft 3 •jKiriJn* Ulvnm ZtjKrr, n. 109.

On the bare jsnmnd. 1itenhage. J*nti*ry,

Pilei» /* of an incll bfoad, campunkte, subhemispheri-
 cal, with a minute utnijOf rugo**! when dftt* dull rad bttiwii*
 Stam i \ inch high, fiirtuio»e, r»tl»r cuTMd at tlw U M,
 nearly equal, very »f»i«<T, rnicwth. Gillf aieending, DBTTW*
 r«ry ilightty if «t all rcfiiriciw, *vtmto_t cotttd with elliptic,
 bright nd rwfrodhtnd spore*, which wlien m*n by trans-
 mitted light, an of a brautifiU g(Mcn \ue.

Tlii* ipccM* belongs tn the »a»e (poup a» ^* i/mri***,
 like whk* It ravemUn the bryopAooa »ction. Sch «&r^r«
 figures L of 4f> wwfylifwit wth tUc cAcqitiiHi of 4-«, «neUy
 ctpters* the li»ht. Fmm .-ty. *p*riru* it dilfr* in Id nar-
 row, MMfdifttf «U»tMit, not <vnm* tmd plain, gilb. Tltc mloor
 of the «ptif« it rery bcftwtiful, wh*ft wm by transmitted
 light Wben lyitiR on the gilt they are of a rich red brown,
 Ukc tlw of perox id* of iron.

1 9. Ag (PMIIOU) pr*vtm*u_t U Z*yk*r, 0. 93.

\«* audrmlUt Berk. »tij itibus connatis, pileo verrucoso-
 rimoso : annulo tppca^kttUto.

On the gftwiil. Uifagr. g - Jvnuary.

A «ty »iwmUJ witty, if liuk«d it be turrejy a variety.
 IV pilctw it tnck«d iota Uffe pulyfoat vstt*. Tit- stems
 «• man or few fodraUfe, uul the ring att«ch«O \n (rtf-
 menu to the edge trf the ^Im*. Tkc apofw aft l«tfer than
 in the •prriiDrn referrrd V* Ay. mrt*mi*, ami rLrk

10. n. 95.

V 16 yromu, Hrfi. *ii)iiir bftvi ubew; anti«lt» erecto;
 p*loi» j^»hn» valce cvnoao; lamcUiB mngutfta atMltuati* Mlb-
 remotis.

On the February.

The flesh in th» only tpmtocfi cwtatiMa in the collection
 i» nmmrVmfali tWk» lit* pU« my namnr .nd c quite free,
 almost the stem short and blunt; the
 ring erect-towards the top of the stem. A doubt again may
 be expressed as to the propriety of referring this to Ag. ar-

vensis, but I am unwilling to propoic new sped** in <* variable ft icction on insufficient ground*, and prefer \n\licat- ing lite afliniti<.

II, Ag, (PaallioU) rrrtaemt, Fr. Zcyktr, n. US.

On the ground, Uitenhage, January.

Of thin then: it Uut a tingle <prcim*>»f whi ch the>ugh in bad Condition, »ppr*r» certainly rciVr*Mr to A. <retaor**.

12. Ag. (Cnprinua) rjbements, Bull. Ag. momentaneus, itt. tnh. tffrt, Ziyhrr, n. 11.1.

Uitenhage* On the ground. January.

TTw ipccimem appesr certainly rcfenTile to ihii •pftic*. »ey reMinhlt! very doscly the figure of Bull inn I. and accord with the character*. 1 ttak it best, however, to add » d<- scription drawn up from tin* South African plnnt.

Pilaw 1 inch broad, nun|tanuLate, vrry delicate, rakite, yy with a red brown tin^t- in the (Metre, which it very thin* but not umbilicat* or dtpm»rd, imooth, with a frw minut* white furfuraccua ailca. Ste 1 \ ti ch high, quite.«m<wth« except at th« but, extremdy delicate and »ientl<r. t*ili« distant, very slightly ventricoe, Cxtv U hind, or alightlly *d- ncedf TII I rmin; a dtstinct vpaoc round the to|» of thm •tern. Spurr* much longer tli&u in Ag. pluattlu, uitbut any distinct ftpioatpoint.

Two Cither Agarica occur in the collrctiu wltioti appear to be Ag, piprrifuM, n. 100, and J^ . mrffcu*, n. %, but they are in too bad a »tate to tipeak with any certainly.

13. Ag. strigosus, i^mr, M /Tvyr. Toy, r. 2, / . 3* Z*%ker, n. 1(M

* Upon dry wood at Vortmlmcmrm ajra." Uitenhage. De- mbff,

PHc«» 1 >^qch or mort brwd, umbilicato-infundibuliform, bay-hniwn, autneliniM mottWtl at if squamose, sometimes lotted, ipruIWled with ncwtrrtd faacidei of vinight, ak<ort, rigid bmllc*. Ste m f of an inch high, tcarcrly two linrt thick, equiit, except at the baa*, whore it it tlighlly »thickened, bay-brown lilus the pilru*» vtutlied * in. <hott KKnewhat fa* i- culate briatlc*; whit* «ithn, at nm toUd_f U 'length some-

what hollow ...
rent, all end•tig *t tW Mi: e point, vmirwhtf anastomosing,
interstier* rlicuUt e rather dusky.

A small species resembling **Z mott** *Lentium strigosa*, from
rich, however, it is ~~very~~ distinct.*

14. Pol. *lucida* Fr. *Zyker*, n. *I •

On **tJ>c i** stems of *Ac* **KM WriaV** **UttrnkafB.** January.
Exactly the (*xma* which **W O T w O w l** Britain.

15. Pol. *...* n. 97.

On **dvo>** ed stems of *Al*• **^VIMM.** < **Uitenhage.** Jan-
uary. Tile **tpeomrn*** »**ppm*fh nTy WMt** to *Pol. cinnabari-*
na, and «« «**imi!** tely **.lemcim.** 1 *Umit* runily the same

from *Uda*, common to ...

16 Pol. (*Apus*) *Proteus*, Berk.

Pileo coriaceo, ... ali sessili reni-
subzonato
fasciculato-
setoso; intus subconcolori; poris mediis rotundatis vel elon-
gatis, ... 116,

11MI7.

Upori **lir^ivrtl** wont, in the **mt<Twr*r t** **Uitenhage,** >((**irrh,**
Apn

Pileus 5 lines broad, 2 inch **!i>*** inn; in its most perfect
state conchiform, and more or less reniform with the base
effused, but often almost resupinate, with the margin only
reflected and then much lobed, varying greatly in appearance,
being sometimes clothed with a rather rigid velvety down, some-
times scabrous or hispid with strong short bristles, composed
of fascicles of **Eumn vMn • fi'vi** **twiit tutu-*, <|**
margin thin, some-
times extremely acute.

Imm to **^e JuU (t^t,** colour; the texture **i**, **^^** brown-
i **awn-coloured.** Pores middle-sized **inch** broad,

1



... as the above was written, I have seen the original specimen of *Per-*
at *Paiza*, which proves distinct. The present species, therefore,
may be named *L. Zeyheri*, Berk.

roundish, or by the ab*o rption >(the ili.swpimfnU, elongated, fatrii-fi>Irmn*il ; dtttepmcnbi Lliiu, with their margin nt>Hy even. Uttk ^miiMlar bodie• are often attached to them, but iUry we poanibly nctrauwtu.

Var. /ubric ///i; imbriettU, pi leo tenui coriaceo flexili «! ^ tin u-villain xt\ ipat* gioso rarius fasciculato-piloso. ZeyAcr,

On decayed «oo«J, in the fpmii tieur Uitonh*^ «iul Zvtrt Kop* RIY! r. March.

I At thr>t nighi, vrr< tiui^Tcnt from the more normal form, but varying a* gr^Oy in tUe nature of ihc pulicieriK«t wlu*h is vi Uciut or »|>tingy, or fatiricuUiU>>}uhMc. The pilci scarcely exceed an mi n in bn««ftli. The lulMUncc u ttf ihr urn oolor but)» ratfker tofter, though it tarici *1K> in Uiti respect.

Ho n\ten» cut be mam raruhlc ihan this. It W*MIU1 b« cany to make s-t<:nd »j»h». bul * U U m &K*^Ami Uwrc may bt in u*r >riace of the pile.«. «>£ Amn, tkicfawp*, and dcnwi y, therv m lionr m |he p or r« or i*«* cohmr of the tub- »Unce. TW i two firmi fetctad Ha a tan-ty arv m»»»» •«'- feniH; bat ib<>c ar« «o cooiwcuJ «itL Urf <>tK«« Uk at it •ccm* bi possible I » auikr mi«v (turn aw ipeeitm. "P* dj frtrnct• ariac prulutely from the Mtutiiun in wlitth U«ry wen? dcvcUipcd. lu nearest ally appear* tn In- my Pol. UIUCUB.

17* P<l. (Apua) imiidm\$_t u. • ; piU-o nulwroao-lijrm***'' uniloriui cfmvcsu duru K>o-ferrugineo m-ir^mc tubi liter relatiu M ngniama, jutativ KU*o*Maaben mttM rhabar- b*. rino; h;uirnu> pbvio ciouantooMOF poria u-inutissimis punctifor ttibua. /ryAcr, u_f I 15.

Upon forests near Uitenhage. March.

Pileus * inches broad, 2 lon^ ^ tvnrftTfm. convex above, pUuic bckiw, *Unless. id a rich ferruginous reddish gwy, baitl and voo dy, *vry ohacund) I'.TM-II, nmnifHy ru««^{l''^} an<l \clvrt¥ l>war<|. t the margin, 4ith • occasionally smooth,

P Wo MM i, *lti>i)' , > •• f %-JU behind, rem itk^l>'y scabrous, With «!(ih^t«U>t 'inxily ii-^Juici) .>LaiHW

coloured. HymCOHiB tiiminitm.coloured; pafn wrTf f*t-nute, punctiform, rhubarb-coloured within, rather short.

deafly of * »• JtrT ctm«tit«nev_f tfttfn fft*1, like *Pol. dryadens*, rubiginous, Berk.

18. T 021, 122.

In a<-vav nJ*t*i dnvfrd vood, in tbt foPf*u mmr Uilenhagr. In the specimen n. 121, the hymenium has a cinereous tint: \ li it I do mil cMtwirr it dfrlmct. Both, !n»wrT«r_t 11* in very b*4 out dition. No. 122 is decidedly *T. A«mif«*.

19. *Clavaria miniata*, n. s.; *parva cinnabarina*, stipite tenui attenuato in clavulam palmato-subifidam compressiusculam sursum iinm*wHu. &f ACT, U. 47.

O i MUMJT (rrniMJ, WIHMH^I minute mosses, Uitenhage. August.

About 1/2 m inch iii«li. Tin* >pcd« Ttwbnln uxmi VU* *varia paludicola*, Libert, 1h 32-, «itli *J(it *t it ^ r*M in »tM«f« (KIM) habit. Tlt« colour, Komrrr, ol th*f_t wltrti fmk, is yellow, and ilien dry, ofwi|(c; tbui, »hm fv%_i, •• o(tbc cakrar of cian*bfer, •nd boeomci pklr wlirn dry. SUIUmC Libert'i pUnt fn^^* »• ttuiiry m*r«lp, thi* «n mAj MIL I know <' no other s; imc« vsiitw^iHi it on be compared.

19. F. (AL. U. scabellus; cupu rinqe rubra extus rugulosa, fibrillis ramosis liiam iwiiJnrti, ZryW_p ft* 58.

On c Cups cro*H«a. - dark mi** Marly f4*i*# v l_r n moist, concave when n dry. ^IUrtilly rugulose from the j^ ^ mal cells, seated cm « hwrl ii; •it«;uUu>l_t brvwn mycatk m. Ascii filiform, containing .ii •₁K>ruli»v^hwitJi Nil globose sporidioU (i>r*yb) *r» htttmr d« vuTc

TTiit «jj«i-ir« hi* the hahtt of *Pe / ^ brunnea* and *melaleuca*, but tlw «KfHMI turftr* uf the cups is naked. It has also a great resemblance to *Peziza araneosa*.

Var. Ehr Ar ^, U k maculis ttt^ otundis; ascis medio tumidis.

“ Cpon the leave* of *Rhrkarlmr* Uttraha^r. IW-mber
 The formi of the wci in the *Iitenhu* «**[ctTO«i» i« wry*
 difflhrent frum that of the plant publish -il by KunteyLiberty
 ami l>i-**ma*irr<%* in all wf which they are linear, with » inigle
 row *lF' tM>ritia*« In tbt present variety 1 find liir awi i:Uv>te,
 more or \tu avolWn in the centre, and frequently aptralate,
 with a double row of apuridia. The •potidia arc, to l>ot
 of the same Aim, or *nmriy* «*»* bring im>nr <v leva ubtong-
 orate.. In *Sfafrmmiwit* b, *Pt^rm^* pablhed by Fr. "Sebrf
 n. -ins * the a»ci are much altotter and Icaa truly linear, with
 the micnml arc remarkably difflinct I have nut been able
 in thi« to dated apctrwJia. On the whole, then, I consider
 mymelf jmtificd in referring ti the *Uite* lineage apecimcnn Ui the
 plant of IVraoon* Tbc •pecimrns iihluded br Mimjgot
 ami Nc*tkr, whieli ajgrec in out wan) form with I he plan* of
 Priej, aiv an •ortive c »Uto of *Vrrdo ntiyo* ivra. I have
 not been able to Ami a»ci in my mperiroenj of *Spheria*
Caricia, Fr.; tbe ptiiacni'xi pi which 1 owv lo liie kuMiteft*
 of Dr. MoMUgn«.

ffl. liauma *ptoUoides, rtn** *Zryktr%* ... i n. (TAS. XXI,
 fir i).

OH the gtotpd. UttAnha^v, April.

I hart long since »KO*TI rea«oti to doubt whctlicf"
GmUchemdii be really a dutimH tperin from *H, phalloides*.
 In tx>th the i{H>ridia art, I U'lievc, of Ore omc colour, ll>c
 *le»i ii tmrtrwed by *tiloiticutou* cord, and the »trm it not
 rntiirly onafluent with the perkliutnj but attached tmly by m
 portion a/t ill apex. 'Hi« *Uite* nhag« •j*cnwK»ii comand
 with ft very fift* a|Krrriincn of U, *pkmtti*dm* in th<* HnTith Mu-
 arum, fxHibil no IUflmiux u to the c^Umr of tJ«?
 tUr only difference I can ptr i U>t in tht exotic speci-
 mens the atav u nruinly nut attacfol by i«» Urge a portion
 of IU ap<l u In the *Hlw. 1*h« eoluur of the irpmidk »ft
 the Euripcau plaul it not y«Uow brown, u dvaehwed by
 Smith but uf a fine purple of red brttwn, bke jwfnihk oV

• I atvt Utely kad an opportunity of seeing Montague's specimens, and
 Una* the species distinct, though I am unable to point out the distinctive
 characters.

iron. Person r» figure it not im^iithi. When 1 examined Mr. Sowerby's specimen. K-ti, 1 liftd great dilfrtuUy in ftdntflg wj spores or filaments; but Iwd* tha «p* imens from Dickson's collection in in* Bhtnli U i M i «»4 U* tftfnhaf •pca< mens,. witek almMI in toon «nd y w u , ctUbtt tW impartant fart, th*t b***fa« lk» wJgiii MWIB—Wing flocci, there

extremely brif le, irrfukr m outb*. ifjnuitfl, MN! OJ -«*! I*k» th» spores, and contain A «ktv;« spiral 6l«flient. Tb» structure must come in MUI of tlw clitic voln, in lie rapid erolui on of the pUnL At [wneuU 9]*rtl fiUnwnli, ft* fir o I •» aware, tar* bten »h««nr«rrd outjr in 7VicAW, «no«(it fungi. The TOUWJTT llc<Jvig vat tl«« nr»t to l«»IATC tbn n.

T*it XXI, fif. 1. «. 6kmcttu and •pondU »lij(Uiy magnified; A. ditto, high: tna^iittied. One of t«r tpttml H-focci is represented as sprin^{F AT} ourless threads. Tin* it the <mlv in*LAncc in which I uhtctted thtf ttdtd of attachment.

22. MyreMwtmm o a Hi, *Ann. des Sc. Nat.* vol. 17, [i. 1 1*. SrlrnMlrrm* ix.rium, *Desc. Mem. de la Soc. Imp, 4t >(<m\ roL 5, p, 73. Zeyher, n. 90. (Tan. XXII,*

In forests January.

TbU coffattu fungus resembles, •AfirvttllUc, *Bovista gigantea*, but the peridium is hard and leathery, above a line thick, MUI opetii nWiwtrty in « »>riUt> form. It springs immediately from the root or stem, being peridially developed, consisting of strong-toothed, much-branched, brown, inarticulate thread, TimnhUag Tory much,, when magnified, some spinu-

* Since tt,r above was written, M. Desvaux has, ti my request, kindly forwarded to me a portion of the capillitium of his plant, which is of a yellow olive, with the spores dark, exactly as in Fries' *Bovista velutina*. Its capillitium is purple brown, slightly coarser and less prickly than in that of Desvaux, while the spores are larger. In point of structure, both flocci and spores are identical. The Cape species, then, must be distinguished specifically from the European. I propose for it, therefore, the name of *Myrmecium phaeotrichum*. It is characterised by its purple brown flocci.

lose Alga. The *pont* are of a rich red brown, *MM* >IV very minutely rhinul-'. The *fad to*afiU tin- b* of the peridium turnim? * trllowUh tinj^, The inside of the peridium, u in FriiV tfuriWa *f*tn-ru*m*, which i* <Juul>tlc* th« turn thin & ii purplish brown. *ttoik*t* tuUrom*, Rtmiku?iu» in «tairyly not the «un* wiU< Fries' plant.*

TAB. X.VI, fig* 2, Flood «nd *|K»rili4 highly mpufes). The *rtry ynung tpona l»r* • *iort jidlunck*.

23. *Lyropentoa p^mmtum*, fV, /«*yVr_t u. IOtf.

On t« ground. l-iU'uh«ge. DcoHnbvr.

r 24, *Lypojaxnkm l^lM*, Uerk.; petidio »ubcoriaoc« nmo»o uiin dciDurn ruj>u)hri-ftp«fto; itrato itenli »ti|itii'iintu «elltlo*O_f capillitm miblentio iUrt mbtuJi rxo»r*io tporuqui lirin, domuni fuligiiirii'ltitri*. *Zrytrr*, n. IOH,

<)n the gmoni). Uilfntingc. Octotwr,

Aimut 11 Inch liigli. 1 i l*ru«H. Sleut { u(an inch high, 1 t>h thick, ulirw, iit«.rmMtt«d *IK»TC, contUting of a rigid pale reddish-bfT)%vri, <rl!uUr. *lum,j iuh«Unc, externally rvddith brown, niloorc, ch>thtMI wiili minutr furfuraceous *w*rt*i womttimc* man* or IOM o^wIHr. Pawliuin subgloboti or icntitntUr^ p«Jr, oovKIT cracked, nrruUn-, at «irrt t lathed with short pyramidal wjrt»_t at length nnily or quite •moot), opening irrr-^ularlr. Capillit iom iuhknti<'uUr_t ||>lowed bene iith **ytHow]** floivi, peltucul, hrtnob^l, *lmi nmtf*; spores, minute, gtohotc_f] perfectly ex>tr_t witi> a mniir, centr>l nmlitun, itcmic**, tir very fthortjy j»cdincJl*:r, jello», in older pluiU yellu* ohvf,

This spe|ir% Hvhirh is vrry (>* uli^r. has moiY t(M >ppf> •ace of a *Sdtrfdtrmm* than oC » iLavvfwir^c^ though it* *vkrve-turt U* thtt of iW Uitr. h rmcabk*, in mm« ratpst:», *Ly<Ty#rdim e* lot mm*, Tlw |>ctiiltum is, however, more rigid, and opens, ^jwrully, not by live mcr collapse of the oenlrw, but by «nertmck». It rwie» with a dumiti »Kta, and

distinctive of
IW prkiw M M tUn b. takr* IKMU |! Capillitiam, TVHb « a ttiil l
tive from C WU »» Of. MUCIAM. • Herbarium.

one altogether wnflurtit with the perulium; bat ewn then, the () can be. is marked.

In the oullection n air kjwcjniena, parked i*. 101» which agree wry cfoacly with ìtc furvgutng* though with some altf'at diff'cf*mw. They arc mt»h dep-re»»«lj live aitni i» little mofc than rudimentary, though still decided spongiosocellular, and thr initi of the spores is of a greyish tinge, though the form and liu MT the w m. IV peridten »• not rrsM'ktd, tiuf la if atotiarCJitly warty> The tpcctontv if* not in i mffictftiUy ptod »ui« to suable DM to form any definite opinion about tlwm,

35. TUoatum* • w i i i r n , IV. ZryJUr, n. 123.

On tbt ground, n«ar Kof^amkdr.

SCOLECIOCARPUS, n. g.

*Prrittmm eonnvtw rimpl«fl_t Urtine, BwmbntiaoMm, apie» indetermtnate dchiacerta. IVrtMotm minut^ irregulariter mVyhntlrtea, f*yrota^ UMIWütawa; aporM hinge pedicellatas minut«f flobomt UkHttdentia. SubghiiKMiu, ttipH* brrfi radicalu »ub9fo«Q <njtFu|lu«,—(*m#j <ilicio carpo_t 'Vr«i*,y»rur* imum, d
flexuosis eUmffitts. qmrimp* gkheti* sttf*t*'U mlHi^me ••/**

DE *Scudocarpus* *formosus* — Zyer, n. 106, (TAB. XXI, fig. 3).

OII the cTooml Uteilnfe. Ja&iary,

Stem «hac«v tpringtm frun * r*tb«r *tromf attenuated root, white wid almoftt iorky williu. Peridium depressed subpyriform, |l iiioli broad, t urating irregularly above, membranaceous, e wfi iibioiMiitiMc, oehrwwotta, tWT thm and bnrik, within «n. Ijr whttklrd, n«ous and shining in th* upper (Hirtiuti, t«kr bttar. Pe ndink very minute, subvermiform, tomentose, somewhat gyrose, compound or simple, i*t tUte gr«y, fill*) with U: nute, globose, smooth •pom, «di txmtainifif a nuckoJ, and •ujH*»rt*J fcy a U*m more — less flexuous, extremely slender peduncle. These peduncles are sometimes branched.

ThU very Curioi fungm rt*emblrs in miniature *Polysac-*
mm tnbtrhismm, &i figured by Scopoli. The genut is, as
 far u MBV to judged from Cord** ngurr and Uscription,
 allied to *CilkiocurfMM*, but differ* ettenlUII? in the |>r»ciu*
 of a distinct membraium» common pefidium, and the ch»r»c«
 ter of the pcrilioU and •ports* The content! of the pcfi-
 <lium, At tint tight, resemble Terf entu^h the tlunf vf some
 minute in *ect, tod the fungus might be% pt»Md by in conse-
 quence. Th* ttmetuir, bowcref, is wry distinct under tt»
 microscope.

TAB* XX b fig* 3, »• *ScoitrtttrarptiM Imrr* nat. MIO; b. ditto,
 divided rerttctHj; r. pcridioU magnified j A tporct with
 simple or bnuchtl peduncles.

rilKLL4JktMA_t N- I*.

Peridium lentum, pertiatenft, cuboKMo-oorticatum, aj ice
 irregulariter dthiwvtift, incluilnim mttwn coriglcmeratam
 •jtoramm globosarum immixtis floccis paucis hyalinis.
Stim validus, t» vus, intui* materie cartilaginea vestitus.
Sporae flavae. Non ten dedi e φελλος suber, et μινος pellis.

27. PhelohnU <w/^*nu, IL i. *Zeyher*, n. 98. (TAH. XXI,

< > i the ground. Uitetiltge. February.

Stem Clinical, 2 iurliet high, more thin in inch thick
 *bovo_t im^ilar_t hoUov v within, »mJ hariug thf f-aritj t ined
 with • ml bfuwa rariilA^m^u* ou*L, a few frtgnKJit of
 whi oh hug 1»OM font the lidtn in th« cmriiy. tery Urd
 writf. *Peridium* depmMi gUb<Me_t at>out two inches broad,
 h»nl and woo<lr b« low, like th« »t#tn, «bof« tough uid flac-
 cid, b«r»tiiiif irrrtguUrly, cloLbed with t thul, interrupted
 coal of ft cdiutatnoc Wt wr »mgj mtul curly, »lt*rliol iu
 fogmcriU; jMKitewhit kiler tlw ouiiher of the hark of *Ulna*
 hrr_t. A portion of this Cost attend* down thr upper
 tion of the stem. The peridium, *Peridium* exhibits a

t>Ol

WKM h in paili*

aultUgtimuft ApjKaruir, Uke th*t of tlw hiutie <f the iUtm_t

is *fiota* with • «lo»dr~p*ak«l B U M of yellow sporidia, mixed with ft few hyaline tii*mn,t>. Hpiirrt gtaboit, with ft globose MftMBV

It ii unfortunate that 1 h*v« h ul «n cportBolly of inspecting only a single specimen of this curious fungus, and that rather m AH ftdvtoood »Ug* of gftiwtb. It i« M different, Imwrvrr, frm *mitt* otb«r mtff-btll, «|i«i*Ily in tt» hollow ttrni, thftt thefv raw Uf no Jui^vr m proposing • • fit*w genus for its fYyy4i*.*H, llftMMfH tKf dBVttdtTi Umpicd art: uece- »&n! imperie <Jl, from %IM» BC* of ib* «ri v condition « »f|h f fructifying nm Tfc* ostoer of tbc ifwrirk u like ihM of KWK i*J\$mir^, bwt then is BO UBC« of r*U§ ; *»«!, indeed, ibe tptvndim xhemmir** «i» BUI natcih le those of *Polysarcum*. IU Iru« ftdhuticc, M pftBtiil, BUB« fCBMm t»U»r«rr. It is proUbie tbol lb« fructiA««boa will piwv of the MUM nature as that of *Scleroderma*, near to which genus it may fitly be placed. Tbc iporBl *mtm* mou •huiulant, ami nt4i(U« every thing the y cumr new. The eakmr of t/m funftu U ydtoV from tbc tpuridi*, but when frnli, u pn^lmbly while,

Taf. i. XXI, rig. 4t a. *Phellorinia inquinans*, nat. size, di-TwJni vertic alt; } *. ftpons uid llx*:i highly magnified.

28. I'xttioti CWnuMi', Fr. *Lyceperdon Carcinomatit*, Linn. WttUZ'y**<, n. 99.

On Mil hill*ki. Uitenhage. November.

Tfaa BtBm in Ihu i|P*ri.- is straight, IK4 twUill TW mass of ftIMBWU U c«rr«nrtl wth a rrry dilini e periiwA» distnrt from lb» totm emitp<r*tr»m c***lt Tti« mloar of the sporidia changes extremely »* iU plwti *iK muc«* to •** turity. The portion at tb* b*M ntpowd fcu h<l,i, liumw* hlack, while ib« jMrtMt tlmkd br Uw top of tbc flji*n ". yellowish. The shape of the peddum also varies from e »p- tic to ObkMM>

The affi titiBt of this and the neighbouring genera have lately Wen aWuffHiJ by I>r, \r ontagne, in a paper read be- April 15, 1843. An abstract of ven in Pinstitut, May 4, 1843, a translation of which is appended to this

29. *Secotium Ctefastii*, K M. Bert* in Hook. I*MMI. Journ. of IVL. vol. I. t, p. 200, TA». V. Zeykrr, n. JM-

On tttndy ground. UiUmhagc, December*

30. *wKrittium auitrntc*, nu »; amphigeuum titan •tiperfi-
ern oncitpaiu; pendii) etongtbueuJo dentato-laciniato
 laciniis siccis convolu'is; WuYi% Λ< iniimrn o blongis cohe-
 rvntibi** fporii obovatu «ib«r?jptlafa» gkbria. Zeykrr, tt. 9.
 (TAB. XXI, fig. 5).

Ug... leaves * > • Melo lobtufti." I;itfiih»ge. July,

This species, which belouft to lh« nmc gri'iip M ^* lace-
ratwm I and -anwll... »m, «' Hers essentially in the more im-
 gular spores, lit QAVUg the peridium elongated,
 in the v. ry convolute larinur when dry, fetid their far lew
 elongated edit, which «r, bc*uli», quite frw fmm ita ftanu-
 Ur appearance whirh the bordi... of the crll* in those tpecica
 eilnhiU, ut'l remain peno«iiciUly sttached to one another.

T«n. \ \ I, 6g. 5, n. Bporc* uf jKewkmm mahmU, highly
 nthgiiiiM if; A. celli of jx-nidium.

31. I « • < * }ittut+fi)rt«ur_f u. n. ; •|K»ri» faM ^ nigris irregulari-
 but rd KftgloboMi rugixtttteolta pba minua connatis conglo-
 mcTKtif if: mixtis minoribus effietis tnaa«*m com|MCtett noa
 rimonun ei formantibus, Zeyher, n. 89. (TA»* XXI, fig. 6).

De itruyiiiig the germens of wmc tp«cie» of/«nr«f. Uiten-
 luge, I>-M:J-er.

Keactubliitg very Jtmtigly *V. nrceolorum*, and, lilw that,
 infcting the grtrtwcii, and forming little gioboie or dliptkv
 j«-II iik.« l*odtc«, cntmiUn^ of % compact tnai* of ileep brmrn*
 imgtdar, m^lfihnai_F tJUtn angular, more or less connate,
 *Ut\lx rupoar tpefvvt, mtxn\ »»»tri MMTWT flobufte. tab ellip-
 tic, hyaline bftdfem, vkkA apfMV b» b« abortive sporidia.
 They b<OuW yeflww «Wn lrr>t^I with tndWh«, aut! therefore
 ilti not fer-ttkr IM tU ccuin iA iW M M, t«, *ard« the »»»^w
 there is...
 way up ti« nun, but i^t» is not always present. The sur-
 face of the urn** is not •Twk.iHL, at IMDI in tti* specimens
 before me.

This species resembles very much *U. urceolorum*, but in

ti.lt the tpores are dinline* and ediittulate, and they aff not mixed wiili abortive spores, or if ao, in a \ery »li. lit degree. Tlie two apeek* are certainly rtry nearly allied, but are, I believe, distinct.

TAIL XXlp fig. 6* Fertile and abortive aputc* of Uredo piiubtfvrnu, highly magnified,

The following abatrart of Dr, MonUfrte'f memoir, entitled "Cicneral Obacrvation tm Uw thbc of JVN> AXIKVJB, and the aftaMi>hmt'r>t of a new gvuus t*yr*pMrmgmH*m/' be) onging to ihia tri!*, will be read with tuterovt la conarxtofi with the prtKent MOioir, and a former omt on Baaifiai mIU Polyplo-r^«j». It ii MtracUd from " F*: nstitut," M»y 4t |H4'1.

Aiier having dufined ibit liitfc «roup of tlw ordrf of TVi-tkbgmtrit Afafi, rrm»rkabl<? eajxcully for the pmeiH* of a columelU due to the elungmtion of tb* atan into the nt • ilium, t)ie anther ffiv«a the hUtory of the ft n m irich Woolf to it, and ft gmcrl de«cr. ption, in whirh UM pen dium, colu-mella, capil ium, and •port* arc review*. Tt the genus Montagne, Fr. (MCMV' 11 f HMJIQWI yoet, A pri I, IH3*, p. 7), of which aWd A^HbMzaa^kaabI^Bfe.iiA a ^^^^*1 aay#4^P A%w^rtaaalfan aafia^dsjaw| Epicrisis, p. 240), to a«wlynil and ajfail Of th* thn species admitted into !•# fm w by Krte*. Dr. Montagne, who AMNMCwMrf ** ' of th««i> J/. l^avaUW and M. Du-salii to the vatfeor. «lwwa that th* rtrU only can continue to form part wf it, ma* much •* thr %c^>n4 d»>c« not belong to the AgiTncx***, but u» ihe family of G«*trv4fct tea. Dr. Montagne formt ht^ wt fern.s, Gy no^Aroyiw.w, from this species, M. F•wtlii, and jilwt » it at th_0 be*d of h« trib* Podarince. Gyrophru jHrfatm />*»</i, for, nJ at fot wits MQ*ttiy**<tt* CamJolfti, on the »l>or* vt M«r uelone, near Moitpriier. rmtwd fnMt IV»l J irlilr ibo n u n u(^Mr^eaf ocreafus. It i»» ai \v%%\ uttder thb natur M. Tuochy hat sent it to Montagne, who imm»umcmUil it to I rics. Mat* recentl ft C>|>t. Uuricn Uium] it again in Al^tera, from wl ence

he «nl upectmeni, in ranout itagca of growth, which hate enabled the author of thw memoir to oharrtr tin* mnrrphff* and to <*ubtuh th* fottowiaf potato i—I. That what hail been taken for the jnlon-i of an Agaric in the uppnr hctni-sphere o(the pcridium, whoae lowar half tamwud* thr middle «» the ttrra, under the form of a wid« volvm* f * Th* the suLppoaed yilU arc Uue di %*cjMfwrt*», »|>riitging frtiaw every part of the pikiform jortion« «f ilie |>rridiuin. Att«r a due examination of tb« dMferent parta of « hich t hi* ruritma *Gasteromycele* is empoaed, thie author i*marlt» that K i* imposs'able to leave It in the place assigned to it by Krira, an<] th&t it mutt hecome the type of a new and vrry dttitirt genus, in wliich, from the peculiar conformation of the diaac-piments, b« haa given the name of *CpntjiAr^rnkm*. TW following tur# iti ci iaract<*ri i

*Æc*pimcuUm* vtipiutum. *Ptridium* phwo tiirHiriMtuftB, dein medic i urbiculaiint rupfum, *tiprro« pileiforme, . . . ihi sti-pite OHitralj ad MAIOBIH QBQIMI iwvd\icte, volvâ amplâ (quam nih tl aliud iiat pan peridii iofvhof) tnatrooto contxtmoni, •Ca-pillitium in diaavpitnenta ruittrxtism UmdHfefli>» wabpawl-lela, è peridii tuto Unui*pbasiTo deaomdciiia^ a atiptlc distan-tia, in piano ramoaa (non autent anastomosantia) sinuosa, plicato-critpata adaoque denaau ut aahi cohwrufe videantur, primo lento oliTacca undetn cureacentia* fra^tliaaitn a, nigra, subtus Libcm, laUynntliiffirmU, rheri Uberi nulU. Spora globosæ, i indkniBif, diaarpiüirtift attiiip. < '.m/rr/<j prndai stipitisque fibrosus, in dissepimenta continuatus.—Fungi arecentes, t*rmstf*4m, JUMfn Aganco «•! Boafio similes, specie volvati awf mmmlaiu ttipdntt, in arenosis maritimis Africæ bontalu it 'falliai auamliã ^Tfrrtn ue obell.

The author thai OMtpare* Uia gr«u» «itii *Secotium*, Kae. and foijpbcimm, ll«fk., vhwili have UM avoat trfU anrg ID it, stid fnioi Una |«ralbi tic dcdtwta UM tAw^M ami dil* femocaa.

Before thi« ww monoir on Uw? hiilr trib* of *Podarinet*, it VM compoaad of thri« genera, *Cycloderma*, Klotzsch; vou. ii.

Cauloglossum, author adds to it *Seetrftoi**, Ktr. ; *PfeAmforctm*, *llcffc.*; «»<i *Gli* *propfragminum*. He ver, that *Montaguea*, which may have Wen *Mfc*****^* by *f n o*. will o«* d-y lie *vk««4* <at the l of this appear to liim M> *itlitMil m mtfU *i 6n« fas iMtgin^*. As regards *tu> atufafww oT rhdhiai**. *ht tiimrl* IL«l ^#^»*H** all* to mind *Gy 'y»4r»yiiiin^»* « d that *Elialissa* is celluloso-spongy, a zilla is found her genera.

The memoir closes with the following observations :

“ From Mr. Berkeley’s researches, it appears that a number of subterranean fungi (*Fungi hypogaei*), which, from «n illusory analogy, had been, without any firm ground, referred to *Tuberaceae*, being incontestibly to *Lycopodiaceae*, «nd that these, at least relatively u *ltwir* mode of fructification, re much more near to those regarded in the same point of view are nearer to *Discomycetes* of Fries, or Persoon’s *Hymenotheca*, aim* *thm* reproductive bodies ng contained in real sporidia. The recent labours of Tulane and Vittadini have confirmed these results, *wnii'u nuij no** decisive.

“ If now we review the succession of different forms by which the *Fe* families to which the names of *Hymenomycetes* and *Gasteromycetes* have been applied, in *DM* it also 'MIMM series, it cannot escape notice, that, notwithstanding their apparent differences, the same plan has been followed in their formation, or in other terms, that they have *ftIU* unity of composition. We observe, however, this remarkable circumstance in their mode as in their degree of evolution, that the one seek the light, under the influence of which principal phenomena of fructification take place, •*hi*le the ***** ni *tWoifh IW hi* ur ^i* the phases of *tloir tit' d»* of the « *ifliWl <rftout* of this powerful agent; that is to ***y»i* that they ripen their sporidia in a closed receptacle, and that this opens, usually, only a the moment of

dissemination.* Tli» crotutiot) at Um Utter it then, we see, uf * lower crail* to that of iW former. IWt in comparing *Gyrophragmium*, especial lit with tn Afjaric, it is easy, nevertheless, to rr>filirrlie»ul the prrfeet tnilag which exists between the two term, nuuained u»wur da their culminating point. 1 In* re•ruiulftutf would!, H^ ittoro fttkninf still, and aim mi compktc, at W%at M far »M IMUT form i» oonosnw d, if it should appear hereafter that *Montagnites* ■ so belongs to *Gasteromyceles*, as may be fairly *U*|*<*t:lftl iT.nn it* resemblance to *Gyrophragmium*. and independence of the dis M'ptmrU, »fn»rf ID tkff Uf^Ht degm*. NIHT lika the gi til of u Arf» ic, being- bi*d to *tlm wtam* \it of i.he »t<*m 1>V a single pois -*t_ frRQUflAtly by Alburt tlimtaJ tlfyv rwin to horizontally; th«-a, I sa, v, tiu» iiiitofWBljani and simplicity would raise the *Gasteromyceles* in the same rank as the *Hymenomyceles*, their - tuur[> hosis only excepted, which every one knowi IQ In* very JiHrrrrr.t."

Cont rAtti<MM tvmmtib m Fhstn of Amia / (A*¹*. /*y I* n. C. F. MBRISNER.

Qvmtmtd from p. 10*.

Rourai.

1. /fwAu^ r*im*ft>li*t_y 9m. IK?, r rodr. 2, p. 5! d.—! locus rivulos ad rat!, Mi-iitii T»fetb«r| (ill, l*# *»0i July. 1838. Di

ff. *Hthm** *pmm*tw**, *UiUd* IK". I. c. Chaw, rt Sefcl in I-»* IMM 3. p- I².—Ad riv nlm jil*. jitiel Capensis (111. K. b.), Sept. 1838. Krauss, n. 1201. *R. heterophyllus*, E. Meyer!

In lib. Df*f«t '• *«T flcm^ tllil "P^***' ut differs in having tbr I'4* r* jiulM^Mnt underneath.

* Even this point is, perhaps, not so strong as it appears at first sight, because the spore many *Agarica* before the rupture of the ring or volva. - M. J B.

3. *Agrimonia Eupatorium*, L., — Ad sylvarum margines terrae Outeniqua. (IV, C. b.), Febr. 1839. Dr. Krauss.

4. *Cbfrti* Odor* ta*, Linn. fil. DC. prodr. 2, p. 595. — Ad rivulos ui Outcmqu* (IV, C. b.) > Fi b. 1839. Krauss, n. 1202. Planta masc.

5. *C. f. /*/Ww, Lmm-fiL DC. J. o. p.5*W.* — In iok > lapidoso-arenoso ad U u n montii DuyvcUk > |i. flintr. Ururfv 0 V, A,), fob. I ^!:>. KfHttM* m 12*H. Stir i* nucula.

6. *C. WtCJH^ £. iU#y. mi. in lib. P: i;*.* — «r. kmffikm, nob. — In solo lapidoso prope Caledon (IV, B. b.), Dec. 1838. tCffimti, n. 1 tf«JJi PL formium. — Our pl*M »^f«c» wttli D>rh; in CTOTY point, locaapt in harirm Uw L«ft*a nc«rU t*ir« ** long; '>tit whether tint h* »un^ckuUr «Ii*nrim fn*n /'./*-folia, to wbirK il bear* ibr «trotig«at rcacmUk]wef 14& w* nmmii to defakt tmiit ktviug ten the /mil uf U*« tetterltt our •pccuD«a% it u 12 tiiw luof (ihrio* tt» diaiuctcrj» *«*d marked with longitudinal "litm, which irv mo« prominent at both cxtre tbane in tbt mi < I die.

7- *C*. tr*c+Mit^ J#Jliii. i^, 1>(\ 1. c* — In inoou prope Constantiam (III, I. b.), Sept 1838. Kniist, n, 1209. Stirps twuc — Our pUnt m r*t\y Ibr Mtt d a* " *C. teretifolia*, Thunb. var. tenu Kir' » M ey. ! i i Hnbt l^rir^> but having the leaves carinato-complicate, not terete; and Thunberg's lilttti being most iUtijr M* dut inct fmw ib«t of Linnæus, the nun* given by ti»c latter author merits to b« t*» tained as most applicable to the plant iu question.

8. *C\ erwnpAft/HM, CJ^MB. MI I. Initis* G, |i4 349.* — Ij arenosis planitici Cap.***» (III, E. b.), 8«pt tsj** Knuim, n, UII. I'i. masc.

» . *C. JUmtm, Linn. fil. DC. L c. E. Mey. ! in Hb. Drège.* — Cu» pmsdeoto. July, 1838. Krauss, n. 1212. Pl. masc.

ternata, Linn. fil. DC. j. e. — *C. polygonifolia, E. Hb. Drège. Cum præced. Sept. 1838. Krauss, n. 7, .n*

PORTULACÆ (Molluginæ).

1. *Psammatropha androsacea*, Fenzl. (? *Ginginsia glaucescens*, E. Mey. in 111, *U<i&r.*)— Inter riu]es in summitate M<'>it. Tftfrlbcq* prope. *Port Nat**] (V. i.), Jan. 1840. Krauia, iu 4.

SAXIFRAGACEÆ (Cunoniæ).

OodivtUU MOIUJI 'roicJ]>cns (111. ,\ . c.)r April, I Kit*. Dr. Krauss.

UMBELLIFERÆ.

1. *UtdriHrJyfc Cnjfrn*, Bu up.; glaltrm, l'uliU pelt*^{tis} trans-
 veme «vtU><-rbicu i^tiii, petiole i ix l<igiofibo^ V¹-txnril*.
 margine circumcirca inciso-lobatis, lobis brevibus latis sub-
 æqualibus obtusiuscule 3-4-dentatis; pedunculis petiolo da-
 pi<i kiogionbvi uoibdlv *rmUh* .bt* ontflnm, nlii* longioribus
 ttinbrllutUVrti; fncta late OfiiK9Mlftfi» vt* emargun-

In MIO MfiUKeo-arentMo cirai Port Nstel (V. c,J Not-
 835, Iqjit Or. HVnl. Krmuw,n. If 7.
 Thli ipACTct comtti YCfy tiow //« jffowjriwpi*, IAJU, aiw
H. (Xttottrxi, LC. (proilr ^» p. 60), but c*»nut 1M- uhiid
 viih ctt|*ef of them. From both it i« «Mily (I»ttR|mi«h«l by
 tu inflawceic*! all thr tWvcn being decidedly pedicellate,
 with th« l<imgitt ndit of the umbrIU w« unaiMtod hr a
 «ii»ph* umWltuU, iuttf^ut ef bf»riu>; un* of two distant
 wl, orls of .fiv^«i)4' Jtawvn. Fn>ai li>r t*ttrf %i species it dif-
 fers, bcsluit in tlio l<ti^th nf its petioles and peduncles, in
 the form of the te«vc* (which krv «t«n BMNV Mrvt^ly doubly-
 crenate thin m // . B<MMWw>), and ia the fp it. Moreover,
 there ii, »t the bwe of the ijmerml utnWk^ ttud a of the umbel-
 lul«t an involucre of never*! *tomm* Uncc«iu« k«tfH*» IMVIJ
 ti UII*4 u th« peJu-dt, ef which t emu tual *a *trme** m my
 Hr»i 11 tan ifwccsmem of // . *Bonariensis*,

t. ft. interrupta, V»Wr»4. DC, pfw&r 4, p. 59.—*H. verticillata*, Thunb. Diss. 2, p. 414, t. 3!—In KdoMb »J flam. Knysna, divr. G«Mf* (IV, C. h.)p Jan. 1839. Krauss, n. 1175.

..... (descr. optima!)
DC. l. c. p. 63. ¹Ecklon Jtl>. Zeyl>|.en 3J1—lf | plantie
Cape III (111, E. b.)> Jnnr, 1838. Krrn^ n, U: 6.

4> /f. *rw«/A«t *Rich* 1X\ 1. r. p* «4,—Ih sylvis primitivis terræ Outeniqua (i\, r_t b,), Un. i 1839. Kr*att,i. 1177.

5. *ft cafluxiu C/Utm. ft* »A/. » in LmnME I, p. 5M. DC. l. c. (sic ethen) Berolin.!)—In arenosis prope Gnadenhal (IV, A.), Nov. 1838. Krauss, n. 1178.

6. *H. tridentata, Linn. fl.* DC. l. c. p. 68. —In arenoso-lapidosis montium prope Gnadenhal (IV, A.), lit. tftTPO | ed., Dec. 1838. Kraus i, n. 1174. —f← non m gr&minosia id
«ltra in«int. TkfrJberg j>ftif Port Natal (V. c.), Oct. 1839.—Our speciu than figured in
TtiunTh d5*. j, t. S> fppvourh pomcwlitt to //, *triloba*, Thunb.

7- *tf. rfryv/a, iUwi. jl/.* *ft. glaberrima.* DC. l. c. p. 69. Af] Ulrra niimliunk Baviaintkloor, *il. HMK^iODO ptd. (1>»
E
hage (IV. C. c.), April, 1839;—«t) ruL wonlivtt Outeniqua,
(IV, C. b.), Feb. 1839. 170-1
..... A. e.),
Jul. 1838. KnoM, n. 1173.

..... at Schl. in
L intMM I, p. 253. DC. l. c. p. 84. *In tytvu primitivis ad
flam. (IV, C. b.), Jan. 1839. Krauss,
n. 1193.

9. J*JIJM *frm**Jrm»f* L. IK'. I, f. p# |OI^-At] ritufe* in Za-
..... 1198, 1199.—
et in p*lm!d>tt» prop flam. i;rou»^ f*^ Natal (V. c.), Dec.
1839. MA tv r n life V Si I bH — L i b —
l. c. p. KH>, »ti imjv perfectly known C. pg p^ . at, to \m a mere
(mm nr vm* Ty o^ *Apium graveolens*, with which, indeed, the

diagnosis agrees |wrf«tiy well, ami ftcj-limp* *Xmynum* to* *rale, Thu* «» it. Ca|>. p. 254, I>C\ L & i>, J4», may be in the •atne CM&

erecto, e basi ramoso, sul ... ciniis acutis, margine minutissime scabriuscula, ... pinnation 3-5-fidis, superioribus integris; umbellis terminalibus, demum lateralibus oppositifoliis, pedunculatis, folium aequantibus; involucre obsolete v. nullo; involucreli foliolis ... acutis, ... stentibus.

Inter ... (V. c.) Oct. 1839, Krau ... 418.

A m*U I>er4i ««roTIT ft inch ca hig 't, uriUt u »imjklf p*r-perpendicular, tliin rwfa Tl>r i eaves are like tlio of *Scandix Cereif* 'Atw»» *oct the Mpr rity of their margin *ttml* middle i*TTt is imperceptible to the naked eye. The inflorescence is the same in *Apium* ... except that the umbellae are stalked and furnished with involucre ... a little smaller than *t\M id I'rtrnmhmmm mtrmm*, btt entirely of the same form and structure, ... and two strongly marked ones on the *lanam commissurale*.

II. Ami ^hn do) *Tmntrrp**, DC. pfodi. 4, p. 125. E. Mey. in ... Un. itin. Ecklon. n. C9 ?—Aii rivi^« in 55tu»l£*jitm* (IV. < b.), Mart. 1839. Km uij n. 1107. Seele jttvtilu, IUUo».

12. *H«i±*rmm diformt*, Umm. VC. l. c. p. 1 >4.—Inter rupes ... 1839. Dr. KnutM.

Ad rtu a. Notzinakamma, distr. George (IV. C. b.), J*fi. 1839. Krau 111,1.1 189. Ecklon's |«Uni « have not seen, MM his dUfiUJHUft «ffl es perfectly with h «ar specimens. From *H. arborescens*, Cham. et Seid. 1. thi* «tt•etc* is r. sily distinguished by ... CM constantly mucronate leaves, which in the other, are simply acute or even obtuse, and by the shorter mtil inore numerous nubi of the umbel U.

E

DC. prodr.

i, p. US. (cicL Bjn.)—In gramuaaU prop ioaa. Umlaa,
Po n Ntu) (V. c.) » Dec. ifiM. Knuu, m I**k

fiS. /,,. turArwjM, K. Mry, t in lIh. Uftge*—*Eranthe inc-*
uou, Tbuub. Ft Cap. p. 252 (<k«er. b«am)^) *Lepisma*
*p*mu*ititkm*, K, M*j. >'SS. in Hb. IM t* (wticli* according
to the tpecimen I hare MM, I caanot diaiinfaiah from
t- awAnaw}.—Ad riruloi |w>|w Uoafhuthal (IV. AJ Uc
1838. Krauss, n. 1180.

Tliit jiUnt ti wi<l«l» dilforriki from Z«. /*yTWARj/Wi», capa^
ci*U) in the foliage j TImttbtfi'i »)*nonym, th«r*faf% caiiiiiifl
bckmj to IU Utter, to which Spa***! ai«J be Cawkdk ba4
referred it, iu dtacnptioit afPMittg *wemratij* wiib it, whereas
it «D«iten prrfertlr our A. *isobriana*.

16. fiuiMIAr /Ui/bmt*. l» . DCL t, p. 139, fi. Mcy
in lib. l>r«rj».~In ttuomiUta mutliutu prop* G
(IV. A.), Do& JK18. Dr. knuiw.

17. *t'vmirmlum*, ' *Krwmmmmwm*, b. sp., caule tereti pedun-
culisque clcn«e rotntrqo* jml*ruli»; fr4u» tnlchobu* reni-
formibus, petiolo \x loi^iohtmt ttthm|ti« puberulis, subdo-
plicato-wmturii { (DMU — kcutU, superioribus sensim
angustioribus 3-lubi*, lobi« iuhintr^m; umbcULi 10-12-
rmluu*, invduefo l-phyllo, mrolucclU« oUgophjUiv, fructibus
or UUMM.

In pbttltia prujt Port N*ul (V. c.), Nov. 1839. Krauss,
n, 140.

Thi* pUnt hat oow naftuMuicf with *Pimpinella cordata*,
E. Mrj .! in He.. Drige, w huh, howcrrr,, diffrn in iti
long and filifonn |^ii«lai and MDMfth actrulale tcanr«, Tfc*
seeds of - «ur .pocmrrn not brin^ filN», 1 an unenmun M to
the genus to •Uak it Ulotgm, The gMcral farm irfUir fnltt
is rather that of a *timpmti** than of * *Feniculum*; but its
prominent, almost winged juga, remove it decidedly from the
former genus to th* U»trf with «hich they atfM quite well.
The vitt, too, at far ai 1 mold pnvivi. an Otoa* til • flav
niculum, viz. one in CACTI THIVOCUUL. auid t vt> *** the plauum
conimMaurale. H<KA tunple, fuu(.,rni. Sum round, faintly
striated, about 18 inches hi(ils, tfwtt difidsd fttmi tU middle

into H *fcw* simple *hnuwfa** which bear but on* or -two imall leaves, and *termintte* with an *uiuMU*. *IVtiulc* foJuioeoiu»* almost 5 lines broail on their whole length, canaliculate, *l^amma* of the inferior leave* *brottfor* than long (13-W \times »» to K), with « deep «nd broad *linui*; th« tuperior *cmv** longer (ban broad, *c**f<Jato-or»ut U»e* *Qjipirmort* deeply 3-iubrd. «*gnHHiU *m*ulc*, *Uw icrmiaal one t>bov»tr† naimtet .I-nd†* or entire, the Lateral OHM oblong or *Unerolmtr*, *c«Ur«*, or *witli otM Utanl* tooth. *Poliole* of the *gvneflv* *mvot«cre linear*, •cute,, half *» IOHR M *lh« nulu* of *Uie umbclU*; *involo-cels* formed of ^ or 3 *timiUr U»T**», *u lottg u tlle pedicels*. *Petals* *p*le jvlluw †* or white, *Ofbkulu-*, with *m tndciéd nwrrow acou* *ftoint*. Fruit (tiot yet ripe), *tlnuMit M bro«d st long*. The *re«L M In Ftmicvtttm*.

18. *Sr«cft (ifippomarathroUfa) Vafrum*, n. fp., *glaberri-mum, *mk? t«rrti, «tcto> stato, superne pauc* *iramoso sub-aphyllo*; *Foliis radicalibus bipinnatipartitis, segmentis cuneatis pinnatifidis ct inciso-dentatis, dentibus mucronato-acutis, summis id r^uiwn Uuo wiorniMUuu r*d»tli*; *involucro 2-ij,yJ<t, ihrnlucviii i-upuliformi* •wm-5-l»"6di UcinUt acutis; umbellæ nwhif Uaigit, gmcUiiiui,]mlk«llis inve>turrlluro x triplo superantibus.*

hi *gimniinofcfc* circa Port N»UI (V. e.), **Aug.** 1639. Know, n. 403.

TJtc habit, ud n»pcrUilir th«)r«vc«, **tre** *r«f7 like the«c of Pe«rrc/itiM9 Ctawr&vm*, and thenfem quite *distinct* (*ru« the other e|*fie»* vf this *i«ctiott of S<~h* hitherto *dtwrtbedL T»w radii* of *tk« Urminml urobelU «t# nrHIV thrw itd m m le ngIK vltcrau ih«M of the umb*Unl» MM»If «M»od 4 or 5 line**. **Tbt** two *otil* or *obluc«* ud obttne **feBoli** of **tW** *involum mtm mt^uwy* hi *kn««« tn lmglti, »utrwling† tod *liiii»h† memfafwtouV rranUtn* Ow npfwrnrt vagiti**. The *iuvulneviU tn ralyrif.,nn, limiUr to tfow of 5" //vf^marulkrum*, but non *dc^Jr* deft, *ami iMr Mm brW*, *wi-angular, or ovate, thinly ftembnotti, and white. Fruit quite smooth.*

No. 435 of *Irwtmt* collection, gathered on the Table Land, near Port NIII, III ftti l'rvbfuii of JOWJ—JIW.I (M4B is probably ft m« ifncW* of .Hc*rA, wtlb j»Uo«r flowm and filiform l*«vr», livr iiAffcof vt * KcHi mir 4intlrrl into three segments, (be ^aper oact ^u ntot; U»t thr »p«ii) exactly determined. They agree tolerably, ««Ptcifttty tn UK bm involucre, with Thunberg's description of his *S. filiformis*, (*Oenanthe filiformis* Urn.) <sf*|rt i«tW inferior leaves.

19. *Heteroptilis arenaria*, E. Mey. ? in Hb. Drège, nov. gen. Calycis margo acute 5-dentatus, dentibus persistentibus. **r uin iU] >«•** cum lacinula inflexa canaliculato-linearis acuta. **FVttcttt*** suborbicularis, sectione transversali elliptica, merid. dorso compressa, jugis 5 membraceo-alatis, latero-**libut** marginantibus late alatis dorsalium uno v. duobus ala multo angustiore praeditis; valliculae omnes 1-vittatae, commissura 4-vittata; carpophorum adnatum. Herba glaberrima, glauca; caule erecto ramoso, tereti, acute sulcato-striato; foliis carnosulis, bipinnatisectis, segmentis 3-4-jugis, laciniis oblongis obtusis paucidentatis v. integris; petiolo basi breviter vaginante; umbellis terminalibus solitariis, multiradiatis; involucro et **oiaorllk** polyphyllis, foliis **bre%»W*** linearibus; floribus parvis albis, fructu magnitudine *Athanas Cynopii*. **Grutu • trib%** *Angelicae*, **proiitium.** sed calyce, petalis, fructus jugis dorsalibus inter se inequalibus et commissura (si fallor) 4-vittata bene distinctum.

In collibus ar. Zwartevallei, & str. G. i/fg* (IV. II. b.) KrnuM_t n. 1)'. 16.

The habit of the plant >* rotWr that of some species of *Seedi*, than »JIT i »f l ln- *Angelicae*. *Ih. Wry FT h a?in^* not yet, as far as we know, characterized this give a short description of it, taken tti. au our «p«Bimini •. which agree entirely with *Ihr^tt* |Aa. The fruit, JWVPr, being if not q<*ite ripe, le «VW U» Itttttt 4lu«lt'. as t 4 the exact nature of the carpophorum *<.I) to the ttuittber uf vitta commissurales.

20. *Peucedanum capillaceum*, *Tausb*, DC, prodr, 4. p. 178.
 —Kmi* rivuluv ad Inter* n ontium Bavianskloof, alt. 1000
 ped, i IV. II } Hec. 1838. Knmu, n. 1188.

91* *Pt etoyetum*, *B. Mry. f* in Hb! >f*g« \$ jjUbrmroui a,
 caule subsimplici, tereti, striato, folioso; foliis tripinnati-
 te<tu, ngidit, *q: mentis fe angustissime linearibus sulcatis;
 glauci utriusque foliolis filiformibus; mericarporum jugis
 dorsalibus o marginem subincrassatum
 obtusiusculum L'il)iriUL-titi' us.

Ad latera montis Typrbrrg, »lt. 1000 ped, (til, D> a.)
 Nor. 1838. Krauss, n. 1181.

From *P. capillaceum*, to which this species is nearly akin,
 it ii «Mtr ^i>tingtti<hctl by Itt Hew beta* ntb<r Ihirklf
 cttrrrd with leave*, which «v longer, |t** divifted and with
 no true petiole, the broad, <^mnfjpnftt* ra^imi rvW ing up to
 the very orig io o^th<r)<vTOC segments. All our specimens,
 from Drège a« vWI h> K Krauss, Itar« lurt in perfect fruits. The
 flowers seem ID he JM> i•Him. tXhtt specimens, gathered
 bf IH, KfHi—cm lwB*n^r K*?*** Mirrt. d, str. George (IV.
 C. V> in Jan. mat M r . 1839, (n. 1182) differ fr M tlw
 nantr ««tf In In* tapac*!*. 4 toe l « w faring nhortcr «>>d
 the stem of «the» urpie «the»

22. *Peucedanum B. Mry* *Peucedanum* *capillaceum*
Tafelberg (III. A. e.) Mart. IKto. KnuM, it. II]9. Eck-
 lon. Un. iti. ti. Sfi.!! Tht »tKcimrn» »ft too imperfect to
 enable m« to dr»* fr»m itirm ft ttfctgitotii of lhis species,
 which, » my knowledge, h** not m fatTfl ulwrw terised.
 In general habit f ves ner the seg-
 ments of the up t rnn »r p.*4mff*tm; b<t still more
 rigid, somet de, and «
 pale (perha ihat &lrato, n.i M daUta*}? nkar #•
 mo«t k*vr% en 1ane»Ao [ahem 9 b» Uuad) a nd inciso-
 gradually dilates, only at the very base, into a short half
 embracing vagina.

23. *P. virgatum*, *Ckum ft* *Schl* DC, prodr. 4. p. 178.—
Dryas virgata, *Eckl.* *Enum.* p. 351.—Ad sylvaram

margines prop* nom* Kny»na» distr. George (IV. C. b.) Jan. iWH), Know, ft. 1185,

U. P. iMjMlmhm** E. Wry. ' in II b. Dodge.—Dreges col-AM, Eckl. et Zcyh. I. r. —In «olo graaiak* ad ripas flum. NoUiuAkAmniA prop« Gtotg« (IV. C. b.) Jan. 1099* Kinm, n. 1184. This ippean to itMtolwl mere ramty uf the fertyotugj from which it cliffm only in having the segmenU of the Umtt* narrower (only I JjP linct broad, whereas in I*, virptwm, they Are often 4.5 line* broad) AXKI the ndti of lite utnbWU lbortcr awl km ontwded, diuufh mm numenm* Uwn EekWk indie*!**, vii. 10-11.

15. J9««<M» (TiJiaBft^, Lm*. IK*. I. r p. IH5—(>f th» well Ittown pteitt l>r. Knuu haa Mtil ut thrcv forms, didrrir in tbfI »tiAp« Attd MM «f th« •egstffita of the lestca, bal evi- dently oeloi^riftg all l« the mnm apveic*; tii« n. I 185, (jtmlhrrvd in \l«y ttl\$a on the aide* of the Table Moun- tain, <'»(*) Afftc* entirety with the fipire b JACIJUII** Hort. Vindob. !, m 4piot«d hy IV Candoflc t n, I 178, (fatittd in Vtc* \H%*, new Gawfopiht], At an rkrabon of ft ftatf^ fja*Al I*,AA iLii •^^^ijigt*a, —* |LM L^** a—i a^ttJili aWFB^r»> v-t I J n v i i ? n | Hiiuw i^ipsantl* w HH NRTW UIUUh AHBAT \I - if inches lung, And r<l» linr* hr«ad) And n. 11*6\ lop of the TabU> Mountain^ i'A|>r_t March IH40,) ha* theft* much mrtowr (2-3 ttnrA broad) ami taort boww, to judge from Hw Afut* id Ownmaly .> liott. AmiL t_t: A9_t i« quite A diffrrrtt \A»ut.

M. HmUmAfpoUwmm, n. ip.—gbocrrimtun, OMW h«rt oto * <frcto_t rariKiau, feHoaft, tewtl, (AOTO, lettnitcr striato; foliis decomposito-tripinnatisectis, lacinalis linearibus acutis, •upr» U. UA. vubtum Athido^Mm j im otroque polyphylo, fe sus persistentibus; calycis margine otMaltlo, truncato; mericarpiorum jugis dorsalibus obtusissimis, marginalibus crassiusculis obtuse carinatis.

Ad hTvUn pnjpe GnaJettthaJ (I \. \.) i>«. 1858. Krauss, n. 1185.

In hAht Ant) fol»A?e ihtu plant !• not unlike some Selinum or Peucedanum* « »• its fntii ISMHMI* »««l. fi, bon, having

not only • broftd villa in each vallcruU, bu| morora ft thinMr one muter t>cli jiiifum. Ttic fniil U i liue» long «mi about, I; lii e in iliftnd&r j tt differ* iroin the character given by *De Candolle* cjnly in the martini of the mencarpia being nut attenuated, but on lite contrary MMMthat thu-k-ened ftnd hut tittle prominent, abnuat in tin- aha|w of a blunt nerve. Tb« utubclLc an rr«n larger than in *B. Gmibem\$\$\$m*, the ivdii tn«Mtihtijc WU«P io fruit* 1J to up*afd* of 2 irivb««»» ftnd UM> pcilircfa fr-fi luui, Tbe foliola* of th« inroiucn? •cmnceiy »^iwf** 3 liue* in length, and^ at tho baao, 1 *him* ia breadth, Tim leave* attain alnufat one foot in length, and tlitir low«rouiat dmaion*, which orifitMte with long petiole* from ilk* rcry top of the rmgina, rary m Um^th *hvm* 4 to 10 niche*. The Uciimlie in form and *iac rettaable exactly thorn of *Pntctfiwmtm ofirimoU*, (Schkuhr Hwidb. t 63.)—K%i-draily this plant n a new ipecie* of *Dmtem** «id«ly different tram tin* thnrc l«illxsft« dMClfbttL

Ohm. Under £Wwm g*mmtf*nm 1M, Kddoft («DUm. p. 353,) quotes bia ipKimnn dutxiboted by the Unw ttwtraria under No. 563; but the to, mwpfdiwg to thva« of *mf* <iw« herbarium derived frota the awiw auurc^ are quUo dtifni'it, nut at all T—*miMf*g Comnirlyn'* figure abort quotwl, and moat certainly belong ^{in M rHTI} *olomum abbreviatum*. ^{J Jk} *Moy.* (see abov* n. 22.)

2^ //rmwu MJbM, 7 > «^ DC. pro«ir. 4, p. 'U'.—In summita U Munti» Tafeabci^, (HI. A. C.) Mart. 4 W«. Krauss,

«*». A c^H/«^t Lnm.fiL DO. J. t.—Cum preced. Krauss, «. 11W.

HANAMELIDEÆ.

I. *TnehecbuUm prtlmtus*, u. ap. j rarai. ad nodos compressis cum gemmis foliorumqu* n«rrla subtus fusco-villosis; foliis oppositis, peltatis, oblongis ovatisve, acuminatis, basi rotundatis v. leviter cordatis, subtus molliter stellato-pilosis, supra

demum glabris; spicis masculis terminalibus subsessilibus subglobosis.

In »y!vi» primitiv* *trrrm* Oiteni4|ua pfu|)* Geoff (IV. C. b.) Jao* 1939. Kratm, iu 1315.

From all the other *tpftCMA* of *tvo ftna** (efr. D.C. prodr. *« p. 969, Eckl. et Z#yh. «nam. p. AS&) our plant *Ji*rr» ** - rhtullr by iu prlutr kaves, and from 7. *ttkptin** awl **rttirilh\Ut%* Kckl. *t Zryh., monorvr iu Uieir |KMttWti. It certainly approach** very *nmr T. truni***, Prfm., the feaf«a of which, bowenr, an not *jtmtrihmi m* peltate br any author, a imiifwalimi vbicii MMC *wi* them oonlil Itarv tcA unnoticed. Thunberg describes the leaves as "ovata glabra," Wb«*a* P» Camion* *cmiN* them - puba IIKHU *sublepidota* R*IUca TiUom.* aiHi *o th«f u^ .nour pta*L Tbr are generally cUtpk Bhlonfr ^n f to 4 mrto in lrn^th and (about thv m»lt(le) 1-14 inches in hrvadLh, UIHI insensibly attenuated into an acuta acumaB; hat IJII some branches they * I * In p«/t quite oral*, icarofiy «ud bluntly acuminate nrul wA aboTo 1 | inchei lotu<. Th« pvtfiub W M « in length from n i to A line*, and th* <ii»uor of iu MMfliom from Lh« margin of the lamina it 4 linn* at llw moat, wry fre-<i«miUy much lew, and in ihta eaaa ihe 1)M« of U»e bamm is more or 1«HI cwnmla. TW male Aswan farm a solitary capitule 0/ UM *mv of a chen-y, alimMI nwili at the end of Im bninchmi wtviii two anaall WUTUW tomentose leaves. T De Candolle's description. *TUm* bracttulca m liiMVi (kcidiioia, covered MI' stellaU pobcMMM*. Tha jtttal i» Inn.if (reddi*!*) convolut«, blunt, 2i to .(line* lonjr, glabfmUt lhn ita m f half »N k»nj(. thi> filament mthcT thick, eomplaiitt*, dikl<4 at tlc« baac« M loi« aa t> Do thick, a dui0« uval anther wlich k terminated with a until blunt point. iu two «ccli optn longitudinally .''^ vwWy. We bare Mrt seen the female plant.

CIBYR.

*L. CWtouftiSi*ea%* Ait. DC, j*r*vf. t, p. If.—In Wrtu ad
 latus aritnulf MuutU T«fetb,-f« (lit. A, e.) -Sept. 1838.
 Kriuti, lu 12 Hi.

LORANTHACEE.

L. elegans,
 Chum, *t & hl. in Lin•» S, p. *QSi, («oo WMIK, IH'.)—
 <re>csI in MiU.uM* *tiw|iii- M*liirdiMi« MVUI Dum, /w»rtk«fi-
 rivier, ililtr, UiUtih^c (IV. C. c.) Apr. 1«3«i. Krsui% n.
 1217.

ri.im /., utr+foitu*, Vhum. ct Scbl-, lo whirh, according
 to lWf«'s ipccjiwrit, i»ur sijuu ii\ hr«n gmt resemblance,
 particularly \n t!*e lafitfft, it 4tfirf««KUHt M« Imriiift the tube
 of the corolla short(T, almost equally narrow every where
 of the li« about

foliis oppositis, ovato serratis, immixtis, ...
 prope basin 3-5-nerviis, r
 floribus in «picv rmmulorum h»»»— m a i m w i i t i s, bre^e
 peduncubtU, prtwiniiit, Samrt* ; calyce brevissimo, turbinato,
 10-dentato; corollae tubo longo, tereti, angusto, aequali,
 chsiitt. hinc fasso, fauce angustata, limbo ante explicationem
 attenuato-acuto tubo multoties breviora, lobis lanceolatis vix
 secedentibus; staminibus faucibus insertis erectis, antheris li-
 bus basifixis; stigmate subcapitato, truncato.

In Mimosa parasiticam prope flum. Umlass, Port Natal
 Dec. 1839, legit Dr. Ferd. Krauss, n. 208.

This seems **la Utim** *L. Bekei*, DC. which, however,
 differs in the shape of tW leaves and corolla.—The flowers
 id guf specimens being almost all detached from the branches,
Imwt sure of tiji^ m i l ; , , , ' ; i . | . f. ich they have been
 disposed. They are full 2½ inches long.

3. *L. Kraussianus*, n. sp.—glaberrimus, ramis teretibus;

(blfiavt>boppoMti4rtaltrrni^pHk>latH,oraU>H>bkM|jK' obtusis,
 penninerviis «. ipuru: tnphu''rvils; pedunrult* axillaribus,
 aoUtariU, brfrviaawis awjbeUaa* 1 ff flnmm get* antibus; flori-
 baa .!.-merit, calyce bfw*iattay*v »ubtniac»ti>; ooroU« tubo
 terri. mbclariQ, ba<i owto-tnAatet boot angustata, limbo
 ante cxtinttwoctu •obromcu gfatawo, lataaiu ereetia apice
 dia oohmnbbs but atlmu>ti« mprrw concavo-spathu-
 latis; staminibus fauci insertis, demum recurvo-exsertis,
 filamentiv cumplanatu, apuv anttfw bferitttnif anri culatis,
 aittbchi baUniit anguato hnrhliai; Mylo comlUm atquaytr,
 lUparoe incraMafto •ulato, aptee ticrutn attnnatO) stigmati
 •obcapHato troncaui. Pftnmtkwa in umbroaU tylvans
 prope Putt Natal (V. c.J Nor. IC3d_f kfit Dr. TtrtL Kr»u**,
 n > l » .

A rery di>hiig«Uht<! tpaohai bdonftnf p«rhap« ndlif r to
 IV I'atKlollc't aaeoitd atctinn (SywpAyi»«/A*#), of whieb no
 South African tpeckait Itmiwu, than to tl»«t hird (*Scurrula*);
 tamfkoch ai tht li|ib of th« corolla U gncrmUy split
 aitdilwayi qtkite rrpUrly it to 5 perfectly t^naX segments
 which remain erect, the tube uvuaU? rem^mmfc cntlr*, for
 unly in t few Aowcn 1 nnd ft tplit too(bttt rt^y unequally
 and irregularly (u it w»rr_t aavd^ntally) by one or two deep
 fissures. The tips are vouwwhat cwppratgd Uiwafcb the
 «Utwnky. L*«va« two inchc* Urn*, otm Inch Uoad, with a
 p«trole Q(^Vltnc. Tb* M H M an wf tbio and truly
 1 1 a . m . 1 conspicuous
 totally oblit rtajtvd that the lorn mi^M tw «aJM tripli or
 ^ p linervia. Tbe gaml patltmclta atv bot OM at two
 tioat long, UM jMdioaU a hub longer. ami thrrr b m i^inut*
 bnwl blunt »c*I*-like bractoolc at the baas of Om oatys.
 Cotolla IS-«O U«* lonf; tu limb 3 linr* long, b at nnl
 agpaiwdng from ewb ptiitt only at their biat which ihtn
 take* aomrwhat a ventriooa* appwwmiwa, Tbv lUnrm an
 at tint currad duwi i into the tub<^ yim^H a» in JM
 or*. <uid altonrmrda l^com« r««««nwl tntwmrd ^ if quite erect
 tlwy would tearh to the top of like Urinur <f tbr coraOa.

RUBIACEÆ.

1. *Gardenia Thunbergia*, Linn. *f* L 1>C\ |W*1r. 4. p. 382.—
 li> sylvia primitiva CdTmritt {V. 0.) Mart, 1840. K*«••» H>
 1262.

2. ^WAO^TVMM *Mil* a*. 1> <>.—!'
 irenotu pLnitiei M i ' ' li.) Nov. Krmuift, lfe

3. 4 *rjHithwftjtm*, *y« -1" »olo «fTnow pTaj*
 (III. I). 1 Kriuw, ll.

4. ^tw/frin-M Air/<r < —Ad later* mont. 1)uy»
 Ubenc ("I- A. e.) Jul- 1838. f vi ^ as, n. 1208 (pl. masc.)—
 Our ape 1 ditfer aomcwl m from D^rig«^f« m lk* ving the
 WTCI k" rrtnotr an3 ihorter.

I 5. *UayottJ* yj>rntwrot<a, E. Airy.? in lib. Drège. —I\

grmujitioiiU prf^*-' flum KoTftu, dut/. I
 a« writ an Kn -r t>>u>|>>irci t» wtmk^ me tv draw up
 anwti r of lib un<ir*cnWti *m& ap^amrtljr M

tlur chief t enerie afttitar MCfltt U> «UOM<t in llws gr<t in-
 c^utt lity of the teeth i the CMIJI, *tuc lor wmictinea two)
 1Mng liguliform, almos t tu lun; a* the tube, and the rett
 quite mind e. Tin- flwen are At>Uuyt «oliUkry u<d pe-
 dicellaie.

LOBELIACEÆ.

Dobrowskia flifrUM, /Vrrf, in lib. 1>i*ge,~ln tummilatr
 montium prop* IVlrr UaahUbiin& Pfrt NaUil (V. c.) Ucr.
 1839. Krauakj II* 203.

JASMINÆ.

Jasminum Copense, FA-*/* A. C«|K p. 4.—*J. angulare* Vahl,
β glabratum, E. Mey. tumiMUt. p. i; 4.—Inter frutices
 props Uitanbagv (IV. C. c.) Apr. 1839. luaaM, n. 1261.

APOCYNÆ.

1. *Ectadium? oblongifolium*, n. sp.—glaberrimum, ramis gracilibus; foliis oppositis, subsessilibus, lanceolato-oblongis, brevissimis, IMP ato-acatis, cymis axillaribus folio triplo brevioribus, paucifloris; calyce brevi, lobis obtusis; corollæ limbo dextro r* u» lortu, MHVI processibus minutis; antheris glabris.

Δ >d *)lv» rum matgtan }KU)W AW*. Umgani, Port Natal (V. &} NOT. i* »». Knutt. n. 132. "Fruticula.* 3-4-peda- 1b."

lit iv* bit and foliage this plant is vttry u&4 ^P#^yMMi IV riq M^i. Frafti E. ri «y«/M_T I. Mey. comm. p. I**. it is quite distinct, ihd tiik-e it dttlrrvrtrfi is wim- points fro. <^* ytneric diAfactvn »» v«uMi«I^it 1y Meyer, n att««lf iti Uit minute, almost obsolete appendages at the sinus of the cvr<4l*. vhuh M off tatU " •UMMUU<>1 contorta," I must contradict this () sitively dextrorsum ctmtottt t*.t only in or- r, rw tfienrv *w)t a!**, »» fat iU)V HIM * < HHP W» SPWiMIlf VI Hn In iiii Pk W« TM* till* tpcOM tfiw k#Vi m wry fanW Iwisted indeed.

ASCLEPIADEÆ.

1. *Tylophora Caffra*, n. sp.—fruticosa, ramis puberulis; fain* •p|Ki<iiti*_t bnrniar petiolatis, lanceolato-oblongis, acutis, minute, pubescent, supra demum glabris; umbellis alterne axillaribus, simplicibus, nutantibus, pedicellis pedunculum subsequantibus petiolo duplo longioribus calycibusque puberulis; alabastris subglobosis, calyce patente, corulb sub-campanulata.

In f-naiiiiout cifta Tort Nfttjd |V, c.) Aug. IJUV- Krauss, n, 15.

From *b»t w* hmrr tern o(ihw ipiriil, it dor* not appear lo tw m cfimbtttg |il»nt, Bm^hc* rUkcr ttnigh i. densely oorciW with • mitnat*, MA, ^rrvith pubc*eti*ct. Leaves 1-2]

inches long* | -1 inch broad, with « petiole 1-2 line* long ;
 cy nrr turritn-nous, «muc wiat | »a1«r iimlcrcalli, *tid geno- *
 11 y n. tile, tit i *m!
 turret |itrniftt«'t promim r, wwr'tjr Tiii
 upper nurti. Iff>.,J» toliUry, flltcruaitk in l*ie
 flo*«TCH|; pectntrle hi form, 6 line* tenf; tnscttalff »l
 1 ase of MCH pnirol me lint long. Klimm of |he size of
 those of Ap««ymm mmdro**m\fvli*m; corulU dboot fu«r
 ti BHi Un^r tt^h U*« Mlysi, wide, bftvten !h« ouDpsnnttlv
 l and route furttt, divii! J nr»r Uie iiiildk into f» i»l|(mf^
 obtuse, lilt to tUrnfixijc 1«IHS», dark purple ? tLc bottom p»W
 greenish. Stamens ami «-in*n* minute. Pmil uiiLnoffn.

Ail Oum. **Krommt Kivicr** (IV. C. B.) Pdr. I**il>. Dr. Krauss.

3. *G. vmpucmirjiu* h<ut_utm*, I. Mey. l. c. p. pvi • p angustifolia, nob. foli margine undulato-crispulis.

I i collibus cirm Mrlklioul Kr**! j><<<w I um. Knysna, distr. Ge

Zw **flrmUm** (IV. C. a.) I>ce. IWM, k«H Or. Kr*un, Suffrutci, ramis alternis subdivaricatis, subsimplicibus, spithamæis, pedunculis tcrmiuittibus unlitaxit* v. geminis, 1-1 |*41. Lmigjt, io. |!i.aom, jw^vllu 5-4 tin. longis, alabas-lm utibstobiMtt, corulla bait Milphuft% mpiot T. demum tflU

a. r^/hrfiimi, ii. «r. K. M«f. l L c p. ^Mf. 1n arenosis ad ripas flum. Gauritz 1258.

4. *Lmgarimtku* trtmu*, lf. Al«y.A comm. p 203. In gramin«ti prop* Zwi*llendatn(IV, C ft.) J«ta. IK.19. Dr. Krauss.—Our *pertm*ia d fller from Dre;it* only in lw tod bK and Ui« ourulU tumM ilvww.

5. *L. navicularis*, E. Mey. / I e. p. 2iH. U n precedente legit Dr. Krauss.

6. *L. pelligera*, fc¹. .Wry. l W.— In graminosis prope

Port Natal (V. c.) Krauss, n. 105.—Drège's plant has the flowers somewhat larger and the leaves shorter.

7. *L. ex-nans*, E. Mey. l. c. p. 206. In graminosis prope flum. Kuysna (IV. C. b.) Febr. 1839. Dr. Krauss' plant has the leaves minutely but thickly pubescent on both sides.

A. *L. trimum*, E. Mey. l. c. p. 206. L C* III fi—iiw»rt ifi Zitsikam MI (IV. C. b.) Mart. 1839. Dr. Krauss.—Perhaps a new species, differing from *L. ex-nans* not seen, in having the terminal umbellae 5 linear leaflets of equal length as the pedicels, 4-5 lines; but our specimens are insufficient.

B. *L. gracilis*, E. Mey. l. c. p. 206. In graminosis prope flum. Knysna, distr. George (IV. C. b.) Febr. 1839. Krauss, n. 1261.—Bad specimens, differing from Dr. Krauss' plant in having the internodia longer than the internodia and glabrous.

10. *L. JtttMMM*, E. Mey. l. c. p. 207. In graminosis prope flum. Umlaas, Port Ntla) (V. c.) Oct. 1839. Krauss, n. 543. Our specimens have the leaves flexuose, elliptic, fringed, bearing great resemblance to *L. /iA&*, K. Mfj-f lmt ihit h*» Uic leaves glaucous, narrower at the base, and longer.

11. *L. interruptus*, E. Mey. l. c. p. 208. In collibus prope Mauritzburg, Port Natal (V. c.) Aug. 1839. Dr. Krauss.

12. *L. virgatus*, E. Mey. l. c. p. 208. In collibus glabris, internodia vix superantibus, in graminosis prope Uitenhage (IV. C. c.) Maj. 1839. Krauss.

13. *Pachycarpus graminifolius*, E. Mey. l. c. p. 209. In graminosis prope Uitenhage (IV. C. c.) Aug. 1839. Krauss, n. 1260.

14. *P. cancolor*, E. Mey. l. c. p. 210. Cum precedente, ad sylvarum margines, Dec. 1839. Krauss, n. 83.

15. *P. asperifolius*, n. sp. caule simplici, glabro; foliis oppositis, lanceolato-oblongis, acutis, in petiolum brevissimis.

mam uttrntmti*, pUnit. **inqu ttti ispidulo-itabrii**, nervo medic. crasse costatis; pedicellis axillaribus 5-8 umbellato-aggregatis, folio duplo brevioribus calycibusque puberulis; **cc-roll*** patente, concolore; coronae foliolis erectis, **Utnitm mem** brancea ovata acuta mutica erecta apice inflexa terminatis, basi utrinque 1-dentatis, folliculis——? Cum precedente **Wytt Dr. F. Krauss**.

Species **mcdi* ul4f P**, *appendiculatum* **ft nrbtmtmrem, E* Mi**). I c.; a priorone, facie simillimo, differt praecipue foliis inferne **utrmmtl***, **ah titraqu** corollae patente et corollae forma. **UrnbrllB** in tsilttt tltrrnfc fteuitoa (nilnqiuu-? oppositae) **pedioeHU * >H lit**). Corollae **Ugr M** in *P. ligulatus* and *P. concolor*, of a pale greenish colour, the segments oblong, acute.

16. *P. ligulatum*, **W. I. r. p. II**. In graminibus in Zitzikamma (IV. C. b.) **ilfelt. 1839 et prope Rivier**, Stellenbosch. — This species differs from *P. ligulatum* in its differently shaped corona staminea.

17. *P. imbricatum*, **Jf. i/ry. L. C. p. V. II**. In solo gramineo prope Erate Rivier, Stellenbosch (IV. A. e.) **»lt. 1000 ped.** Nov. 1838, **Krauss**, ii. J. 259.

18. *P. imbricatum*, **E. Meyer**. In graminibus prope Port Natal (V. c.) Dec. 1839. **Kim**, n. 84.

19. *P. imbricatum*, **E. Meyer**. In graminibus prope Port Natal (V. c.) Aug. 1839. — **W. Krauss** **hat*** seen Drège's **ftul**, but our specimens perfectly agree with the diagnosis given by Meyer.

SO. r>iHMr/ofiMi^JbMfia, **K. Mty**, l. c. p. 216. Scandens lit tyvis primitivus **UwiWikamma Rivier**, (IV. C. b.) **Feb. r. 1831** **Krauss**, n. 1256.

iL C. caespitosa, **V. Meyer**. In graminibus prope Port Natal (V. c.) **Mart. 1839**, **Krauss**, n. 1256. — Our specimens perfectly agree with the diagnosis given by Meyer.

22. *C. caespitosa*, **V. Meyer**. In sylvia primitivis, Zitzikamma (IV. C. b.) **Mart. 1839**, **Krauss**,

n. i 255.—All the *T. ncinMm* we have wro of this species (frutu Dffgt mi«l KnAMij tiftvui^ the *calyx* perfectly glabrous and the coron n» MUHM mtuT «IH1 >m«Uy Softer lh*ti the enrlls, we ra*p«ct tlwi ttov. *farm a Mb c t ftMciM fr* *Cym*»ck*m O^mm*, Ijim, «,, ttitrh E, M<rrr f^Tt to his pbnt. but of *hich R. Bftrw« (.l>cW|t. tn Mcti. W e m. Soc. I.) says, "calycibus pubescentibus, corona 5-fida corolla duplo brevior." Wr tlirriort- ftfupo** U» dhUhfU the Ut by the tiftue of Cy*or/o«BM *lIntrn*.

23. *C. ...* bnun, fuliw orvto-obfocijp* ?. dlifitioi, pe6fitt> faaii tortis, pedunculis thetnt axillaribus folium subaequantibus, umbella multiflora, radio uno alterove saepius umbellulifero.

Port NkUI (V. c.) Nov. 1839. Dr. Krauss.

Ex rj»t tw dtflwnBBM *buT« mentione. |, our plant agrees well with l)f4f^9. the *Umr** are thm, arate and ftiui* 1½-2 inches in tatgtfa tnd 1 in fire»dth ; trrt fxrtiok varies from i lo 5 Unes.

2 t. (*Hmm^trphnnnM ti*rari*\$, E. Mrr. f 1. (. (kf 8. Ad rivulo« f»rojM Lun*kloof, th»tr. (j«ovy* (IV. H, r.) Mi rt. 1839. Krau ss, n. 1356.

25. *C. rdyttmme gkktm*, K M«y.l L o. IVxt Natal (V.r^ Kr*xi»«(tt. 171.

SCROPHULARINEE.

1. *Limosella Capensis*, Thunb. Ft. C*|i. p. 4MI. *L. diandra* Linn.—In aquis stagnantibus circa U<t«nhan (IV. C. c.) Maj. 1839, Knm«», |. 1252.

OROBANCHEE.

1. *Hyobanche sanguinea*, Linn. mant. alt. p. <\$A. K. Mey. ! in Hb. Drège. In arenosis prope Port Natal (V. c.) Dec. 1839. Dr. Krauss.

AMARANTACEE.

1. *Alternanthera sessilis*, ft, Sr. i:. Mty. w Hk. IW*ft !

In solo nrnliiv) circi Port NaUl (V. <. Jun. 1839. Krauts, n. 2 II.

2. *Sciteocoma* (*Euekroa*) *rhryturus*, n. *ji. glabernrouin, basi tuJfruticoium ? caulibua »iruplidbu*, c-rectii; toliiw oj-positis v- aul- oppositis, lanccolatia, acutta, attenuato- -unp- tiolatis, iubi vjura; terminal i, cyttndnca, <»f»tuia, MI a- plici v, bui mbriniosa; aepalit lanoeoWua, mulicii, don< inferne ovarioque rUlosia*

In gram tin)»u ad •ylvanim marginei in aolo arenoco prope Port Naul t^x. c.) '"" i. *&9< Or- KIWMI, n. 294.

C)tolei herbacci]•edales-ICMIUI(M dales, teretes, tenuiter •ulcato-itnatit infra im* <lium pa uicifoliati, superne aphyllt v. folio unie oartliquiaei spier tlongf re«V' to praediti, internoc ^i''' inferioribus 1|-J poll longii. Kohu circ bip^Iliraria* 4-5 Lin. Uta, pUtia, •uhcanu»<iuala, Uete viridia, ooata mrdii sub- tot prommuU, vcuii vis consnirui. Spica ttrnu terminalis •olitaria, aurco-icrioca, 1 i-l-Millirart% num> simplicissi- nia, nunc itna baai iptcaa 1-2 trtailea vii teo> pollicares emitte HI. Floria wstructura, c xceptii iUtt inodiis, oranin o *Trichinii* It. Br. |>rini. p. 4 I I.

Perhaps our plant is UM satin- us *Seri>ncoma* ar»At»*) Fentl in Hb. Drift, n. *<>:> (BndL g»tt. MinHan I,). 33) whidt I hove not a«cn ; nor am I awrv ot its being describ ed atif- where. In outward •pfearaiu'T of the spikes it lift* a striking rttemblo nce w tli *Pufutha Schimper* Hochnl. in Schimper't Ahyuinian collection, secL I, ti. 8, hut thin, bfajdes lteiof ill<ver hairy andI having much Urgtf Iravc* atul flowen, « generically distinct, having the- lateral flower* »lerile and changed into thin »pmr* rriit hooki and thr fertile •tam* us alternating with mrmlinuKiui »tAuni.odui, and then fore is ft true /*n/Hi/i*i. At oother •peeie«v determined a* a *Trichinium* hy K. Meyer, and Ji»li net from oure, ooruni among Drège's plat its.

3. *Arkyrantktt* *tuj*rra*, Um^ Tliunh. W (>ji. p. 2i 5, E. Mey. in lib. UK-ge. In %\w% primiUtut |ir«po llum. 'Gou- Lamina, tlutr (Jeorgc (IV. C. b.) IVIir. ItM. Krau»s, n. 780 (ex paite.)

decurrente ovatis acuminatis, superioribus sensim angustioribus; stipulae, subfalcato-semiovatis, acutis, persistentibus, glomerulatis, dispositis, glomerulis inferioribus pedunculatis, luptnoribus at—ittbqa, «alyot tnutiM.

In *^TainM* prop* fluiu. Lm^atu, Hurt NaUl (V. c) Jon, 1839. Kn« % n. S 18.

A very **Iciittff* wcait herb, about 1 foot high; inferior leaves nearly 1 in. long (Httk cxDccding taw patkle) and 6-8 lines broad; atipulen at Ion* or little aburter than the pctioi*; spike 1-2 inches long glomerulose like a pea, flowers white, satinlike shining.

in. *L*^iitxmdtria* f *Cufm*, n. ip. atiffnaex ? (Ubenitnu, rmmis virjpitU, don\$ali^t iin.plmlbus, superne subaphyllis; foliis sparsis, sathulato-linearibus, obtusis; spicis terminalibus, ternis, pwjancu hbm, gracilibus, intermedia elongata »t; minodiis bifidis, stigmatibus 3, utriculo 2-spermo.*

Umlaa Lager, Port Natal (V. c.) Dec. 1839. Krauss, n. 37.

Umlaa Lager dense foliosus (internodiis hic 9-4 fat. kmen) a«po«« f*Ta | pauca lon fe distantia gcrn», *Xertn*, otmjlrte tmcvtiia. t^w online tpirvU 2-3 dispositA, 1-1) jwill iTTijr, In j». tj. !uu» breircm lenitin *Umlaa Lager* apico parum angustata, obtUM. Spica te ffHtiaff (intermedia) semi-pedalis (in senw* jam dt-Hiirata, hmrtcm <tiu persistentibus, pMfttlis tnmbrjuttwis, Untcolaiw, 1m. i -1) longis obtusis, laterales 1-1) poll. longie, floribus superioribus dense contiguis, inferioribus remotis. JMTUU*. Cmivx albu», nitidus. Stamens antheras breviter superantia, apice acute bifida. Antherae 2-loculares. Stigmata 3 brevia, sessilia, revoluta. Utriculus circumscissus, 2-spermus. Semina lenticularia, nigra, nitida, testa crustacea.

Although our plant somewhat deviates from the generic character assigned to *Lestiboulisia* (of which we have seen no other species) especially in having the capsule only two-seeded, we entertain little doubt of its really belonging to that

Chus. II **pfm*chm nm L. mpttMt Ham. ct Schull.* «rrt-
p. Sfcj (Cekww m**U* Jtcq. ir. ur. t. 559);. which, how-
ever, to judge ftum the *fijfU*; in *t% touch* broader
leaves, *Uk<rk<r* «nd hruwhed spike. . ami bflfw form.

CHENOPODIACEÆ.

i. *SaHcorma imdiem, V*M_t K. Mrr. b III. Drège. Ad
otitiam flam. KRJKM, dbto <>corpr IV. C. U** t. *Jut. 1839.*
Krauss, n» 783.

9. *^ / H * ^ Hattmut, Unn, it pcrtuhttitirt, I. Mey. l in
lib. Hrvgr,—In »oto trgUlaao ad rirolo*, diHr. Uiteo' ^ I' i'
(IV« C e.), A<f* IH3*1. KfiuK) tk< 7^9**

In tolo vfilkevo prop? Hum, I U I ^ M , dUtr. Ci^jpf (1 V. C. b.)
Feb. r. 1859. Knroat, n. 71*8.

4> *7. *iMMTWnnHb TimWi * 1. r. In MHO WpWo*i>**np'*
laceo •d ndicM montSam XV mterhutk (1 V. C. e.) Maj. 1839.*
Krauss, n.) 91.

5. *Gk wn/r» li<>>>, B. Mflj, ' in lib, M| .e. Civ d<
micilia incolarum in Zataikamma (IV. (. b.) Mm. 1839.*
*Kf>u**, n. 790.—*I ridrm tpervm prop* Port* *f>>}*
St. Yago, Cap. r.rvJ, Apr. I^Sw, W; it Dr. Krauss.

6. *C. B. -frya, / ^ » * - \) n(M liutu. K M^a. distr. Uiten-
hage (IV. C. c.) Apr. IU9. kfun ^ 1. 792.*

6. *Kochia sericea, S. liwrf — Tihh^fa jd^Vnt, Tliunl* FL
C<p. p. 2 43.—Ad rij <u fl Ki>>.>^ . fi<< rgo (IV. C. b.) Feb.
1831 . . . a, n. 786.*

POLYGONÆ.

1. *Polygonum tomentosum, Willd. β. denudatum, ftfrrmt. m
Linnæa 14, p. 483.—In (Miluüilm* *t fed HruLa distr. Uiten-
hage (IV. C. c.) Maj. 1839. Krx*iMI. n», *«' 2.*

2. *P. tomentosum, Locis
humidis prope flum. Knysna, (. b.) Jan.
1839. Krauss, n. 800.*

3. *P. strictum, All. Meian. l. c. p. 4. •\$. K*w* •.—In*

uliginosis planitiei Capenaii (111. E. b.) Sep L 1888 Krauss, n. 801.

4. *Oxygonum Drègeanum*, Mam. L c p. 4«7* Ingrtmino-
«u etna Purt Natal (V. C.) Jui, 153!*, Knittaa, n. 383.
** tlerb* ilt'rumb«n»."

5. *Atraphasit* **dntatt% *Urn**. Mc«n. I. a p. 4H9. lit wito
Uptdotoin Laj^eUoo^ diatr. UtMtps (IV. B. b<) Feb. 1^39.
Krauss, n. 1265.

0. t W f Onrrvpcalftw, ilnm. I. r. p, 490. In tolo lapi-
doso-argillaceo i m\ rij»» nv uk.rura diitr. Uitenhage (IV. C. e.)
Apr. 1839. Krauss, n. 794«

7* *Utumtr S'palnuw*, Sprrrmy. MeiwU L c. p. 492. SdCOI
rindoa td Utua monL Tygerber^, dutr. Cap. (111. D. a.)
Aug. 1838.

8. ff- *Mffcri*, *Mrum** I. c p. 404. «. form* cUior, erecta.
In uli^tw«u pUnitki C«p«ntu, prupe CwittMitiuii {IK E-
b.) ScpL 183». Knion, it< 7»5,—#1. form* liutmUa, ttdaoan-
dens.—In uligi<Kxi> rt M! rivulo* in Zoetetidnkrftky, dittr.
Zwellendron (1777) n. 797.

9. *R. Acetosa* ^» ii«». Mt. L C p. 4D6. lu vincis
Cotuuiiii* (111, K. b.) S«pt. IMIS. kni w, ». 7M>.

10. W. *UtitHtJru*, *Mfixn*. I e, |>. !!>;, a. afljtoaoidOt Cum
praced* Iqpt Dr. K«*UM, D. J9L VOUA utiinw ov*t(>-*ubfo-
tunda^ obtuiiMiina, bui leriter ounUta nee auricukte.

U. *ILmfittlmt*, *Tlmb*. fi fe/ifctu, Mei», Lc. p. 499.
** Frubnc wtiidrn*," Ad ryrvum ounceu^ \m*pe (lum.
GouIUOUU, diatr. Gcoife (IV. C b.) Fcb, 18^0 Krauss,
n. 796.

cardatus, Desf. Me uui, L M 500. Ad latus occi-
dniUk mwL Duyvelsberg, alt. 2000 ped I MI. A. •.), Jul.
1838. KrmuM, n. 799.—Specimina «iim TH epithamara, tuber*
digitum fere crasso et longo, alia fere pedalia.

THYMELÆE.

1. *Passerina anthylloides*, Linn. fil. i *calgaris*, Mom. m
Linnæa 14, p. M>3 — 1M C*J1!IU» pfujM |1um. Knysna, dl»U.

George (IV. C. ik) J»n, la v. Krauss, n. 772.— β , *macrophylla*, Meism. l. c.—In summitate montis ... prope Port Natal (alt. 2500-3000 ped.) Bcf*. 1839, Kf»i», n. 759. Folia imo .uferifa pitta kimJad>i ounutque adpfT*>fr villosa. t^rmum p m i M inter .1 it 7 iMmediiltt, W utriiique few fbbm u>ii^nm, in arenosis graminosis circa Hort Natal. Jul, IH3», lift? Dr. KraoM* «. t-2.

2. *P. lara* Wick*. *Hmm* \ c. p. 396.—«1 solo ganitico ad rad. mont. TiMber* (111. K b> M. im Krauss, n. 751.

3. *P. spicata*, Linn. fl. Neism. U p . 3W.—In planitie Zoetendalsvalci, «l»tr. /WCIIWUID (IV. C. h) Krauss, n. 754.—From these p m k f e p f M u v that t W flowers are originally gemma in the centre, wttadi a*WwHMf* gftn o*it tarto a branch, so as to change the position into a lateral one.

1 4. *Crypfmirmm jrwmJi0wr% Mrim*. 1. l p. G5.—In an BIIjilun itici Cijienai* fill. B» bO Nov. IS3U. Krauii, n. 756. ^'Hie IOYCI In tivmt ipr> i »re rvmarkabljr abort* s*''^ rally mil »U»r» tm lunrs lang.

&. C. oaffara, Jtfftm. 1 Krt.—Cuni pnatw) — £***.*. ft, 1835.

6. *ttMkmm t*Fttwtm> Mri***. U. p. 414, a et β .—Inter frutices ... n. 761 et 762.

7. *L. ...* imiti-vis trnw Outvniqa* pmp« (itxiqpr, ah. NX** pnl. (IV. C. b.) Jan. iHjy. KIAU., n. 773. Folia subcarinata.

8. *L. ...* l. c. p. 422. In solo arenoso planitki ZtW Ivli i (IV. C. a.) Dec. 1838. Krauss, n. 1265 bis.

9. *Gaidia (Pentameris) Kraussiana*, n. sp.—herbacea? caule recto simplici; foliis ovalibus v. lanceolato-oblongis nervosis; capitulo terminali, solitario, fr ^irtrwhli, to altifloro; involucri 8-12-phylli patuli foliolis ... rotatis pubescentibus; flores subaequantibus; floribus extus sericeo-

villos U, ttmtii p«tent j« lol>ii ovnttbui obutswainiif, squamas oblongas obtusissimas dimidio superantibus.

gtivt, acufittaciUii, micnunim* riliv is, pedunculo eI inridi ero dicit>* »ncero julo*i», (KrnuM, n. 4AS).

p. p!abraia% cattle foliisqua gtdbn*» i' liis ovalibus obovatisve v. tiroU-oblongi*, uJtto«u ? . obtuat subacuminatis, pedunculo parce pA0t% mMiiurro rKtttt gUUrc«oaiW margine piloso. (n. 455 b).

Utnunqne vancUlc m (« fmju entiore m) ad kten mon-tiurn UljuJununt jmtj e >ort Natal (V. c.) l^pt. IB39. legit Dr, Fcrrl. KfioM*

A line sprrit •, eloaviy mli^tl to 0\ tvjmtafa, but euitf dis-tm^uUb&Ur by iU cvirlcntly titi^v^m stems, its broader Itareft, itt flowcn mrvrly longer iti.ui thi involucre «JKI iu Urgvr (uta].>jii appandf* Tlw IMIW at* c«tier»llr alter-aating» but rfvfvanttf ajuiniiaailpl by fMm^, and sometimes er«n truly offona^ finaa f* to I* **m k«a> aad 3J 7 U nes broad, somewhat coriaceous, of a pale colour, and having on ««cb iiJc of tilt mid-rib one or two prominent veins which give tlvtto m some degree the appearance of folia tripli-v. quintuplinervia. Capitula hemispherical of the size of a wal-nut. Flowers 6-7 lines l^i if s euTVtwl with & «lky, j»ak yel* lowish pubescence, and towards thuur tiuc wiii long white hairs ; pstali 11 line Umg, I line bruui.

10. G. (fn/owr+) ttmatipetmU, \u sp.—fruticosa, run ulis pubesc entibm; foliis i|MthuUiti>t »cutiusculis, utrinque sel-presso pilmi*, junioribus | irriraft, ii.v.i|iH-rdikitw cunl'.rimibus ; capiiulU ur>ninalibus, duraum lairnJiliu*, pedunculo brevis-simo apice turlnn«ti>} tlorthut involoora polyphylo semi-patulo subduplo longioribus, extus subsericeo-canis, lobis obtusis squamas petaloideas ovaies integras vix superan-tibus.

In graminosis ail •jrhamm margines ubique circa Port Natal (V. c.) Jun. 1839. Knuk s, n. 237.

This has ent rely tf*r h>!nt. pubescence, leaves, influres-

oenoe, peduncle and receptacle of our *G. Di* V " < lin area
 14, p. 4*6), but differ* from it in the larger fiowett, ' with
 longer tegmenU, and, above all, the moat cowpicttott* petals
 that I Kate seen in any •peciei of the ftfiur, except *G. Kra*
 M M , they being roll'l line long, | of a line btoad, and < *
 a lively yellow colour. From *G. nurmia*, wit) which h it has • Iso
 great resemblance, it differ* likewise in the petals, a n d ' more-
 over in the pubescence.

11. *Qmidm**rrkrti, Linn. Meisn, L c. p 435. Locis argil-
 lareis planitietCapanata pfOpt CoaaUnUam (HI E. b.) Sept.
 1838. K rmuM,n, 771-

2. *G. (Tetranere) tenella*, n. sp.—herbacea? caule simpli-
 cissimo, erecto; foliis o. positis, ovali-oblongis, obtusis, concu-
 vus p itulo termi-
 nali nU, pilo«^ mnmii majuribut •enc«»; eap yllor
 loliUrm. WMili. M?«c«O| Aoribtt* inrulicfo 4-ph
 erecto parum longioribus, villosis,
 lobt• OTaitriu ODIUMS i iquamis petaloideis oblong^ acuti*,
 dimidtos lobo* asquantibus; antheri* auperioribos exaattia.

In later* oriental! M a t Constantiaberg, alt, 2000 ped.
 (111.D. b.)f Sept. IK38. Kranms, n. 776*

Very near *O. *nwa* and *litre**?*** (Unrura 14, p. 435,
 4^7), but differing from the (*am** in pubeacmoi wd in the
 leaTcs being not flat but slightly oonom | from the Ur er, in
 having the leaves opposite (not wttdllate) and leas rigid, and
 the flowm with eight (instead of four m,ihrr»); and from both,
 in the perfectly bnaoUaaa and probably annual stem, i»
 closely imbricate leaves. Prom <# mtommim \$ willmimbm* 0- r'
 p. 436% which it resembles much in fuliaga and jm bescence,
 it is chiefly distinguished by its timpk and herbaceous
 stem.

13. *O. cppttMjfoim*, !< *»» Mei m. l. c.p, 491. In grami-
 noau ad Uiera montii prope inailenihal, Zwelaindam, alt.
 3000 ped. (IV. A.) Dee. IK; - . Krsu»s, i>. 758.

14. *O. pm6mem*, *IUnj*. Meitati. L e. p. 438. In summi-
 Ute roontis Tafelbcrg (UL D. b.) Sept. 1838. Krauss,
 n. 770.

15. *G. carinata*. 71m*. MeUn, L c p, 44 4. In *r^{lrit} P^w*
tivis terre Outeniqua (| \ C. b.) Jan. 1839. Krauss,
75.

If*. <?. *pim*^>Ha_t /***. ft m. I, c* p. 44ft. A4 L*as occi-
denude Mont* **ftfaMt**, all. UWO pttl. (III. E. b.) Maj.
1SSH. Kimum, n. 75 1,

17. *G. a* *f*d*ttt. IM. ' Mtwn, I. e» p, i 49. in arenosis
>latiitici Capeim* (III. K b.) N(i*. JKi«. knutf, o. 808.

18. *G. j* ^iptrifvh** Lam,* ,I miw/f, **Meiw-1**, c, |>, 45!
—In UpUoao^KOMiva monUmm prope KU-in K<vier, Zwellen-
dam (IV. H. b.) i> c. 18in. Knu«>. n. 774 (foraw folii* ob-
solete scerosis, vix uncinato-mucronatis).—γ. *pubigera*, Meisn.
Lc. In **osloum** pltnitki Zoetendalsvalci, ZvralWndam (IV,
C<fc.) Dee 1838. Knuu, r. 755.

I|K O, dttrrrrtu, Mcu n. l. c. p. j:• 1. In Utett occiJenuii
Mon tit UuyvrUWn; , <lt. 21iOu pod. (HI. A.c.) Jul 1839.
Krauss, n. 777.

20. *G. coriacea* t **Mr*****. |, t. p. 45 l.—li. Ur lapides ad latera
montis Winterhoek, distr. Uitenhage, alt. 1000-2000 ped.
(IV. C. c. \ Apr. IR39, KlttttM, n. 757. Form»», foliii, pn»-
cipue involu-
mtibua p*uoio nuortbu*, wl (7. *ttypktRMdtm*
accedens, sed nerritiunc dutinctA.

i{l • *Stntfkkot** rvyi/** *tjmm** *it jmhtfotn**, V w n. U c* p< 404.
hi Utrfibo* nottL Dupcbbcig (III. A. e.) Jut ISM.
K rnuM_t n. 7*W»¹—ylutrr]/l*My_f nob. csftri* tulx> glaberrimo,
luobi tobis dotvo put» ptlwis^^In tola 1»JH^{dosio-arenoso}
montium prop* KIMQ Kir^r. Zwell ciuUtfi, alt, 1000 pot
(IV, II. b»)i 1W. 1838. Krtuu, n. 767.

22. *S. niftij*, /.MM. « «yw*0Uut, Mm-3, l. c. pi 4ft». In
at«n<m« tt rrrrf it jii*niici C«pcn*i» «t nd fwl. mont. Con-
stantiaberg r Stee>b«rpa <1IL D. U) *1L 1000 pcd, Jul,
Sept. IAS*. KniuM^ «. 740, 7«»

23. I jparpMbrtt. /forf/, Mcun. L ð. p. i&j. In solo argil-
lacro-arenoso terre Zitzikamma, distr. George (IV. b.)
Mart. 1839. Krauss, n. 760.

24. *S. dodecapetala*, Bartl. Meisn. L r. p. 475.—•• solo

argillaceo-arenoso ad latera mont. Duyvelsberg, alt. * > 30 ped.
(III. A. c.) Feb. 1839. Krauss, n. 763.—An a *S. chrysantha*
Lichtenst. **Mti* dtu** incta?

25. *S. hirsuta*, *Wickstr.* **Mow** l. c. 475.—In collibus
prope **fium. Kn** rana, distr. Ge (IV. C. b.) **Jan. 1838**
Krauss, n. 764.

26. *S. striata*, *Lam.*! *Meisn.* l. c. p. 477. β *angustifolia*
nob. foliis linearibus lanceolatisve (1-2 lin. latis) superioribus
sensim latioribus.

In arenosis planities Capensis (III. E. b.) Nov. 1838.
Krauss, n. 765.

27. *S. lucens*, *Poir.*! *Meisn.* l. c. p. 478. In summitate
Montis Tabularis, alt. 3000 ped. (III. D. b.) Maj. 1838.
Krauss, n. 768.

28. *S. longiflora*, *Lam.*! *Meisn.* l. c. p. 479.—in **dos**
ad latus montis Leuwenkop, alt. 1000 ped. (III. D. A) Sept.
1838. Krauss, n. 768 b.

PENEACEÆ.

1. *Penea squamosa*, *Linna.*—Inter rupes summitatis mont.
Tafelberg (III. D. b.) Maj. 1838. **Dr. Krauss.**

2. *P. Cuneata*, *Lam.* III. n. 1581.—Inter lapides secus
rivulos ad latera montium Winterhoek, distr. Uitenhage (IV.
C. r.) **Apr- IMS.** Krauss, n. 1214.

3. *P. myrtilloides*, *Thunb.* prodr. p. 30. **FU C«(p. 169.**
P. myrtilloides, *Linna.* fil. β *multiflora*, *nob.*—floribus in spicas
terminales brevissimas capituliformes congestis.

Ad flum. **NtitWMkmiM, dbtr. Owftt** (IV. C. b.) Jan.
1839. Krauss, n. 1213. (*Drège*, n. 8156?).

EUPHORBIAEÆ.

4. *Mercurialis tenella*, n. sp.; herbacea, glaberrima; caule
humili, diffuso, ramosissimo, **uliuurvu**, angulato; foliis alter-
nis, sessilibus, linearibus, acutis, stipulisque minutis lan-

ceolatis integerrimis, ftoribu* ma»rultft »iilUribu« □ sessilibus subsolitariis T. in pedunruhi brcrittmo pftuci* gi»meratis.

In collibus arenosis liitorali terra Zitzil»*min*. d''str. George (LV.C. b.) M*rU 183**, Knia ^ u. Ll»l, (K«eu una latet).

Stems «auctly 5 inc-he* bag, ixtremely thi* and weak. Leaves 3-4 litin tmiy, i I Ian brrwl; »tjnkftaraU, 4-1 line k*ig. Fknr«n n minute, yrliow. nppofiU to, or i* tlw *»• iU of t»e lettts, et[wci»lly of ilic nijicrior imct, Uurtv *rr geiMftHj M«n« ic« steril • pedkcU in IIK: ab«pc »»f minutr filiittrm UM1M« terniinibnl by • twttul brunnih gUnd, awtijr like lbt»< we aWnrr in ibe axiU of the brKU on tbc liuk inf U»tMia« e i f fi pvrnti**

2. V. tmjtrurvide*, n. ftp.; gU»errim*, but •uffralr«vii»r «MiUbu% «Tcrttt, •thctnimla, minimi, w»pr«ie vutf angusto-costatis; foliis alternis, subpetiolatis, lanceolatis, acutis, leviter et remotiuscule dentatis, triplinerviis, superioribus linearibus saepius subintegerrimis; stipulis herbaceis, lanceolatis, subintegris v. basi inciso-serratis; floribus masculis axillaribus paucis aggregatis, brevissime pedicellatis (femineis ignotis).

In yruinoiii eirci Pun Natal (V. c.) C'ct. IWJ. Krauss, nu 116D. (Urrge, n. 187 1 uul pc?h«pi «ko bu ft* lb*in and 8223 ?).

This comes ir#ry AMI tins preceding ij'cies, t'fom which, however, it is sJBd«ltlr HUtiuct by the characters above indicated. The leaves are often 10-12 lines long, 2-3 lines broad, tb«ir iMtk •bort, vwotlj •cute, ud 6tnn 1 to 2 lines distant from the base, the length of 9 hr»«, ami gmtfiUly br*f two or iLr« lougi»b tcrllb cm the mvgiu near tbr bjur. Tbt downtn MV atngWd with •i»iUf ftcrik |xdieri« » in JV. tenella.

sp.; glaberrima; caule debili, diffuso, ramoso, bmi suffrutescente? superne obsolete marginato-angulato; folit* aluntu, pcitoUti*, tciitie m n u ^ i inferiorib»»

subrhombico-ovatis, superioribus **bongblai. aiipufii** herba-
ceis, lanceolatis, limljnuo M-rntu; **scribua mv** culis ter**
nalibus « in summis axillis **tjgitgttU** breviter pedicellatis*
{fainifim iipii)!is).

la **m m i** tiifti itimit **circa** • inum lout H*y (Ill. E. b.) Sept.
1838. Knun, t». 1190.

A lirii'ft-r |iUni. about J ftwrt liigi; leaves 6-4 l>n<* K ing,
with a **bole** of **...** in the
superior ones, shorter; inferior leaves 3-5 lines broad, and
frequently scarcely longer; they are as variable in form as in
MM| being now cuneato-attenuate and acute at both ends, so
M to approach t\w rhomboidal i form, and now round ^1 »t
the base, or even at both ends, or nearly orbicular, whilst others,
particularly the upper **...** and the
tfUMiinaat #*w* lttxrw. Xi^cir u-rlh tr* **potCBUy c^val***H
»ut «ry *mtc **and** r.cifc uf **lcaa** cvldrnly **cJHatii i** mucronate.
St **jntlv** 2-3 line **ea tofft**, 1 line brwrl, **witli thin affttivn*** oc
cilli of ntiirl)) **IMT** li-iiiitli, **all along tUctr** rn»rpo». **F1»iw<f>**
a little Uigcr and nor e crowded rlimi in tta two preceding
species.

t 4. *M. Caffra*, n. sp.; glaberrima, caulibus (ramisve?) herba-
ceis, rectis, articulatis, simplicibus; foliis oppositis v. ternis-
tim verticillatis, petiolatis, ovatis, acuminatis, dense crenato-
dentatis, ad basin limbi superne glandulas unfintilltT fili-
formes minutas gerentibus; stipulis minutis, lacero-filiformi-
bus; racemis (masculis) terminalibus, umbellato-aggregatis,
pedunculatis, subaphyllis, erectis, interruptis, floribus aggre-
gatis inaequaliter pedicellatis. (Formina ignota).

dto longioribus, infimis abbreviatis suborbicularis basi
tmi lato-subcordatis, caule laevi, obsolete lineato.

liitcf arundines prope flum. Umlaas, Port Natal. (V. c.)
Drc 1839. kniuss, n. 156.

..., foliis oppositis, long **p Hi** nuat • acuminatis
pctiulo m v, partm longioribus, **...** caule
seutiuscule at o-lineato.

In tTvit pnaiiuvin mA ripum AfMUfttt (Jmilumm* distr. George (IV. r. 1>), Feb. 1839. Krauss. n. 1T-'i.-An species distincta / (Jf. Drtyemmv nob. olim.)

Tbt* %iievk% hm the hate and inflorescence of *M. perennis*.
 Stem* A¹out one foot t hi|K ntutui* tiofittw* (at least in the dry ttnte) mi tbt jotuti (ntxli), with fistulose internodia of 1-1 1/2 inch of the leaves 1-1 1/2 inch long, 8-10 \ Usu bro dt *mr Ihm bw; the marginal teeth very equal and widely distant from each other, becoming smaller and more acute towards the base of the lamina; stipules not quite 1 line long. Without having seen more numerous specimens, and also of the female I dare not decide whether our var. β . ought to form a distinct species.

(To be continued).

Enumerat ** <tf | LEGUMINOSÆ, indigenous to Southern Asia and Central and Southern Africa. By GEORGE BENTHAM, Esq.

{Continued from p. 481),

CROTALARIA.

Series I. SIMPLICIFOLIÆ (continued).

§ 6. *Eriocarpæ*. Herbar v. frutices erecta, sæpius elata et villosa, rarius humilia. Stipulæ nullæ ^ non decurrentes. Racemi terminales, sæpius multiflori v. paniculati, rarius demum oppositi. Legumen adpressæ v. velutino-pubescentibus. —Species omnes hic enumeratæ.

The Mi it is usually they are distinguished by the pod more or less hairy. A few of the smaller species come near to some of the *Diffusæ*, but are here placed on account of their stems with terminal inflorescence.

Racemis laxis, legumine sericeo v. piloso.

32. *C. verrucosa* (Linn.)—W. et Arn. **An* * IV** vol. 1, p* 187
—*C. mollis*, Weinm. Syl. **L Ft.** Rattiab. 2, p. 25.

L **t*r»** : **Kwt Iufbn IV*** insula, **Hey #•»»*•** others; **G•* -**
*** p m ,HmOhm ' Sillet de Silva** Chittagong and Burmese
territory, **IoAr'** (C-L n. !•»)]. **Pb»b|»|*inc** Islands, **Cun-**
ning. n. 462, ami **rthrm** the **hwiflr U** lands, **Hiad'**
and others; in **t|M W* « li*thc* . «m|** in **fNipKml** South Ame-
rica (**Surim**, **Ho(mam* ' n. .•59)**.

33. *C. Walkeri* (Wight) et Arn. Prod. 1, p. 117).—Un-
known to

N Nilgherry hills, **Wight V.**

34. *C. Arnottii* (Wight) et Arn. Prodr. 1, p. 187 non Vent.—Arnott's charac-

teristics of this and other species are very exact, but it
»pp«fttv b> me that hi has mistaken Ventenat's synonym.

ftlthoajeh i stipule **••** not ***bi»«ik m t** the figure to be long, and
precisely those of the Ceylon plant.

Nilgherry hills, **Wight** / **Maxaburam, Sir F. Adam** /

35. *C. semperflorens* (Vahl) DC. Cels. t. 17).—*C. Walkeri*,
Arn. in Nov. Act. Acad. Nat. Cur. 18, p. 328.

Ceylon, **Wight** / **Walker** / **Roxburgh**
inserts in his Flora Indica *C. semperflorens* as a native of
Sumatra, cultivated in **Ceylon** but it is doubtful
w hrtlirr he mfen to ibc I M M species.

Sf. C. /rywttMt UmJ in ***i| i** Cat. n. **M14U—W.**
Am / **Pr 4r. I, p. It*/.**

East Indian Peninsula. Mysore and Travancore, **Heyne** /

Hi mfwittUm wwuboi, imtuu IM^ piurtliwk, bracteolis
in medio pedicello bracteisque minutis setaceis, legumine
(junior) **Mnm wfptCM«** piloso.—Species videtur elata.

Folia in specimine tuque «i 4*5 pall, loriR*, fere niuda. Pedicelli tenues. Flora magtitudiNi C. «emperflorentia.

Burmah territory, on the luounuuti called Taong Dong, Wallich!

S6. C. L^ncMnt (ti.uiti. et r err. Fl. Scft^g, I, p. 168),—Walp. Repert. Sy#t< I, p. 5IM.—rnknuwu to me Senegambia. In tU w^odt of tfaa Wda rr<v on, Leprieur and PrroiUi.

39. C. IvyWw (i|b n.) ; rrrrU, nunuln elongatis, teretibus longe pilo«*, fuhis brrritcr pebuUlu InK«ri-Uii«<oUtn uiruique pilofii cmtta^Hnibm, iicsaii remote pluiifloris, bnc-teollis sub calyce bracteisque minutis, calycis membranacei laciniis subaequilong i* lubum TIX iih]umitilfUft, orvio stipitato villofei.—In fUcnikque cam d4icri|it4(irte C L^yirirHni *I»D-Tfnit^ sed orariuaj *LJH e longo praedit iru noc *ft»»ilr.

Tripiral Africa. S-brliiin on Ljr Uuorm, lly»/,'

«D. C. nrtjuhuh* (Burdi. I in DC INwir. !\ p. II8), dUbn w piutilfu* juniurilmB (ulu^or »ubtu« minul< sericeis, ramulis junceis •Uuitft. *lipuli* MlbnuIU*, Mil* &ngu«t« i b-longo- laxis plunfloo*, bf«ot*olt» tub ralyce T. tupta medium pedicelli bnct«i«|uf miuuti*, caljrcr udptttm pulinceate jwdk«Uo km* ^iure, Icgumiuc »r*»ili ob*jv*ii t.uUonfo minulr pubewoente^^ C. Mptrtividety E- M<y 1 Cumin, p. Af» M 1X\—Wry near 0. *fartirides, Imt the leivt* art bruftdcr, ilw pedicel* «bofter, and the (fcncrmi liaUil <hll

South Africa, Bi near Verlep'ram, Orège!

bus junipnlm* «kly«abuM{i«E minute ; u^*tulip, ntmoit tcnui-bus junceis striatis, stipulis subnullis, foliis lineari-subulatis, racrmi* ftongBli* t)un floris, bmtoalk »ub oJycr T. mpra tmedium p«dicdli brm taitque jwrru aetacci*, cдынбу* pedi-filkf ittUbmrtoribut, U^uniinv brcMUt oblongo sessili ad-presso pubescente.

Subtil ViruM, BrndmU • ». 2336; <m the Rhinoster River, Burke!

42. *C. jmttik* <llryiw< U. at Am.! Phalf. 1, p. 189).—
Wall. ! <*L «. XVJC, He rfai k-.M»f rm *Diffusis*
affinis ub. rallocaveri M W*Kt rt Arn 41, wd inflores-
centia diu terminalis e. erecti videntur. Flores
minis llk

East itKUvt IVniitiuU. I)^nIn<l Iilk l#l^kttf

* * *Racemis laxis, legumine dense fusco-velutino.*

43. *C. leptostachya* (sp. n.); caule erecto tetragono ad
angulos hirsuto, stipulis minutis linearibus transversis, foliis
oblongo-ellipticis lanceolatisve acutis supra glabris subtus
hirtellis, racemis elongatis multifloris, pedicellis calyce ad-
presse pubescente brevioribus, bracteis bracteolisque minutis,
corolla calycem sequante, legumine sessili brevi.—Flores
dimidio minores quam v *C. juncea* cw ftifinc*. Cfclf* *ix
4-lin. longus.

E collection, without any pre-
cise location.

44 *C. X « H* (Una. t U. et Vrn, IVodr. 1, p. 1^5).—
WJLf COL tu SAOBL *C. Bmfkitrwu, Um. WtMI* Cat.
n. i3 «. *C. tenuifol* *f JLMI., Wall! t al. IU 1368. *C. por-*
Wall. Cat. n. 5397 B.

Ver 7 generally cultivated all over the WHithrnt parts of
Assam or the fibres of its bark, which may be called the hemp
of India, *Roxburgh*; and, consequently, it is difficult to ascer-
tain in which of the stations g it is indigenous. II occurs
in most collection » from the Peninsula, Upper India, and
Bengal; in U pp Assam, *Jenkins*; in Burma, *H_a/4^A*; and
a specimen collected by *Frost*.
train, apt**rs to b* the atata.

45. *C. tetra* ^F*** (B *W*, «< Am. 1 Piwlr. | (p, 185).
Wall. ! 1 Cat. n. 5367, A to C.

Upper India. Kunawur, *Edgeworth*; Kheeroo Pass,
Royle f Unr N *Nipal, Wallich*; *Roxburgh*; Assam, *Griffiths* !
n. 499. Ail lie Peninsular specimens which I have seen, are
frtmi gardens.

4C. C. *U**m* (Grah. in Wall, i Cat. n. 5372).—W. et AnU Prwlf. I, } . 185.—C. *lei vit^owi iw ? v\»U.l <*>** n. 5367 D.

Nilgerry 11 ilU_t X<rtom ! 19 it/Fit !

*** * *** *liacmi* brerihm*jMnidtWw, legumine fusco-villosis-
time tmlftr mmlta tomyiorr,*

47. C. *gymnocarpa* (Wight) ; caule erecto vix angulato brevissime sericeo-pubescente, stipulis lineari-subulatis parvis transversis, foliis breviter petiolatis obovati-ellipticis v. late oblongis junioribus* utrinque sericeo-flavicantibus adultis »upn Y* utrinque glabris, racemis brevibus plurifloris subpaniculatis, pedicellis medio bracteolatis, calycibus ferrugineo-sericeis marginibus subrevolutis, legumine sessili dense fusco-villosissimo.—Affinis quidem *C. pulcherrima*, sed racemi breviores, flores majores et pubes omittit diversa. Legumen bipollicare.

Katt 1 Indian Peninsula. *Wight !*

C. pulcherrima (Wight) in Wall. Cat. n. 5376) ^¥ T . et Attu\ IVodj i , p. 184.

£ M & hi(Ji>n l'iniiniulft. XUgerry Uill*, AWtm ' Madura II,IU. If^- / /

49. C. *stipitata* (Wight) (Cat. n. 5377).—W. et Ari.t IVuclr. I, p. I«M»—Hrtttav «t podioelti veptui, at non semper, opposita.

East h>duu Peninsula. Diadyfol UiUm *Wight !*

C. pulcherrima (Wight) (Cat. n. 5377) v. *vir loc.*

C. pulcherrima (Wight) (Cat. n. 5377) Wall. C. 5375.

Ka<l ItMJum IVniniul*. Myiwrr, /budtft yh; Nilgerry, Coemala, *Wight !*

C. pulcherrima (Roxb.)—W. rf An* ' I^nidr. I_f p. IWV—V¥«1LI C*i. H. 5374.—C. *Berterianna*, DC. ? Pro to

Kna4 litttmn I¹-ninsu I>- M)wre_t *Roxb. h, Wight* '-- This and the nfwedindir tiwrtei fetmau to be irt the U>t*m<*. T>rJ«'*

of the Mauritius **ww) at warn*** of the WK Ifxftw frtowh. ^
are occasionally tent in tfoUwtiom frutn OKMMF plm*. xhamfH
not indigenous.

SS. C *tnMtmu3*, {\\ «t Am. Ftod. 1 p. 1w)^—Unknown

Nilglicfty **II ilk**, *Wight*.

S3. C. *hmmkim* (Heyne! W. fC Am,? IVodr. i. p. 183).
—Wall. Cat. n. 5378.

#T*njorr_f *ifrpm f* *Might*.

54. C. r<i>i<Mwiw (t o k ! W. et Arn. I Prodr. i. p. 183).
—C. i. 5380.

of Bengal, Roxburgh; Peninsula,
Rottl. ! Heyne!

n. ! Prodr. 1, p. 183).
Wall. ! Cat, n. 5379. *Ononis glutinosa*, Mart. Denkschr.
Acad. MHO, fi, p. 155.

East I r.liA. PeiüinfuU *Heyne* ! MM! others, hills near
V•Uort tot) JJfchftcotuh, II'ij/Ai ' alwi in l*r%*, Lamarek*.

§ 7- r</ffta«. *Herbae saepius humiles v. diffuse, villosae,*
rari u« ^rutica rrectii, ranuaiMimi, rmmuli rtrpitu. Stipulae*
*nulbr T, mm <*t urrwitM. IUrarii Unniruk*, b p*uci«*
speciebus «kmfiti mnltkdurit «»p«u» Ueves, nunc capitati
ntttik drniuii appuiittfJii. CaljtMi Iürsutissimi v. sericeo-
pilosi, saepius ampli. Legumen glabrum, ovoideum v. bre-
*vite . P*U11M kmc»u», r>j-i»i«H»*
salve- ... mla lousiana.

Tim grrairT tittmlicr of <f>eaii ««n W r n by thr If^f
k i n whicfc oorrr tbc cd\\r». **Home of Uj» Mr.** Her diffu< *
mobs eoow wry n«r tW tHgm#. **but** iit* itttLiHfecciif*
if it » becomes lateral, is only **K.** when Ui« flowt ring is far
advanced.

* *Lacinia calycinis supremis profunde discretis.*

56. C. *speciosa* (Heyne, W. et Arn. ! I*rwdr. I, p. 182).
C. *cephalotes*, Herb. Madr. ! in 3.
East Indian Peninsula. Myr

57. C. *calycina* (Schrank, Pl. Rar. Monac. t. 12), decum-
bens, Y. suberecta, stipulis minutis, foliis oblongis l«ntrr^{Jfc*4*}

linearibusve supra glabris. v, rantrr pifxtj^, iu' otus cauleque adpreuc pilous, recemtt tramimJit>u» jnu*.tl->m, Anrihu* |ie- dunculatis pendulis inter se distantibus, calyce maximo longe rufo-barbato, laciniis superioribus late oblongis vexillum supe- rmlibut, OTMIO mulimvut*t«, k^uoaiufl M»» ili incluso.—C. stricta, Roxb. | Fl. Ind. 3, p 265, non Roth. C. Roxburgh-

Neji, *J4l, Wall- Cat. n. »BM A, <x p*rtc W. H \ru_I Pro.Ir. \ |>, 181, nut IJlJU. C- Umaru. Ucfb. W*dj, 1 ift WalU C*1. n. 5370. • trmt; GnhJ in \V>U, CtL n. 540.4. C. mKnJUiu tmr f W>H.! C<L B. M59 B.—Folia latitudine niflnopeTc rvrifeftt Finrrs itlfeffom nonnunquam axillares, mum* pedkdUU. Calyoe« jMitlkuw w* longiores. Corolla caerulea.

Tropical Airica tnd Asu. ftencsgftmhi*. Hrbloi f Cey- Um, llalArr' Eut Incfum i'enins/La. nc<r IWygwl <nd Courtallum, Wight! Circat mountains, Roxburgh! Suka- naghur, IfomiMm ! Hot <a«>Af iitBMifini in the Hima aWv*, iW-ewortl. •' Nip<l. #r-; tick! A<wn, CV|ptt n. SOI, Sillet De Silva!

hills, near let! Vachell! Philippine T W * Itatif, i.nr .\r«, H'at/»rk t Molui Island, on the north coast of Au

58. C. ttrtha, -I. <W<*>J;JU#> co- oblongis lanceolatiave supra otus adpresse rufo-villosis, racemis axi- breviter pedicellatis, bracteis bracteolisque parvis seta- ceis, calycis breviter rufo-villosi laciniis late ovatis »openonwi.«

cluso glabro.—C. rhizophylla <.«b.1 in WV I U. —Calycees magnitudine C. sessiliflora, sed villis multo bre- vioribus appressis et laciniis supremis ibus diversi.

East Indian provi no of S<Wt De S'./.< ! 59. C. sessiliflora (Linn. Spec. p. 1004) ascendens, stipu- VOL. II.

lis setaceis obsolete, foliis DbkmfOkjaiiflajglaw Uu<*nW' ve
 supra glabris v. ranter piliaaa tuhtu* noWqtw «*i|»f* **. villo-
 sis, racemis terminalibus brevibus, floribus subsessilibus con-
 fertis, bracteolis calyce bracteisque subulatis, calycis
 barbato-villosi laciniis superioribus ovatis v. late oblongis
 corollam superantibus, ovario multiovulato, legumine glabro
 calycem aequante.

Wall. Cat. n. 5366. *Link.*
 Enum. Hortu Brna. f« a. { : S. I. •naaKa, Wall. Cat.
 n. 5365.—Flores inferiores saepe axillares, omnes quam in
 C. calycina dimidio minores. Corolla caerulea.

Mountains of South Eastern Asia. Himalaya, Edgeworth!
 Upper India, Hamilton! Assam, Griffiths! n. 20. Mish-
 mee Hills, Griffiths! n. 20. Tuong Dong, near Ava and
 Prome Hill, Griffiths! Nw Hills, near Canton, Parker!
 Philippine Islands, Lamarek.

60. *Nov. Sp. p. 338*) adscen-
 dens, foliis lanceolatis v. linearibus, floribus lan-
 ceolatis, calycis rufo-barbati laciniis lanceolatis corolla longiori-
 ma, ovario multiovulato, legumine valde inflato
 caudato longiore.—C. stipulacea, Roxb. Fl. Ind. 3,
 p. 26. *Spee. p. 101* at subdichotomi. Flores infe-

ikmm norintutqiMuti aaiUana. Calyces 7-8 lin. longi. Legu-
 awn pilhc&rr.

India. Mysore, Heyne! Courtallum, Wight!
 Sadhaura plains, Edgeworth!

Spec. p. 101 ramosissima, dif-
 fuscendens, stipulis parvis obsolete, foliis infimis ovatis ellipticisve superioribus oblongis
 linearibusve obtusis utrinque rufo-pilosis hispidsive, racemis
 terminalibus abbreviatis bracteisque
 lineari-lanceolatis, laciniis brevissimis laciniis
 lato-lanceolatis corollam superantibus, ovario multiovulato,

legumine ov·idto w«rili calcem panim ^iqwranct—Calv* quam in C. uiyMOmm minor, (C. hir r# major. tagumen sen ii-Mi!iif!>re, Tiltk tnftaf uni.

Sou tii Kant A«a. IWttrniii. //c(/W ! Sur nntm. Jf«den ! Philippine laUndh, (~umi*g * n. HUM.

«J* C Air<< (WiHiL—W. et Anut PWrfr I. p. !««).—Man, Drnfctthr. Aead. Mun. ft, t F.—C dU«M«w(Aoib.! Wali. • Tut. n, 53W n<>i Lei*. C. pifcmr, Ko«L Nov. Vet. Tfftt. Cur. 1 w, C. f^i/kMfj link. ? En urn. *, p, 228.

East India. Pasture grounds, borders of fields, etc. Roxburgh ! Wight ! and others.

63, C\ «Mwir (Hcyne in Koth. Nut. 11. Sp. p. 333) fruticosa V. «wpitri**_t immtil) tenuibu il vir^tik apjirt»*o l mhescentibus, foliis obovate yuprm gl*!>n* v. ji«rn pubescentibus subtus adpresse puberulis r. cmno-Kricci*, ncenift plurifloris laxis secundis, bracteolis in calyce bracteisque minutis, calycis adpresse puberuli v. wia so-villa ^t U inis supremis falcato-oblongia profunde discretis corollam aequantibus, ovario sub-10-ovulato, legumine sessili obfenga i(ljfc' pro calyce subdimidio longiore.—C. montana, t Bcutb* M. lofi. J, p. ?AS. C. scoparia, Wall. I Cat n. Mt8. C. jmrra, t Qrab. • in Wall. (*RU n. 51 02. C. tenu w, Wall. * Cut, a. 54<d. & pvmttattt, U*Al. | in Wall. CaL n. 540 i j| n I. C. tttxvrpofr Vo^cP Lr^, Meyen, p. 8, in Nov. VcL Nut. Cur. Ili Suppl.—V»rmt r»«1c immJ butniti kuffrutkuMi r«««pitow»_t rtitnbu* nuinrrum patjtle 0 majoribus, none frutkuwi ejects i>R>o«i«utBo rumult* in uibus adscendenti-«nprtim doribus . mutiofiba*. Koh» > in C. hui-foliae subsimiles at t«ptt« minor*. Cttyan nrra 4 lih. longi.

MdcmUin. of HouUiem Au*. c^Um, «'#iU^' »nd others. Nilgherries, Wight ! Sir F. Adam ! <>hmr mountain*. « M-burgik, TIMtmbra, Edftw\jrth * Fitm U»r Krtra ntgr to I^5^n Dhour

Lady Dmlktim* ! S_uW**^iur. tfiwmltp* ! Nipal, Wallich ! Sillet, ^ J^AM ' MfetiOMC, UilU, (irifihM ' n. 21. Tenna-whm, ilrtfr^ H'aLUch ' HuTm* AII4 Taroy, Wallich ! Cape

Syng Moon, in China, Jfrpm, Bong Kong, JtioaV.* Philippine
pine l«hnd«f i mmy / u. 984.

Mr. Edgrvorth oh*crre» ti*t t«e low owpilm* form has
•o dtffifmt an upect 0<K» tb« tno« oomnxm tfafaUf state,
th*t he tbitiki they « U M * M o m to the atmt species, but
after a evelul «xm»ituUinn of nnacraw dritd specimens, I
cmniot in tb«t »Ute discover r uny r«&nuMrr to distinguish them»
antl there appcv to me la be nwy funa» mUrm<<ti»U as to
stature.

(5404) adscendens,
humilis, mole Aitprru^ riOuMy foliis obovato-oblongis basi
longe pilosis, racemis dense
spiciformibus, bracteolis in calyce bracteisque lanceolatis
acuminatis, calycis piloso-hirti laciniis superioribus lanceolatis
acutis profunde discretis corollam aequantibus, ovalis circa 6,
legumine vmidco sessili calycem vix aequante.—Specimina
juniora til semipedalia. Folia 2-J poll. l*«>#*, usque ad pol-
Kean latr, I flor* few l. *C. hirta*.

K*it India, but ihe euct station Wmt; {vrob*blj Sillet or
Burma, Wallich!

65. *C. patula* (Griseb. in Wall. Cat. n. 5371) humilis, cespitosa,
suberecta, ramis adpresso pilosis, stipulis obsolete,
foliis anguste linearibus supra glabriusculis subtus sericeo-
pilosis, racemis brevibus paucifloris, bracteolis sub calyce
bracteisque subulatis, calycis piloso-hirti laciniis superioribus
lanceolatis acutis tubo sublongioribus corollam 4PQtiftJ Vi'i,
ovario 6-8-ov.
Flores magnitudine C. longiora.

Burma tsniury, on the Utnk* of ib* Enraldr» near Ye-
nanghuen, fTtfk!

* * *Laciniis calycinis supremis alte connatis.*

66. *C. stenophylla* (Vog. Leg. Mcvi-n. p. 7, in Nov. Act.
Nat. Cur. 19, Suppl.) caule vitigato-ramoso ferrugineo-pu-
bescente, stipulis setaceis v. nullis, foliis anguste linear-lan-

ceolatis •wfinwinlii wpm fttabr w uibtui appresM pubew**.
 tibus, w w w dongnto multiiiro, bractou bmtoultafiu*
 setaccis j ioribtia pirn* jKiJuelhu*, tmiycu «Jj>rr«e nifo-
 vilkiM beiniijft »u|>rrii>hlKii Utr uhUmgi* site oontwlu cwrU-
 sessili
 calycem vix æquante.—Foliorum forma, floribus paullo mi-
 iuribuji el c>lrci* *Megalix superioribus latioribus a C. linifolia*
 Offi t.

Philippine Islands, *Meyen, Cuming!* n 749.

«7. & lii^tlfi (L«n. 6L W. et Anil IVudr. I, p. 190,
 cad. tjti. C. /rW*, Wail 1 CaL 54V> ,i ex parlc, C. memtmm
 II. MU b l^ulu NOT. II. Sp^pTSS*! Wall.¹ CM. I. 5384
 non Roxb. C. *cæpitosa*, Roxb. Fl. Ind. 3, p. 269. C. *sobo-*
lifera, Onb,! fa) Wall. Ul. n. 5420 A.—A C, MM ditft-ft
 racemis elongatis, • <. *tecl* a (jüintju¹* miitonbiu rt icffui
 subgloboso.

East India. One of dw *mtnt cxtmtmm* all uref thr coast,
Roxburgh. Peninsula, Heyne! Near Poonah, *Sykes!* *Jacque-*
mont t AUci lionllmfti Island, on the northern coast of Aus-

68, D. /r«f« (Huth. NUT. Hp, pb 111) C *viminea*, Grab. ! iu
 \ ut ! Cat. n. 5397 A.W» «4 A M. I Prodf 1, p. 189. C.
 n. 5400 C. *punctata*, var.
 Grab. ! iu *linifolia*

ii*i/Ut* tm WdLI Cat. i * /A. C, Madara,

I WML G* D. MO) Jtf.—Floral quun in G
 nmltii RBJOTL S|w*nimu rum dtactrtpinnc RoihktM C
 i*> •iiihij in* luit iju*m ilk V, *Hntfaii** qiMdnnt.

latin IVtimtub, *Htjmt!* Cotirudlum <nd
 subtus dense sericeo-pilosis, racemis interrupte plurifloris,
 bracteis bracteisque setaceis, calycis pilosissimi laciniis
 supremis oblongis alte connatis corollam æquantibus, ovulis
 circa 10, legumine subgloboso calyce parum brevioræ.—Spe-
 cies hinc C. *linifolia* hinc C. *sense* affinis et forte hujus forma

vegetior, Ujwn, ex tpmttiinitms paucit * nr ««», ab utra-
qui distincta videtur.

Burro* territory, on ihc b*i»L« of U* Ir»w*d4f, and in
Prone, J. . . .

70. C. n.M[BunD,n I n I p.t&6,t4B,t . 2. W. otAr
IVufr. 1, p. MI).—C.MMkJfa'n, Wight! in Will. U t - *
SJR1. W. et Am.! l>nx!r. 1. p. 191. tyk**, Hfifa. M I J
in Will C.u o, 63MI tu) Linn. C. mMtfer* var? Wall.
Cat. n. 4520 B.

East India, common in the southern provinces, Wight!
Ceylon, HW . This plant does not appear to be noticed
in ifa* >TIK» liwlict of Uutboiybt who jtrriap* included it
with IW a IM(^IM it his C. —fit***.

Amongst the fvoMuntug pabUshed rintpl«.lcmTcd Crotal-
fartr, O. Bmrjtm (DC. Prodr, S, p. 126) taken up from wt lb»
I. « n m (Bum. H. Iwl. p. IS*. t. 48, f. 1), it« wy dmibt-
fml plant. IX- CuwkJK, vbo «i* Burmiu.'s specimen,
doulK* »1 it U distinct from C. //rf« (*h**K h« bftd not
•cnt), but Plutattt'i hjncmym, quoted by Bunuw, must
belong to some pfaut killed to C. jtm&*+ on Moottot of the
"siliqua frrrtyimt*" HurmftAii't ifHTt d«ei mrt 1 ok l«*
any KuA Im-iAi* tpract ktw»vn to me, b«l tHiaktng «Uovuic*
for «n ttuWth rvlIKTiJ m »e) it I not tt*1 the AuvfiOM
1. t/**j. \ J. • * MM! Amutft «*«< onrfiBwru •.

C. frttididm Hmrtd In4. Snn. Hurt. OtW. 1837 ex UfUUM
12, littW. p. 80), is pfoWUy ii a C. ferr: |Mt •ujwft p. i;«i),
to the *U lions of which «pccie» mu»t W wtiktl A sam, Grif-
fiths! n. 503.

C. I . . . character should |wUM]M be rc/grnaJ U> tiw k-*i^Uif wrnt,
tb« k»Yn w in C, *mtft>lk>Lai* mlucol to * ui^tc foiiak^ but
the species is altogether doubtful.

C. ifflwrfwf(Low.1X:. Prodr. 2, p. 129) is most probably
no Crotalaria at all.

C. l*xK*mh*** (IX*. |odr. |jt ^ |jy^ uk«n «p from a
dr««uij of Mogino and Sessé's (a pro)i«blj wmo species

of the group of *Alata*, imperfectly figured as to the inflorescence.

*C. mminat** (1X7. Pro.Jr. I, p. 13*) of which I have seen a small »|H<cimr» d l>r. Burrilrll'ft with ft Mngtc flower, is certainly not *A Crtfutorta*. In Alt «|Krimen on <?of iiv tcav« ii i/nmaldy trif<>liM\ the other» are unifoliate. The plant venation of a *Tephrosia*, but UIG arifia in ipiratlj Mri*ted, M I *Phu mvh*»t io whkli getim it ccruinfy «W» not Wlon^+. It ptu1»Wy ftxm* a n•V gvntu; !>ut Uic »)wiinen u intufficitnt to dearritjei

*Sericji 117 FOMOI. \T *.* *fbfota ad ttpkrm prtwti mücmlut**, *i* \$ « wt 17 frnw r, ramir ao/i/uria, i* 5 H pittrima v, unia quina vel septena.*

v. capituliformes. Legumen oli pernum, globosum v. ovoiflorn, ralvrr (k m n cnetohrrriuin n* fofifinn. Foliol*«rpe

calyx, GuUew, H IVroth— ayeki omMi Ue efium><-r>t»

In «M»e ^iiiiw •/ tliw fftMipi » s in I. *pmitmytM ft* •on e others «Di«l ID h, tW riitmc pod » •luflytly ootitjirr«w d, r^prcUIK m UM tpr^ hftl nul ttjffirentfy «i to HBOVI lli-
frum tin* HfiiH, All «flirr cWir ttn fttpemr tu me to foe jm cisely. tbo«« of ('roulftna.

Chryso- *ffTT-o-letis Guillem, et Perr.*rt, Kl.Scncg. I.]', i'50, t. 43, f. 2.* —A ine iron VT«.

Tropic*! Aim*. K*t*Jy hill* or thr kingdom of Walo, ac«r KUUIA, l'Aimmr, etc. *t*primr aw/ Perrottel.*

72. C. (Walp. *hep* *Chryso-* *titti*, Guillem, rt b4m ott. H. 8rn«y, I, p, 159.

TraptoU AfVie*. H&udy hiU» itf tiw* lung^mn cjf Walo, i>rar Kouns, L»tu>4/ etc. *Lrprinr unit Prrrottet* ' In *tbn* Car

73. C. *Wmaidrt* (W«fp. Reprrt. \t p. 5^1),—< Vjpwrt V *ebcnides*, Guill. et IVf\Hi. • H, 8etic^>. I, p. :58, t. 43, f. I

Tropical Afnt-ft. Sandy *ilaat>oft* in W»i<K itOT Dagna,
Leprieur *m*d Prmtt / > ilun tint in the Sahara, Heudelot ?
et Perrott.

Yl. Sroig- li p* I**.—A MM wm visa.

Tropical Africa. Sandy situations Lamsar, near Saint
Lou U, Lr/trmtr mmd frroiM.

75. *C. macrocalyx* (sp. n.), decumbens v. adscendens, sti-
pulis linearib[^]ttb«Ut] % prtula brevissimo, foliulis inequalibus
oblongo-ellipticis lanceolatisve %upr> fU>*n* «uKtu» cauleque
adpresso pilosis, racemis densis capitatis paucifloris, bracteo-
lit !ui>ri«ub«Um cm1r«e tiOMo twnhiiifii. ovuli* sepius
ft, immi'ne ovoideo dense ferrugineo-villoso calyce valde
•Mte brrvtqcT.—H.Sttu C. i t m M . fo
accedit. Capitula subglobosa 4-6-flora, intra folia suprema
caryces per an-
thesin vix 4 lin. longi, fructiferi duplo majores.

f Tn>pif*I A»ntm» ilt**4ri t * in HefH. Hock.

7*1. *C. nwiiipi*[^]i' (IF. n.), InffbaeB[^], jiffii, i«iniili« laxo
pilo«i«* vtiptmt pfrwv atntvintatt[^] praold bnvi, foliulis
oblongo-ellipticis lanceolatisve acutis mucronulatisve supra
glabris subtus adpresse pubescentibus, racemis plurifloris glo-
.w[^]-fBpttBli*, br«rtru liueAn-«ubuWui ckljrai kmfwnb<
cnWc>» i i i i i i i i Lwuiii* linnmlihii mlmfalu cufolliv¹ *****anti-
bus, ovario pauciovulato.—Cs itula intrafolia suprema ses-
silib[^]ls t«l npim rvnorttm brvriani «xilUnum.

Sierra L.

77. *C.* (ub. n. 265),
diffusa, ramosissima, stipulis linearibus-subulatis, petiolo brevi,
fuHoni cmii>?o nlwMi[^]ftt alfMI* taym (Uktv «tblwt i>rti*i*
scanescentibus, racemis subglobosis
setaceis calyce brevioribus, calycis
pilosissimi laciniis lanceolato-subulatis, ovulis 8-10, legumine
suctum su-
perante.

Tropical Amongst thickets of *Zizyphus*, near the
town of Obeid in Cor (iafrtt, it, tachy ?

§ 9. *Oligantha*. Herbar, sæpius diffusæ, rarius suffrutices. Pedunculi omnes v. plerique oppositifolii, laxæ 1-3-flori, rarissime 4-5-flori. Carina rostrum longiateulum, rectum rareriter f&ratutn. Ov&riutn muktoruUium. Legttttcn fibu- Vmdcarn v. obkin^mn.—^vSpecies omnes hic muiuentec.

The fir« two or three •pttioa of tin* group com* ma? to the *Ckiymtytm** ; IOQM ol' th« Utter one* to Ik *Longiro-rrat*, frutn both of which itay are distingu^{t*}ir<| hy U* very intall number o(Aowvn on the peduncle^ and froai the former by the stifanmoeft, which by tht tituo t»« iloi vers expand, U ahttdy lf<|*wj^iw<?d. The imnitm* ovule* iw-move them froin Uie *Puprrm^*, which the *C- stipitata* approaches in habit. Many of the South African apeotc* have the halnt of the *isAonvjklf** of tlie aoctioti 7V/r*a, but tb« lotilt tharp keel Darin them vi-ry diatitidly.

78. C. «mc<|»' (Hochst! II. *Herb. i* - Itin. FL Nub. o. 97), (Mtta% runowafatt, atipttha wmnatw, li>|«iii» cuneato-oblongis obtusiusc aik aaamofcbm adbMa man« calycibusque longiuscule sericeo-pilosis, petiolo communi brevissimo, racicis oppo niifi liat I / iUci*. cantw* ro«419 wcto, ovalis circa ti, ltxutuinnr H W I ufruMii* uMmif n «pn«H pubescente.— Herba dichotom parvuli. La

TmptcaJ Africa. Sundy ^Luattum on Mount Arnuchkoul. in Conlufait, AWJWA/!

?>. C. ^wnifcra (E. M«y, ! Comm. p. 26), pumila, diffusa, *i>|M>]i*i*rrri»oim>Itti» ve, foliolit obot atis utrinque cauleque »eneeo-ca«««c«nH)uu. podit-dU* oppw itifolli < uniHari*, cari- UH ftMInt rrtfttof oratW iat*luut tisfcu, hritMaviw a«Mtli oblongo sericeo calycem non excedente.—Accedit hinc *C. microcarpe*, a qua indumento et floribus solitariis facile distinguitur, hinc *Lotonmidibus* sectionis *Oryzif*, sed (prout in specimine unico apparet), ob carinam longe rostratam et legumen junius turgidum, potius inter *Crotalaria*s enumera.

South AJnna. On the G «ncf», netr Vckrprl pram, *Drège!*
80. C. a«arrli«i*3rW.; (Vahl. *Symb. 1*, p. 52), humilis, pro-

tnta, a U>t nw Bi, artpufo natii itis, fo!x4ta parvis obovatis
 wihwiy*yc «upr» giattru nibta.t fMtnulMpw a jp
 ruii>t fWtttnb brenwWw I Mloni oppotitift4ii% carinae
 ro*tro recto, orvto muhwmjl*to, bgumi tw htvtw imo stipi-
 tato oblongo gbbhimula.—C. jwifti, lli»-b»i. est Steud.
 llwb- Un. Itin. 11 Anb, i» 778.-R-o.i tenues, semipedales
 id pctUlet, paufltJuimi Lqptmeti i-i l»n. lingua, stipite
 emiyev fntjiUi bfwiotv*

Anfaia, ^^ioA/. H^,lr pUma of Gedda, S. Fischer
 n.

81? C. i^TMM (N. all F^enb. lml, Scm. llort. Vratial.
 IH4I).—C. */F^/*, A. Br»un. Fkm 1*41, I, p. «80, N. ab
 Vmmb. Unmm 1«, p. 317 not* DC^Spodc* miiii igaota* •»
 rtv«r» hujim lod ?

AitrMitiM* BflHMi in the Carlsruhe garden, from Abyss-
 seeds.

82. C. *mmdu* (Krkl. el Zcyh,! Enom. p. i; 4), humilis,
 liffimw. • b*»i ratiirtutsiiiitt, ruinutii tenuibus puberulis gla-
 liratre» ttiptilis tuitiutit, fottoh* poocwo iHtvwnbui otKmfittf
 oblongis v. MtpfYfuit litimriUtti tubtm appfcw pttbcfWMf
 pedunculis QfpmU/Uk «!»M_kaiiv i •: iotU B W « PMH*
 subrecto, ovulis I numcuiJL liwmaiitii BabaiHik obkMMRKCTU*
 draceo minute a resse uberulo.—
 Lin. |p p
 iiM 7, p. »SI win Unk, iMmmbtytm, KoU* tt Z*N
 Enum. p. 17
 parte.

Vogel.—IjeguaHra 6-7 lin. lot^um-

South Afric*. Nw Ckpe Town, Ktkkm mmd &yk*r t
 Harvey I and ot)Mf% IHM» «M) Cifw iwkiwo^ / M ^ / Svniy
 ktumUMn Oil tfatt OiipU* ot's River, in < - ^ w : - ^
 Ecklon and Zeyher !

•3. C. "/"*" (E. Mey. ! Gmm. p. 25 ex ptrlrj, fcumih*.
 diffusa, i bui nuuikittiiiiA, »tj»ulj-v pftmts foliolis petiolo
 brevioribus ob b ovatis subtus ramulisque minute appresso-pu-
 gatis laxe 3-r» tlom, cannv rottru ibrooto, ovulis numerosis,

legumine iub»«*stli oblutijfo rai«le inflatē adpIVBM pobcmnte.
—»LeguaMn 8.0 tin, lougatn. Sp*ci*» C. *moiii* affiaior qu*m
C. *humili* videtur.

South Africa* SWMJ* near Kr*Wk«Uki»*I_T *Drège!*

84. I. *molk** {K M*y,! Com*, p, S3), Affum, a bwi r«*
HMBMBimL •A.tnulist m viL ffflinlis nfanntu supra glabrius-
culi* mbtut cauhhut rwmts odjoboaqna molliter pilosis,
pedunculis terminalibus itcmuin op|KMttHoltu laxē 3-6-floris,
roastro rectiusculo, ovulis numerosis, legumine sub-
aoatili oMoago r»Wo inliatd uoUicar yiUmo.—Le^unwa I-10
tin. Longtiin. Hprcsci «i: haliitu >iuju* I AT, ctsi racemi ditt-
thu tcnntaleB tt floru numerosi.

South Allies Dry biUi and itUndi at the mouth of the
Garicp, *Drtgt I*

85. C *htaidrt* («p. n*), *humili*», vubdtebotoaae ramosissima,
nmidiB f«ftTU|(innvpubesoenUbtti ct |wt«nUm pilo^ili*, »li>nit»
lineari-lanceolatis parria. fotiolU oboratit iubiua« r. utrinqoc
pilosis, pedunculis oppositis parum longioribus
1-2 -Aorta, ealfoe JMUMUIO, carin* m>t
ro rectiusculo, legumine
subsessili rylintincro pUo^j-htno,—C. *obscure* affinis sed
pluribus notis diitincu. Hubiiut nipdior ct ruutiar.
Caulcs, tanquam
vuirntur. Le^umcn polli«re tt p*allo kmfpus.

South Afrim. Mftcthtfbcrg uj Aa]1gc» R\rcr_f (in the inu-
rior to the north c*»l of tlir coJony), ifair^

86. C. oA*nir# (IK\ IYwlf- *_f |x IW), il«curobnis «. d
fu«. « U%t nunau, ptl» tone** patentibus raso-hispida,
st.(tulk UnHn.IMWMM^ fcMolb lute obovatis subtus v.
utrinque longe pilosis, pedunculis ternuna^btti fL oppositi-
foliis elongatis 3-5 rtur». nlfOB pno*o-kitpi«lr\ otho« tvrtiv
falcato, legumine sessili oblongo piloso-hispido.—C. *pilosa*,
Thunb. Fl. Cap. p. 572 non Mill—Legumen 1-1½-pol-
BfBI.

Sc•uih At'rim. (iraaay paimi nt l'ttvnhaf* dbuict and
from thcjuY to the (tit«fcmwulx» in Cafariand, *Drège!*
Htkltm «in! Zsyker !AIHJ uttiort; in the iiHcfi«i near Salad-
KnuL *Burke!*

β collina (), foliolis infimis ovatis superioribus
 titiUH Uticralftti*, oimntiui u: > tuisia.

Gr» «y jwfttam on th« bmJfti «f vootb on tU» hLtti near
 Oliphant >inw<* in Uitenhage, E. (MM HMJ Zeyher!

87. C. - ..^•wi'WMi (E. Mey. l <>VIBB. It. 26), diffusa, a
 basi ramosissima, fttptftbi ftti^rt**, fa#^« fctti&t«uiit* j*u*>-
 latis subulatis v. foliorum superiorum lineari-cuneatis subtus
 cauleque puberulis, pedunculis elongatis apice 1-2-floris,
 hyunina bnnrtter «iipii«iu obhmfto puberulo.—Legumen
 8-10 lin. l

in the Stellenbosch

88. C. *fpmam* (Hocbit! Brrli. t n. !tin. Pl. A»': ss.
 n. 150), rigida, ramosissima, foliis subfasciculatis,
 stipulis minnirt, t foliolis obovatis v. cuneato-oblongis obtusis
 emarginatisve supra glabris subtus ramulisque minute pube-
 rular*. tBtnuiii ionfrtti brevibus basi foliosis medio 1-2-floris
 apice nudis spinescentibus, carinae rostro longo recto, ovario
 multiovulato, legumine sessili obovoideo-oblongo minute
 pulftulo, - Habitu *Ononidibus* spinescentibus accedit. Le-
 gQMMSi 4-S lin. tongtni.

Tmpwl Affirm Kingdom of Fazokal, *Kotschy*! n. 552,
 near Genni in the dklhtH uf Memsach in Abyssinia,
Schimper!

β pubescens, put** densiore, foliolis paullo angustioribus.
Ononis nM*yM*/«», Wujrf I MI.

Madagascar, *Bojer*! *Lyall*!

89. C. *levigata* (UtD. Dlcl S. p. 198), tbfFq(?) v. ad-
 cendens(?). ramulis minute puberulis, stipulis minutis obso-
 letisve, foliolis obovato-oblongis obovatisve supra glabris
 »ubtu« minute fnabtnilift, racemis oppositifoliis laxo subtri-
 flori; t rmrin* ro*tm loat 0-12, legumine

stipitata, *Grah.*!
 in Wall. C*t. r. 5425, B. W. st Armi ftodr* I, p. 193.

Madagascar, *Commerçon* according to *Lamarck*. Cultivated
 in tbf c Calcutta Garden, *Wallich*!

β villosior, foliis minoribus.

Mozambique, *Furber!*

§ 10. *Diaperma*. *Ovwium biovulatum*. Legumen sessile subglobosum.—*Cyrtolohms*. It. Ur. leaU Wall. C*L n. 5432.—Species or one* hid «nam«raU&.

The ipecw of tlib group *rc r**ilj known by their biuvulate Ovuhuui and fib tl*1 aortuint liar* tūMti J—liifer*¹ h/ some w * ditiaet "gttui ur •uttgcju*. But l)w same character oorur* amoox torn* Btt|ilc-U^rnl Cro/<i«rw« l*rlong-ing te' dilfrrent group», aiitl * gradual pAtM£* majf bo traced from tJtc depretmed HlOMWC pcul of tin- Hnt ifiecia of the Di+rrm+, through tb« t«»tc globow* pod of the latrr species, to UM gb«(M«c podded Z^WfyttWft* toiuic uf which h have but two pir of ovule*.

* *Medicagijace*, legumine oblique ilqine* so-globoso. Suf-frutices Y. tartan privuui i a bait ramottsainue, diffuseo *d»-cend <•es v. erect•. Y*Ata tt \<>t** jiarvd.

Mb l) ripiAitU*?!*, W, et Am. lVodr. i» |>. »01).—Spe-cies rriitit t ignota.

East Indian Peninsula. Vellangany near Negapatam on sandy toil, *Wight!*

91. *C herniarioides* (W. tit Am.l Pwdt. 1. p. 192).—*C. procumbens*, IVAIL r»i. u, HS7, f* ci fMrtr. letw. *C virgate*, Murt. Denkschr, Ar«id. MUOCIK v. 5. t. (i Kwir speciem repre-•aiUL, «t dwerpitiq 1. a p. 157, potiu i *C. neglectam*, refert. ttpecks h*ljitu, GL tM''f«ujfimt* I nulis *t m differt foliolis minoribus latioribus u n k An cjwa w. ui»nUm» f

EMI hiditn IVnituu'tt. Bwuljr wH nmi Ateai, *Wight!* Midns Gri|l/A #!

92. *C. ...* IWS!r. I, p. 1^ -j,—C./iuwt^M, Ifaah. «. lrttL 3, j. 278. V'al•! I w i, ... f i ;. i />. r.i ex , w u. (*C. dicaricata*, Grab. ! in WhiL CM. o. &u«, aywivM W.IUL. Enum. p. 7*7.—IVrtiun*, IUini fir»n|ri_t pfo*tnti. Habitus fere *Medicaginis laciniat** v. \, roroimt+ inter annuis, v. M. *leiocarpe* inter perennibus A sequentibus differt pedunculis 1.2'•ran it* ft-4-Aurii.

East Imitian riilliewle. caramon In dry places, borders of fields, etc., *Hrf*r* * '' '!'»/ ' JM | M M I / and others.

The *CVCTM •peoci of tbi* ifuun appear ID hare been confounded 5y moat author* tinder the naceæ of *C. medicaginea*, *procumbens* or *ringmiw* and of *C. tiifitkmtrmm*. |*m probably included uader *C. aanfetpaw**, and Marti** nude* *C. virgata*, all Uie small lowered vfxetr*. m : *C. wr^i-rioides*, meficaywa)*, *y&r/« and JkA^tei. RoibiMT C« Bv<ocaMMtM^i aniat hair ccmprtaed t a t three ftret <'WIT vbirb must all haw boa* kuiuwn t» him, and bi« *C. trifoliar-trum* probably tndvded both th« »maU-4iuwered *C. luxurians* and the traft lai p«—I im end C * /o^oiMw/rm, vhirtt arc both tall, mrt pbtlla with the liafait of *MnUrm^ mtiwm*. The plants order not to delay the diafcribatiott, that the rWerwee to h*» OBiaVogoe, token only from the eat 1 have befon ow, may not be exact as to all the sets sent

95. *C. ncpitctt* (W, ct Am.! Prodr* l» |*« 192}*—C . ^r»-cumbens r. Wall.! C*t. n. 5437, J. // . C / . H Itaxh. I ex parte. Penimi*, proatrala, at avfjiui *C. eiFrffnajrieee*) *»*j*«r. foliosior. Kiorm ut in W- panri, aed in raotao altra G, saepius 10-13 ct tUtnu

Baat IMIM, apparently with a much «oft rxletidei range than the la«c No«obem, /MWVMKM/ ' IVminaaa, Wight! Upper India, both b tbe ptaim and in tW IlinukUra Edge-wrirt ' HindoatM) and Burnt*! terr tenr, »*tf» Au»-tralsa (North Cdbet 7} Anr

94. *C. luxurians* (*p. o.)f »ufTruiKvea, craela, ramia *tru tis, foliosis adpresse villosis, Atipulb parpta aetaflau, foliolis oblongis obtusis emax... joriosis supra glabris ant... vasis rubescentibus racemis dense multi-floris, bracteie aabtitatii pedtceflo suhmiipuritKJt, r loribus parpta, teajaWpobanihf,—*C. medkmgimtm*, lianitin Wa « Cat. n. 5434.—Species a t * Myipfila^ ctu •onbiia similis, differt caule pluripedali •ftcto, Culiou a«pma poilk»nbu» v. lonporiim», AtMribtfi fmpvraeigribua aae^t oonfertif* Habitus lere *Medicaginea sativa*.

East India. Abundant in JJ*JIU ami firldi of Northern hull*, *Edgeworth*! Male of «AI«Ite i ear Bombay and Poonah, *Jacquemont*! Mon#hyr, *Hamilton*!

95. C. *If tVdettff&utmit* (DC. W* et Am. | Prodr. I, p. 191.) — C. *apurtiouUM*, &pr. Wall.! Cat. n. &-US. <J. *genistoides*, ^ iilj. Bp. 14 ji. I*ft7.—Flunu puilio iniiioren qiutin lit C. *tityiJwfrv*, duplo uncn a^jgnt qo«m in proovdvnti-bin*

K*»t Jndi*n Peninsula, *Heyne*! *Wight*!

96. C. AWwm (W- a Ant.! Prodr. 1, p. 19£).—C. *trifoliastrum*, Wall.! CO. m 545f» a,—Ex *|Krin»iie unico fructifero rtx « C. *irtfoiUitro diticnt* •idelur, *Wight* ri *Arnott* utucit^ qui tpmoitia perft-U cxanunarcmnt pro speciem bent di*tilMHAm habent

Nilgherry Mill*, *fhtmf H^gkt*.

97. C. *trifoliastrum* «w. (Wfld. W. et Am.! IVwlr. I, p- 191). Wall.! Cat. n. 54AJ, Ad. G. et II.

East Indian Peninsula, *Wight*! and others.

98. C. *rostrata*. (IV. et Am. IVwlr. I, |S 191)*—Species mihi ignota.

East Indian Peninsula, *Wight*.

C. *micrantha* *Robt. Schomburgk* (1807) probably one of the foregoing species, but th« clmu-ter U iiiiutftctrnt to determine tL

** *Sphaerocarpa*, Iqpiiine <>blituv ovoideo-globoso. Suf-frutices v. fruf irri.

99. C. *Sphaerocarpa* {VtmXtl in DC I Prodr. 2, p. 133.) adscendens v* ••rccU * bwi tmmwi, rwnulu elongatis virgatis apice paniculatis vix puberalis, foliis linearibus v. oblongo-cuneatis

rtmltirton*. Irguminc ^Udmi r« pobcervk».

Tropical Africa. Sand; HitU of th«t \V«l> cxwulry* *Perrottet*! i hi die Um N%»ir*. ami on tbi KalemM, *Heudelot*!

100. C. *fruticosa*, ramis fulvo-villosis, foliis i*)tlongis utrinque atignKtaiu %up* a glabris subtus fulvo-sericeis *, rac* mis te finiiMliii* cto&Bt mul-legumine dense rufo-villosa.

Madagascar, *Lyall* * Mountain* of Antoungoun, *Bejer*!

101. *C. elliptica*, (Roxb. | i l. 1*4.4, l< 279) suffruticosa, ramis divaricatis pubescentibus, stipulis parvis ovato-lanceolatis, foliis ovali-ellipticis obovatis v. rarius oblongis petiolo vix longioribus supra glabris subtus sericeis, racemis plerisque oppositifoliis multifloris, legumine adpresso pubett

Wall. | C-**L a**, >tu, C *Vachellii*, Uodk. rf Am,! •*-. Beech. p. i 80. C. «*»aV us, Vogel, Leg. Meyen | p. 8, in Nov. An. N«t Cur. T. i'J. Suppl.

South CUM. **Bilk** about Canton, MMM MM UI« adjacent islands, *Parker*! *Vachell*! *Hinds*! *Meyen*! etc. *Coelochina*, *Gaudichaud*!

f II. *Longirostres*. H«ffaai diftwe v. erectae, mri* frutices divaricato-ramosi. Stipulae parvae, lineares v. setaceae. Racemi oppositifolii, rarius terminales, multiflori. Calycis lacinae tubo longiores lanceolatae, laterales saepius libere corolla breviores. Vexillum reflexo-patens. Carina longe et mlc rostrata, margine saepissime glabra. Ocula « v. plura. Legumen ovoideum v. breviter oblongum, pollice brevius rarius longius, glabrum pubescens nec piloso-hispidum.

The first species of this group come near to the last of the OJapaa/^?, am) lo I the *Diuperma sphaerocarpa*; from the Connor thqr dafer by tkctf many-flowered racemes, from the latter by the ofoki alw.ys more than two. From tKrw • gradual passage may Hf ttvawi u»tU * , *acapulcensis* comes near to «W fWfca—, hat «bart I have retained among the *Lommr%*trr** wn accmial ol lb« ba/m>puaai racemes, long-beaked keel, the stipules more evident than moat amonfc the *Frucicosa*, ami th« general habit nearer to group. Tbe longirostres are easily known from the *Macrostachya* straight-beaked keel pftaafTlM *Stipulaceae* by tl»r tnwU tiarnt stipules, from most *Lacana* by tiie pod wbidt U atthar at**** or clothed with a short usual silky pubescence, and in most cases by th« presence of stipules, ami frp» alt by tU In * tmk «Tla* kaal

102. **t** *pubes* aricato-ramosa, glaberrima, stipulis parvis linearibus, foliis lanceolato-oblongis obtusis petiolo communi paullo longioribus, racemis oppo-

Iaitifoliti gtwHlihu* nmUifloris OTtlti I, legumine sessili parvo
 oboniidco gWbemmo.—1\ t/Amrotarp^ tffim* «d oral
 conrtmif-er 4 et le <imru IIWI^IUN i t'rrr '* lin. luugum), 1 habitus
 osior.

figWiar, tims

\ cattm Tr.j>>>al Africa, COMMOT- m th« Ciror, th
 pubescens, stipulis pwria laAcvoli is, foliis oblongo-linea-
 ribili supra glabris subtus adpresso pubescentibus, racemis
 oppositifoliis gracilibus ti muhiflori*, onili* MS, \<rz
 parvo
 folia, lliM*h*t 1 Herb. Un. I tin. Pl. Anb. n. rt*9. 1 Ubttaa et
 legumen C. potfcarptt, ftUTert folii* et ptibe.

Kwtrrn Trojiwkl Airim. Ainonpt corn nmr^Obrid m
 Cordofan, h'«t*rhy ' Al Delftgn Buy, A r i

104. C. globifera (E. Mey. l C. ...), herc ... ir-
 gato-ramosa, plus minus puberula, stipulis setaceis obso-
 letisve
 minus ad resse pubescentibus, racemis ntnimhlnji brevibus
 mulntlimt. cmilN 4. ^••>ui «bp>t«lo oW^«p» obonoidro
 •ohflubowo ripwii p«bewot«. A trliqan Longirostribus
 ditfert ir iftupnwwtf^ tvrmhtttt, «atrfw» habitant legumine
 (dupi<> Umrn nmj.irr) O. p>lfC*rp* TMW^ *t)iiu».

South east Mnca. i ttTrriutd between the C>mumafthft
 and lh« OnMamvubo iid near Pun NauU i>nryr ' AV**
 n. 341 and 440, alto BtarAdt* n. 251*J 1 ft|iiteax« to be the
 same.

β? brachycarpa, legumine valde obliquo depresso-globoso
 TII qu*ni iit C. polycarpa longiore.

Macalitborx to the m#rth r>st ol' th« Cap* colony, Burke!
 103. C. Rmtmmwi\$ (>p. n.)» c«uU hrtbanro virgi>i«*i»nosa
 aureo-^uficprnte, ktiputi* avlncrift otmotftiarr, M^It* pubea-
 centibus, rarcmta oppoabiulU* bferilm* muitHona, ovario
 •bpiuto |itib«rulo, orulu droa — IUI>ia C. globifera
 •cre^lit, at ilfiiakw «t •upcmtMrfriat ftate»om», frluuTiifcaia
 rl oranu ftcilr di>tiiirta.

M•ula^iMav, in UH-]m>vituw <n Emirna, Herb. Hooker!

106. *C. wmtfrnUntit* 'fWH. in 1X\ Prodr, S« p. 133), her-
 bacea, fl p w m to - M M a, stipulis setaceis, foliolis elliptico-
 oblongis mriu* orwlilra* v. linearibus obtusis supra glabris
 subtus rvnuhftqar pvhi tenuissima subcanescentibus, racemis
 oppositifoliis elongatis multifloris, floribus distantibus, ovulis
 KM?, tffvrahw HHili ohoradeo rtldc inflato pubescentia.
 —C. wraWa+Pgiifr Cc»L W, Air. p. SI, t. 3, f. %- Flores
 in ncemo liw 0. La {vmrti 4\$ la. bufpun*

TrofMnt Afrkm. Common in m<ml Mndy «ttntk»s Cap*
 Verd •nd VUo cuvny, tfprinr and /Vr yultet! In .*.
 Island «T hor vid Dknh of N Bom, Bfimm* / n. Kfc In
 the Ktofdon of 8en«Mr *ml CavAUftttf AV*rAf • t. f7 and
 n. 303, and n. /4 <* it* Unlo lftMruw Nubki* collection.
 At ttrniwt wht re it » called ftriiipi and «atMI by camels,
 Col

107* Ci **#«»# ftp. n.) 1 herbacea, erecta v. ...
 . stipulis ... foliolis oblongo-linearibus obtusis mununu-
 lati *q»* *tipr» jUbn* Mibttt* ramulisque tenuiss : pubes-
 centibus, racemis oppositifoliis remote 2-6-floris, ovulis
 numerosis, legumine sessile ovoideo oblongo pubescente.—
C. senegalensis affinis sed elatior, foliola angustiora et legumen
 •u jus, 6-8 lin. kmfitm.

South vfnm. Uy Hprwil and Tfcl hnr to the north *t
 of the Colony, Burke!

108? *C. laburnifolia* (Linn. l W. et Arn. l Prodr. l, p. 193),
 Wall. l Cat. n. 5494.— V rrry «»»mc« «|*c«* • »fh lh« flo»rr
 of the Ltxyifvttm, but «ith * much more open calyx, a
 tafj[A itt*»<1li p**d uofue on a wry w**n fctwk and ti# 1 stipules.
 It mny tAhtt mpcoc« w«r* known with tht MTM iJ^iaOtfi a
 dUtinn group «hovJd W formed fur them.

I Utt India, Common 01% tit* amithcrn parts of the coast,
 HojtrmyA*Mibecs^ Cuming fa. lff ft?.

[Ar. iunai d* Ameri an M«H«a t ihfrald rrfcr lb« following
 to this ... stipulis
 setaceis rrrurrn, Mialia kncanbtM arataAnatia *nttin «upni
 glabris subtus adpresse puberulis, racemis oppositifoliis laxius-
 cule 10-12-floris, ve "»u» imnaantwla, rvxta fbbf*» o*»H»

numerosis, legumin* n i b obOTouko-obkmfo pul**«riite»
 Fuiw tVrr C, tiutuuiu. et bkg u in fit C hip*titt+t
 Mexico IKKS the IViric, UaJroiti I n. 51 / * . 9- C. Ufmlima*
 Hutui. et Kunth. (r. rfiftflnwi, rah. fllli exic» ami Weal
 Indie*. 3. | □. ItiwuliM% Ifumi. et Kunth. \>nt Indiae.
 4. C, ttttdfP, I><. Cube 5. C* Miifwrm. DC, UcSKXk
 6. C. ^ M/t, IM-. CuUt (ill* ifcre* U*t mnVnovn <P aw but
 probably very t«mt C< iUiormk* uuUiymUtm}. 7. i\ Ttpkmm^
 Hook. «t Am., Ucxko. & C. kmgintrmia, II.HIU e« Ar n.,
 Acapulco. 0. C. M*ff*nm*i*» IJumti. ct Kuuth^ (C. «r»*
 pulcensis, Ilook. tt Am.), Mexico, UuatenuLi aiul C»-
 lumbia.]

§ 12. *Furcata*. *Habitus Macrostachyarum*. *Legumen* nitui
 lana repletum. *Species unica*.

109. *C. lupinoides* (UtwhiiL 1 Ilcxh. Un. Itiii. Pt Nub.
 n. 41), herbacea, divaricato-ramosa, stipulis obsolete, peti*lis
 elongatis, foliolis ch}»tioo-abl(Mi)jti obtusis supra glabris
 subtus ramulisque pub* irnut mbca arasantib;u, nociui>
 elongatis multifloris demum oppositifoliis, car ni«> Uln ntttro
 falcato, ovulis numerosis, legumine hooobozatigfioia oblongo
 falcato extus pubescente intus Uu* r«|i)4jU>.— IUcttiu urjw
 pedales. Lggntncti 8-10 tin. luugum. An huc ducenda
 t. *furcata*, Br. to S«lL Abp*. mthi «olo nomine coguit »?

Tropical Atna, ncmr Abu Gi-jr»d in tke Litigdi>oi o(Cor-
 dofan, *Kotschy*!

§ 13. *Macrostachya*. EURUc rviui tuifniticct. *Stipulae*
 minutae, saepius ubtoWtB- R*ecmi tcfmuuklc* Y. dcit*u»
 oppositifolia, multiflora, rlonlia* nikxU WCJUIU creberrimis.
 Calycis late campanulati ftctAMrlubobrcriova^r. vix lon-
 giores. Carinae ro«tnun rrpitti'Tr f»k»t»i^ Legumen
 oblongum v. crtiirtlrwtuii., Miftf>katum, BUfur* superi...»
 saepius imvt»M, extut U»JMUI pubewvn* T. hirsutum, i
 nudum.—S₁HKMM ootwc* tuilii puiv bic enumeratae.

The tk«»**Iy panduluui litJ wan UM) JNXU, the corolla more
 striped than u»ual, m d lite ked UMMIJT turned ^it a peculiar
 2M1HI t« lltftt gT»Uj>, *n4 ttwtlif di ting:uti it fro the ad-
 joining ones.

1107 *C. lathyroides* (Guill. et Perrott. Fl. Seneg. II p. 163).
Species mihi ignota.

Tropical Africa. Marshes near Albreda, *Leprieux* and *Perrottet*.

111. *C. pffmximckfM* {-p. n.). ifitfaw, famuli* angulato-
striatis minute glabris, setacea, foliolis
cuneato-oblongis obtusis emarginatisve supra v. utrinque
glabris, nervis lateralibus numerosis, ciliis
falcato, ovalis circa 10, legumine
subscissili oblongo minute puberulo.—Racemi 20-30-flori,
frutiferi 2-3 pollicares, rarius longiores. Legumen 4-6 lin.

Tropical Africa. Uthmaniyah, Kotschy
n. 417 in my art, but I have seen an *Ammanis* with the
same number.

112. *C. zanzibarica* (sp. n.), erecta stipulis subnullis,
foliolis cuneato-oblongis sublanceolatisve obtusis subtus
ramulisque minute puberulis tomentosisque, racemis termina-
libus laxiuscule multifloris, calycis latissimi valde obliqui
dentibus tubo subtriplo brevioribus, carinae rostro longo,
ovario tomentoso-villoso.—Rami **Mruti, njutul**. Folia su-
prema subtus subfloccoso-tomentosa, adaltiora subtus pube-
minuta conspersa. Racemi 3-4-pollicares. Flores quam in
C. trimtm minores, penduli, striati.

Island of Zanzibar, on the east coast of Africa, *Bejer*!

113. *C. emarginata* (Boj. | MS.), erecta stipulis subnullis,
foliolis obovato-v. cuneato-oblongis emarginatis utrinque
cauleque villosis, racemo elongato **icrnnTmti, flohlm*** cre-
bris, calycis villosi late campanulati laciniis tubo subequi-
longis, **«writi villn*O** multiovulato.—Racemus 3-4-**Uc*m**
Flores penduli, mediocres, striati. Carina intense colorata,
incurvo-rostrata.

bland >! Pemba, on the coast of Africa, *Bejer*!

114. *C. vasculosa* [Wall. | C*, n. 5427) ramis elongatis
virgatis dense hirsutis, stipulis setaceis, foliolis oblongo-ellip-
ticis sublanceolatisve **Ugioribus**
utrinque dense villosis, itcfimo **Ufmiuli** elongato, floribus

purvi* m7t 11mb, ealyn* mrmbrnriaeri tiirti Ur «ni tubo vix loftgioribaa, ovnrto w**iH turtuto multioruUlo.—Ramus adest sesquiped<toji», 1 implex. Ktccmui uiliue vix floiwim jim 3<t-pollic*ri*. r«rin« rtwt/um f«Wtu-n vexillo paullo longior»r.

Mauritium 1, Trlfatr *

115. *C. twnfrotatm*, (R. Mey. ! Comra. p. M), encU, ramulis ttriut* ^fabria *, «pi« pubcMcotibutt, rtipulii «u^» nullis, foliolis rhm^ni^'Uiiif<tUiti» gblirit r< iubtuj» arfprruo-puberulis, ratvnit» trrmttiAllbua rionspiti* nmhiloni*, cmlrri* laciniis v t uU» jiuuKlifTiiflio bre^ioribus i*, t^uminc »e> sili elomritu adpresse pubetcentv.—*YXortm* magmtuJiif to/i rorwit^Ja/i. t'luinnt rustrum breve, incurvum, Legumen ultrapolli-

South e»*t Africt. CaircrbiuiJ between the Omsamculo l tic Oiuecinuuu Drtye! *ml Nt?~iL ftddie* Kruutt! n. Ifttt. Uuied »!• in t-ic Utr Mr, IWrUjS gmnlen fmrn Mnuntiuv »c<djf.

116. *C. brevidens*, (sp. n.), herbacea, erecta, stipulis minutis B unriftati* f>t**«>lr tit¥i, foliolis tft elitit^aii>-lttnoal«tt» npr a glab. longiusculo plurifloro, floribus amplis dissitis, calycis glabri dentibus tubo triplo brevioribus, carinae rostro vix falcato, legumine sessili elongato polyspermo.—Habitus *C. lanceolatae* sed floribus paucioribus maximis distinctissima. Vexillum 7-8 liii l<miQm. Mhatim. Cchnv rustrum fere rector, 1, Uuu» quam *Longirostribus* similior.

Tropical Africa. Kin dom of Fazokal Katschy, n. 424.

C. pallida (Ait DC. Prodr. 2, p. 134), may bo one ui the two last species, bat the character given is insufficient to determine it.

117. *C. falcata* (Vahl. DC. Prodr. 2, p. 132), suffruticosa, divaricato-ramosa, stipulis subnullis, foliolis obovatis mucronulatis obtusisve glabris v. subtus ramulisque adpresse pubescentibus, racemis plerisque oppositifoliis laxiusculis plurifloris, floribus parvis, otlyri* puhc*cehti« laciniis vix tubo longioribus, legumine elongato subfalcato polyspermo tenui-

ter puberula.—C. •trUtm Sehttm? Bttfc*. fl Guin. p. 336, non DC.—C. ifrimtm affinra. FloO* minofV, racemi multo brrriorr*, et habitat rigvltor.

Tm_r,r,l Africa fl.ii*. iHwrk P*rr. 99 l>C.) Bassa COT* ^iif// ' Cape IMrn.r I V

118. C. /rur/n rKJ"- IVmlr. ?. p. 131), **Writtn*** *. suffruticosa, rrrcta, dirtrioUo-rmraoat, ttipuln wbmi) lis, foliolis elliptico-oblongis obovalibusve glabris T. rabtu* ramulisque pube tenui subcanescentibus, racemis elongatis multifloris, floribus crebris mediocribus, calycis canescentis inis vix tubo longioribus, carina falcata sive duplo longiore, legumine elon paberulo.

Bot. Mijl. t. >JOa- C, **fbjjmwb** (hM ft Fern*^u! Fl. Seneg. p. 162. C. /ffwwi ltrwitb, **Uvaofr.** Ktoi. 3. p. 1*, l. 232, m DC, C J«^Ww Hart, C«k^T ft **M*«rk** ! (» wC lotifolia **Ijuti.**)

Tropical and subtropical regions in bolli hemispheres hnl in some stations probably not indigenous. Marshes of Cape Verd Leprieur and Perrottel? Kingdom of Fazokal Kotschy? Mauritius Telfair? Lyall? Singapore Cuming?

n. 2401, Herb Bras,

Dr. Arnott in the Ar er. p. 248, des- u under the nam. species from the Isle V inoents, which allied to C. *Braseni*,

id it i. probable that, species last described to *Braseni*, but De Candolle's character "foliolis utriqtue «u?matis" thui^h it nur sometimes be ol *mm* in m few of tbt upper letvai it not *t all the usual state of tW C. *Hriat*** Should it buwem, he Mafly tW same, the ntnw *64»/«, of tbo wune date »• the oih«r« b vtrj characteristic Mid prWmbb fur adnnlkMi. If Dr. i rmutt% C. *Hookeri* be a good species, and if the C. *Hookeriana* Alph. DC. mentioned tbttr, l>. A^t, lw IIIIM* diitittet Ami C. *ov-Km*, UM name of Uw laitrr cute m «* be changed.

119. C. 4r#f' *cuta* (Roxb.) X¹. ft—l-? 2, p. 130), •f#rt*« ramulis rescentibus, stipulis subnullis, foliolibus ovalibus

.iirun|«c acutii titpra gtahri* tubm* minute , pubescentibus,
 tucim* muhifloris, flortma cffrhria, calyai jmbrruli la
 Utii vix tubo ionjpuribua* Jcgumii* BCMIC oblongo subfal-
 <*U> rafo-hm\iU*vtnu.— I Ubitu Prietrtpidi Cftmtuui tiniii-
 lima, KU»r« fere C Mtriml*. Legumirw C. t»fw«# wd ut i
 caeteris *Magrostachys pendula*.

South Alia. Chiteajprng AprAvyi t Bbootan Griffiths!
 tt. 5, Ta4>u^ Dong in Buntat, and ftangoun^ Ifttlitch ' Cat. n.
 54**3, niilijvtiM tatandfl Ctnmi#gf n. hHt>, *l»o St. Vin-
 OBSIU *Qmilthmi*} t hut \n oljablj fffrm t»c Boiaiiioal Qardi.

If O. C. ./awi/* (\V, ct Am, l»hHi/. I, p. IW).—Sp
 milii ignota.

East Indian Peninsula. Cunnawaddy near Dindygul,
Wight.

121. ? 0, *JaraitUif* (Jotigbun—Walp. Ur[irr1. I, p. 589).—
 Spec it« mi hi igiir.U. AtHni^ rx d. Jungimn (*C. medicaginea*
 Lam., sc-d fk*cfi|)tni luta abburrit» si . . . wi

JAY a. Connott in irmwr aad amndf lituuiutti alt m
 the island, *Jughan*.

§. II. / « w « , llerbat suffruticeave divaricato-ramosa.
 StipulijD min 111« r. null*. Kaecaa op|KmtKoliu las» nrnhi.
 flort. Calfcii MSpins profunde timi ladnie UnmiUfa.
 Carintt rottrum brent v. arruatutu. Lc^uincii obluriguin,
 pit* patottibttf anptm hupidutn, rariti* adpmae pubctoena«
 patens v. penduluni, tiev axi adpressum.

The species of Uiv group, chiefly American, have the
 balit but not th« keel of the /-<»nji«*/ra#, I he racemes are
 mOf* I*i than tn th« *Ma(TQ*tæAf+*, I hr pod not so closely
 afnift«fcwl t» lh<* prduiM U*, and ili« eatyx deeply <«divided' »"d
 often Doady aa bug at tbi curdU. Many tpoctca, especially
 th« calyxep arr riiujmtcd to turn black m drying. Fram the
Fruticosa, tbvy th»er in 'bmt diratumtc habit, aod lax W-
 opposed raMMir». M>tt «f them arr abo antittal, with rt-
 markably hairy podi. If UM grutip uf *Potfpkftim* be broken
 up, souH of thrm niijjhl bv added U> »hr 7«n>a«.

122. C. fama (Lam! DC ftwlr, a,,» 139).—C. *affinis*
 DC.) I*mdr. J, p. 151 a awyarwrv^ Um.) Uw^ 9.

p. 200. C. *k*rb*€*+* Scfawdf. in Scuraudt, Sjrfl. Pl. Ratish.
2. 77.

An Anmnni **p*am** whkih 1 havr her* inserted because it « *tnqomdy mm m V**i* Indian uilhunwa. *Wight and Arnott!* M N H ti U only ctthtod them, *Edgeworth!* found it apparently wild, at Fuit«%liur tn Doab. *Leprieur imdJptmtht'* gathered it itt the Walo cooauy in tropical Africa. It U *common* in the Weat Udwt, in Mexico (*Andrieux!* n. 424 and 4S5. *Galeotti!* n. 3361 etc.), along the Pacific coast n(oOMtt America (*Cuming!* n. 993. *Mathews!* n. 100", A«*J and in limtl (*WemrA-* n. 146, *Gardner!* n. 3652 and 51 c.)

[Honker and Anioit'i C. M » M 3 fan M«»ro ha a distirt tpMwa aUi*d to tb« abovs^ 91* to *bm tmmm* group belong C. rtHalBaa BoL IU*. and MVMBl othcra, chiefly Brazilian.]

§. 15. *8fymtom+*, *Uetkm r. fiutiwi*, S(tpub> foliaceae falcate. Racemi tcrnimto T, oppoailifirftt, layitti breves T. p«'aciflori. Klatc» el lfpiflwn /VvfirvMrtifB. SpccMa omnes hic enumeratæ.

An artinrul. raitirr than * natvrai froup oomprwnf species differing from each other in habit, yet scarcely referable to any other groups, and connected together by the character of always foliaceous, and ovate, obovate, or lanceolate, more or less falcate and sometimes petiolate. T*? «n iwairr tn C. *O-irensis* than in tbr other ap«d« bat* even lhc«t oral* otrt «»* bulad.

12.!. C. oriJWMM (ttfltt).—W. et Are,! Prodr. 1. p. lfttt. Wall.! Cat. n, MM. Mart. Dtmbrir, And. M ünch. C» p. 157, L II.

East India, I^ture (ftitttMK bonkn of mhirmted fields, &c., *Razburyh. Circars and Travancore Wright!* Poonah *Sykes!*

124. C. *xanthoclada* (Boj)! *ceolato-semisagittatis foliis* ttacia peulwn aofuntibus, foliolis linearibus glabris v* Hibtiua rantuliwatu: juniuriblli puberulis,

racemis elongatii Uxr jdurillim*, c*lyn» Urimi* lanceolatis
 lubo HyjuiUtiLgii, emitur roitro let Her f>kfttfl, kgumiuc fflR-
 gnwcule titpiUio gUliru.—C*ulc« bip#d*k« dcmum glaber-
 mm, paiictfoUali. KolioU6*tt Lin. kniK4, li>ctmj semipe-
 dales, 10-12 Bon, Flora niKgrutudiw /rf#i r«rmi<Wn/\ pedi-
 cellis £-1 iin. longis.

Madagascar, Lyall!

125. *C. podvearp** (DC, Ptvdf, 9. pw ISA], «1CU» her-
 tner, diTmrirattu-nao«, ittpulia folwoeis diraidiato-ovatis
 acutis »ub£Uc»ti». foltoL* obor*Ui oblongisve subtus cauleque
 longe et laxe pilosis, racemis oppositifoliis 2-6 floribus
 glaber-

nmo, fttipitc tubi* otlpcu Uif^iare,

Trufikml A/iiof. Hkiut of Ox Wito, country about
 Jtiebvd-Tol, ujd bejonii the rirer on Ike burden t£ tb«
 Sahara tlcsrt *Ajirtrw imd Perrottet*, kingfluin of ScaiMer
ktUxhy ' ii. 1 Ifi and tt th« foui of the .Vmwch-Cool nn.
 Uins in Cordotaft A'i*M*y ' Hflrb- U&. ttin. Pl. Nub.
 n. •*.

126* *C. Gomui** {Ouilem. «t IVrrtrtt* H. &MM]. U p
 165), herbacea, ramosissima, JjfVat*, ttipvlii fidiioaii f*J<
 catis, foliolis obovato-v. cuneato-oblongis obtusis emargina-
 tttti ttibtu Tamalitque ftdprcaM pabeacenubu* tomentosive,
 racemis laxe 6-10-floris terminalibus oppositifoliisque, legu-
 mine sessile polyspermo breviter oblongo inflato pubes-
 cente.—*C. falcata*, Schum. Bctlr. 11. Guin. p. 335, non
 Vahl.

Tropical Africa. UUnJ gf *Qorm*, Cape Wfd, and on the
 Gambia, /-9trw «U *PtrnlM t BtJdn I C*p*« St. Marie
 •nd Gtluai *Hmdfirt* * common *t Accra Adwupi, ^c.,
Thanning» Ann r. ^ / it . 30 id UM kingtlom of Fazokal
Kotschy / n. 436.

127. *C. cylindrocarpa* (DC. Guillem. et Perrott. Fl. Seneg.
 1, p. 164).—Species mihi incognita.

Tropical Africa. Walo country near Kouma, Richard-
 Tol and on the river Marigot de Paoué, *Leprieur and Per-*
rottet.

128. *C. (C. ...)*, fruticosa, stifflii bine imi« pttiotuUiis uoorU* Miace* cattrii i*****
 obsoletisve, Mmulti nlxrtiiii fkbtr* r. mbc«a nrtw utriwp*
 ramulisque cano-pubescentibus, racemis
 magnis longiuscule pedicellatis, calycis laciniis tubo lon-
 gioribus, legumine adpresso-pu-
 begalo.—*C. arborens* LAID.—DC Prod. S, p. 130. *C.*
iscaesca Linn. hi.

T Sooth Africa BMttn lthiffa<t of tl» Of* Colony.
 it i t I ^ £T!ANI mmd Zrykrrf ., UftrkiMI M «en Gekau
 id it is
 also *BmhrtfM I n. 4ICH.*

129. *C. AW^»** (MtIM. 1 npn p. «€). fruticosa, stipula
 lanceolatis foliaceis, foliis cuneato-oblongis emarginatis sub-
 mucronatis, racemis irfiiwlitmi laxis paucifloris, calycis
 dentibus tubum latum sequantibus, carina supra villosa,
 legumine breviter stipitato glabro.

Souiti. Afnc* net Port N«tal Kr+**s f R. 339 according
 to McuMier, o. 5,19 in my hrrhtrium, ptoUblj MNM cfclW
 error itt tii* one cue or the olltr.

J. 10, *Pttr^mpm.* Frvmsu. Htifmkt •ubnuUa. Racemi
 terminales, fiuriflari, brvrr* ¥, pitun «kinfftti. •Calyx bre-
 viter dentatus. Cwiiut hrvrtter «t obtuse subrostrata.

no very remarkable species differing in many respects
 tttm otntfk <nd scarcely bpkii ging to the genus, al-
 D. *purpurea* which is the most distinct, has so
 nndl UM» fiMr«t »ppirmp» of tk« Fruticosa.

K } *C. /mrpmrvm* (Vent. DC 1'nMlr. 3, p. 153), fruticosa,
 cUiptict* obor»tUv« utr»tf)TM glotim T. subtus ramu-
 lisque aureo-ton mttoUift, racemk Uiiuaruli^ c.Utw dentibus
 tubo brevioribus •upfMuu (runc»li»# cvifift bmitar <t obtuse
 subrostratae, legumine oblongo-inflatotransverse venoso gla-
 brn, stipite calyce vix duplo longiore.—*C. colatoides* Lam.
 Dict. 2, p. genus proprium?

8out)i Afrw*. mmtrn itevtcto «f Uw Up* Col* y.
 Rocks near Gns enthal and woods near George Drige?
 frmrttrberg tMtf C«]«don, imwatoiiu of Oroot Vadersbosch

in Swellendam, *mnd* V»ntr*«iinV« river billt in Uiienhage
*Ecklon and Zeyher t *kt* Bwtkrii!* n. 46H& «n l 5792.

1 I H C . *tupmhukatrf** [Lwn. Dirt. ILjp. **<<). fruticosa,
 r%i4* fwno.ii.nmi, stipdu aubnallu, folioli* putii M M H ^
 oblongis ut D'i'j'jc gUforifl r. fiiijptu* r«mui>M|U* fgricco-canescen-
 centibus, yee breviter
 5-<toitato_t tmriik*. . . .f Incumin* bnrifer •tipitalo uhloOfO-
 CUHARO gUbro •nba^imio.—S^wcic* (nm, ah om-
 distincta et *Lebeckiis sessilifoliis* affinis. Corol-

U i w n t h j j :

South Africa. Omler HuLkftwtltJ, on the (jnubcrg Rifw_t
Drip !

soletae. Racemi laxo pluri-saepeius multiflori, breves iT.p>na
 elongati. Calycis 'itooiitide t'nnx lftdnue JVIKQCUCM, Utenle*
 intr M tape diu coharentm. Cariim-wptiu falcata
 ginibus lankt«. LtgmiMm ttpitfttumr. rwiu* textile, oblongo-
 cylindraceum, ultra-pollicare, adpresso *pubctmM* •. l»Hu*
 glabrum v. villosum. Species plerumque pliu mintti •JpMH
 pubescentes, floribui Ru ijusculis.

* *Cytisoides*, legumine minore hirsutissimo. (Species Masca-
 renses).

132. C. *Oiofm^fitUa* ftp. n.J, wffhiticaf*, dicKotw, tuU
 fulvo-tomentosa, f»jlir4ii in orak Msttlibui cmif«ftii iute*ri-
 bus subeuneatisve acutis utrinque fulvo-sericeis, racemis
 paucifloris wminaltfwti. a l m i laciniis lanceolatis tubo sub-
 longioribus, legumin *ste-*
nophylla, Bojer . et Zeyh.—Legumen
 6-8 lin. longum.

Madagascar, Bojer ! Lyall !

133. C.<yrMrft (lld«. *I B*» 1 Uott. Mmmt-tton K oxb.),
 fruticosa, minutis
 subnullis, cuneato-oblongis obtusis supra
 IPMKM WKUI TUHWC, IMMVi pUKMWVIB WtfW* •»!•»

uvario auitifwtktat kyannw oMotigo Wwtiwimn.— HaW-

distinctissima.

** *Azillares*, Ramulis floriferis in axillis foliorum saepius ab-
brrvi<a «tb*pbyl]U paucifloris.

134. *C. tuiifaha* (Linn. D(MVulr. i.p. 13I).— '*C. azillaris*,
Ait 7 DCH ? IVodr, 9. p. IJ5. 8|ieolet nunnitt t speciminibus
imperfectia • iibi noU, f quibu* tlihtn, ctio mill* poilrl ii
Africanis

Tropical Africm. C«pc Cos at, *Vogel ! n. 21. UM! U* est
Indies, Jamaica, *Mac Fadyen ! Unic Island, Anderson !*

I km (tut «* *rc ui' ftuy IJMOM witii liut utue inflo-
rescence, and in the cw u* Uiti oue, it is doubtful whether
the peculiar inflorescence ia nonuhl oc aocuk ntal.

*** *Vmlgmrr**, irjtWiürt* fedflTCftM pubescente v. glabro.

135. *C.* (24), fruticosa,
stipuli* niikuti*, foliol i> uUivatis «upr» (*b
lisque exiusecule plurifloris, calycis
laciniis lanceolatis tubo subtriplo longioribus, legumine magno
oblongo obscure transverse venoso minute puberulo, stipite
calyce parum longiore.

South A C m M*T.IT p l m bitwj* tfwi Omcomas and
Ott OfttHlfti (at Oml*a»), in C. «ff#r1*Jid, *Drège !*

[The remaining species of this group are all American, and
apparently numerous in Brazil. Amongst them may be
lucntioiKiJ, C JM^ypfdiii'i, tlumb. el Kumh.† * *C. cajaniifolia*,
Huml. ? *C. palera*, Vahl.,
C. unifoliolata, Benth., *C.* many as
yet unpublished.]

§ It. *t'cifjAfli**. Ilcriw ^U»* T, ««pk frutices, habitu
infloresc itM ct donimi. fntli'riwinii v. *Incanarum*, diversa
tamen 5-7-foliolatis. — Species
omnes MB enumerate.

T%om « «* «rtMwbl groups «hUb cmffct, pvttep*. U N

broken up, and the «pe<at* referred, some to the *Fruticose*, and some to ihr *Incane*.

I 136. *C. fumtHffxUM iLtnn.*! W. «t Am.! IVxir. I, p. 194). Wall.! CaL a. S48& L. *ArtmpkpU**. Uitn. til!

Eot Indian IVuiuiuU. *Might** and otbm, Bumit*e iEiritonf, *tVatiwh*, ' T»VOT, *Gvmt*; ' Ituiip|kinc Islands, / o.

137. *C. Grmkmmkm** (W. et Arn.! I'Wr. I, p. 194).—*C. alytofii*, Wall.! C«(. n. 543d, DM Hool

E*al Imlu* u IYmt«Lft» Uiiidygttl Hill*, *Wighti*

138. *C. Jtfitmiu* (RoakJ tt\et Am.! Prodr, 1^*. 1'M).

F^Bt hiilwn t^uinaula. M«dur* IliDa, 'Fight!

13V. *C. tn^htitрма* (IJDJT, Ilort. M.iunt. p. ^s'. DOOM AIII. 8r. N*t. IVr. g. S^r. 4. p. JtH, 8pccivn mihi 1^>1^*.i.

Mad«xuoi, *Bojn* n

140. *C. Burkeana* (sp. n.), her. *erecta*, mule *putiufa* racemisque pilis longis patentibus hirsutissimis, stipulis lineari-subulatis, foliis 3-5 lineari-lanceolatis acutis supra glabris subtus pilosis, racemis laxis, bracteolis lanceolatis, calycis profunde fissi laciniis lanceolatis corollam subaequantibus, legumine sessili oblongo subfalcatu hirsutissimo.—Species distinctissima. Caules *radialis*. Pili ramorurn «t lrt:«mir»fifut« UihgnibtiiK. fulvi. Affinii vufotyr *C. incane* sed foliola saepe quina. Flores majusculi. Legumen sesqui-pullicare.

South Afrir*. Mi»r»U*f>rru tnfl A«j^rj liivrr. in Oi* interior to the N. E. of tie etiUuiv, *Jltarle* !

Amongst the *lanaris*, Luu>, ii the *Aryrrolobium lanceolatum*. *C. argentea* Mid #wy»f^iJi'<,J>rq.t C vMam uu) nJmMt*_t Thunli> and *C. decumbens*, I'tn,, an imtwbly «pecie» of *drffyrufabimm* Of *Lotonosis*. *C. styracifolia*, Horn., may be, as De Candolle suspects, a *Podalyria*. *C. macrostyla*, Don, is one of Wallich's *Oxyramphis*.

H^*, *C. fwgub*. Herb. AttiH., *C. MMT* wid nrftM«, Link., *C. «AWMfte*, D«^, *C. t<iw^f_T Ft' M«-%*, and *C. striata* and *Brasilis*, Schrank, are very doubtful species.

XVL PRIOTROPIS, *W. et Arn.*

IMB *** on*d*u of but one species, so very much like
mmm of t*» ironTM* tWfafari* *m mry* \hmg bvi ifa* pod,
 naturally removed from that
 I KMA. > _____ J.
 |IM| in VUUF m t n f) H cannot be retained without
 doing Hoktuw tu any »aritfiutorf generic character which
 Wi yet been gmm u it.

!/ *V. ry/Mdn* (IV. «t Am.! Ptodr. I, p. 1^o in adnot.)—
Crotalaria cytisioides, Roxb. Bot. Ind. 3, p. 276, DC. Prodr.
 2, p. 154, Walp. Bot. Bot. n. 5472.—Habitus folia et flores fere
Crotalaria asagyroides. Legumen stipiti 2-3-lineari insidens,
 oblongum, plano-compressum, 1-1½ poll. longum, circa 5 lin.
 latum apice oblique acutum, extus adpresse puberulum, intus
 nudum, valvulis membranaceo-chartaceis transverse reticu-
 lato-venosis. Semina *Crotalariae*.

East Nipal, Silva: Taong
 Dong, in Bum, Wallich *t Ttnmmnm*, H[^]fr *

KVIIJ OTONONIS, DC. (Sect. Oxanidia.)—*Leobordea*, Delile.
 —*Leptis*, *Lotononis*, *Krebsia* et *Polylobium*, Eckl. et Zeyher. —
Crotalariae sp., *Aulacanthus*, *Telina*, *Lipozygia* et *Copnitis*,
 E. Mey.

The efaoy *twmn myrpmr* M MM to b ve been distinguished
 upon rrrr itwafficimrt KT>H>U^». Thuftp established by Ecklon
 unintelligible, so many
 of tt>* tppotwi Ptttrreo in the Enumeratio to on* genus
 having tt,c generic character of some other one. E. Meyer's
 are much more consistent *wl natural, byt tlw Uffft vexillum
 of 7WiM> and the tnwl Itwrr lob« of the calyx in *Copnitis*,
 are but characters of degree, which are not, in either case,
 very definite, and *<vn MM rostrate keel of those species
 which *Ut nimnm* in *Crotalaria* against his own conviction,
 (see Comment. p. I[^]), passes gradua several
 intermediate fef OM into tt* ordinary blunt k«aloC filwiwr
 The introflexed carinal suture of Iho |K>d m *Aulacanthus*
 is exceedingly slight, und only 10 b» wvn In the ripe state,

and appears to m* to b* of no itnjmrtmjMW. Indeed, although I have «wt mam attend podi* apparently fully funned, of E. Mepv'a A.^roo/i*, 1 have only one* at*n a tUgM milfiion 'inside, though^ in federal, the Carina) »ulure it alifjuly t+ pressed mtitide* U**bor4e* of Delile, belongs u> every m-ipeet to the ame tertkm as Cayaifii, K. iley., hut the northern tpeciea added to il by *Utmmcv*, Km*] and LedclKHir, haw a much rut we prominent Lower tooth to like calyx, awl belong to thf tertian *Vry *tia*.

IVhiltf vrttibic nmt iie« oh*ervntion* for lh« pmaa^ I have received the April mimtKir of the Annalc* d«a &d*uom N-turelles, in which i* a paper on the northern •|xci«, liy Spach, where that writer placet them in *Lcubvrd***, ind suggests the jonctiot>i undor thu iwOMI, of n m of thi above-naBMd G«p* fenera. Tbk H U M of t**Urftt i*, it U true, tlir tint that hu lie*n puhliied u a iibaUntiv* genus, but in a confined acute, without any refine*** lo tin South African ifiencw, whicl l>e (^ndoil* had btig ptt-viously pr'JH>«*1 a» A ddtjrtrt trctiou# umiaf tho ntune of *Lotonosis*, expressing at the same lime lii» ojvinion thal if would tb«raJWr b« *tmetanarf* to *tamJAer* thti Motion m a dillinrt frmii. At, ni«irtn»rcr, Dr *Candolle's Lotonosis* would indude all the vpcrica 1 now propoap to refer to il, *1ich Dtltk«'« *Ltrnkirdm* would not, it nay urety be romidered that the priority of the former hat beta nfficieu (ly eil-lished iur its adoption M ih« e^nlric name, capwtatty at, having been taken «p by KcUon and Zeyhe^ it it already applied to « m«ch gmrirr nutnbr of *wpedm th** *Leobordea*. Spach does not compare *Lotonosis* Candolle's *Lotonosis*.

A> a whole, the ftwaa, M BOW propnwd. roam rcry near to *CrcbUmim* an tW oat band, ami fcu _Jr—raVcAiw on the othir, acwotpanied fnqw«»tJy by much «f the Ubit, though none of Ike diaraotur, ** *L*tua*, *Vtmn Crrtmkh**. it is pe*rfally ktmwti by the form of th « nlyx, th* Utmt bad, fJ the pod IUOW or *Itu* di>m|>r«*H>d when youn^, Th«n are some *yria*», howver, where the ralpi ii not distinguishable

from *tlitf* of *CYftmri**. I m t Ui * » not » nurttri tl character ;
in a few others, the keel is acute, or even rostrate in one of
two, bet in ttw »_t tcc toy muck cm*pra«ed pud, and the
ftwy JHfewii Wfai^hw* w+4mUm*i» iW»y *gftfctywiditb»

COTTVH, vid not fwmntot u in TViraiiaig Tbt character
dotwd horn tb» pad M It** wiinit ; « «%bi compression

•lay DO onKim m v.rawaaw fwvNMPH_t imi in • .**

turgid vtwn rtpo* bot ID the** r**r«, the foctn of tiw tt<*>^w
From *Argyrolobium*, *Lotonis* may b* *>o*t*At]y biovn ^T
the calyx.

The peculiarities which have induced th* approximation
of *Lotonis* to *Lotus*, are the tendency fai MI umllatc inflo-
rescence, and the unilateral solitary stipules which may be
observed in several of the species, mid «fr hut to to ft mat* in
Crotalaria, but these characters are not of tmpoi nce, nor
are they constant in species otherwise closely ltd to each
other.

The following divisions, which I should propose as sec-
tions, have mostly been established as genera, though not
always with the same limits as here given to them.

Sect. I. At PLACINTHUS. Racemsi terminales. Flores parvi.
Legumen breve, turgidum, sutura carinali subintrusa.

Sect. 2. KRENSIA. Flores in pedunculis brevibus solitarii
v. pauci in racemis terminalibus. Vexillum toiptQtn. Carina
obtusa. Legumen compressum v. vix turgidum.

6«ct« a. T « I INA. Pedunculi elongati uniflori v. rarius sub-
umbellatim 2-4-flori. Vexilium aniplum. Cirin* obiiu*

Sect. 4. POLYLOBIUM. IWttwmit elongati umbellatim v.
subracemoso-ph inrtori. \ rxttlum mediocre. Carina obtusa.

Sect. 5. BACCHUS. Pedunculi umbellatim amltiAnn m-
rius 1-2-flori. Vexillum mediocre. Carina acuta.

Sect. 6. LIPOZYGIS. Florum c«piiuU subsessilia termi-
nalia. Vc tTHum sepius oblongum. Curiw obtusa v. rarius

•TV-
tiuscula.

Sect. 7. *LEBORDEA*. Flores parvi, subsessiles, oppositifolii v. in dichotomiis caulibus pauci. Calycis lacinia infima minima. Carina obtusa.

Sect. 8. *Ltpna*. Plorrt panri, i absessiles, oppositifolii, solitarii r, patR-i. (M M ciorata, utituu r. nriu* acuta.

Sect. I. Ai LACturnm* Frutieuli liuinilr* ramosissimi. Stipul m null* r. r»riu» «4»uri». fTore* psrri, in racemis terminalibus laxis pedicellati. Vexillum obovatum. Carina obtusa. Lqparnrn bfrrr, turgijum, vutura cuiimH demum pnmetttm ptop* buflu 1 viter intrus*.—Aut*iri*thu*. i. Mry. Comm. p. i »' .. —Speck* omnci CsptnaM.

Tbr pUnU of thiw section liarr nearly tli« liatiit of w»w? 4»y*rf ft ml I^Urkt*, hut the c< and fruit wr rnlirrrly

1. *L. jrmriit**, frotirutov** mtaoiinim*, sericeo-canescens, rsmulu fmrtlibtii su)M-rtcti*» MtipuLi* tmilin, f>lu»lit in mine «ppnwa pobtrubi adfot rit t)»j4a Ungk /A« f^Ubt, fi. Hey. 1 Contm. |». 1 •6.

Hocky pbcu on the Kuodeberg and Rtclknp IfottfltrflW amoniptbe

L. rigida, fruticulosa, rigide ramosissima, subspinescens, incano-sericea, ttiputu minuti* r, nullU, (bljoJi* in petiolo brev i lin*«hlnt\ racemii lirr»ihu*_t ckyoe ptlmo-btrtcs Jcgv- ininc ptlowj pubc«ceti(e c»hrr |*l«i« itupLj Un*gntrt,—A*f** cinthus r%jfidf*i E. M*y. I Cotnm. p. 117-

In i lie Zwwielw.tr, »ml a MonIWuti, /> ^ r '

3.

ramosissima, tenuissime adpresso puberula v. glabra, ramall* Irnaibuft b«io irwWib •pin«nintihni%*tif>uli» idlit« iis lanceolatis, etc.

calyce glabriusculo, ovario glabro.—Habitus fere *Viboryia tetraptera*. Stipule tiunc tiiinnTv, nutw pctioliitn sub-

aequantcs. Flores *L. gracilis*, sed minores. Calyx tubulosus, laciniiis superioribus lanceolatis per paria fere ad

medium connatis, infir. * setacea breviora. Legumen nota vili.

O ran urn K U I K glahntm, omiMU} LA *tanouidia*.

Cap* CV4miy. but without any |>rm<f W¹ sty, Basie!
Thom. ! (Herb. Hooker.)

Sect. 2. K*E»«IA. Frutwr* saepe humiles, ram »m
Fotfofe fmm. Stifftabr folkdia •uhmmil** T. minor' * if* minae.

Horn m»jn«rrli, pedice lUli, j*uci «d apten ratponttrt pri-
mariant raccuoM, pienqu* t»nM*n in pMbmCuRft h* evibus ter-
min

breviss iitiu •ufaauijvDi> asiiUnbu) solitarii, imiMlo in pe-
dunculum articulato. Vexillum amplum. Carina obtusa.
Legumen compressum, demum subturgidum.—*Krebsia*, Eckl.
et Zeyh. *Telusa*, sect 1 et 2, E. Mey.—Specie «onnt« Ca-
penses.

4. *L. cytisoides*, fruticosa, ramis virgatis subsericeo-hirtis,
foliis cuneato-oblongis obovatisve acutis obtusisque utrin-
que sericeis villosisve pedunculis unifloris brevibus axillari-
DOI terminalibusve, t
vexillo amplo sericeo v. glabriusculo,
legumine hirsuto.—*Telusa cytisoides*, E. Mey. ! Comm. p. 80,

Krebsia cytisoides, <t K. *crio-
carpa*, Steud. Nom. Bot. ed. 2. *Krebsia striata*, Eckl. et
Zeyh ! Enum. p. 179.

Rodcy mountains of Uitenhage district, *Ecklon and Zeyher!*

Omsambaha,
Drège! also n. 856 of Zeyher's Uitenhage collection, n. 2770
a H{ 4! jn «*f flweArff, »oJ m B^ sic» collect JH.

5. *L. geneflora*, pube tenuissima canescens, ramis tenuibus
subvirgatis, foliis cuneato -tth>rtt»u v. ittgoili dttonghi
stipulis anguste oblongis, ped lonrtilti 'unifloris oppositifoliis
Mb lu*|f-nl>. v. 2-3 in r«ccmo trrniiruli. tllfcii laciniis
Isttfr •rumifwtii, Wf«miiMr tenuitiim^ appresso-sericeo.—

E. Mey. ! Comm. p. 02. *Krebsia geneflora*,
StruJ. N, rit Rot, «d.f.

G'Mfly [MAc» bciwvvn KBDIMU and Ki
Urul, ami dry liiili. tvrar G«*ijff, *Drège!*

6. *L. gaberula*, ramis tenuibus virgatis,

foliolis stipulisque R lir<nl>u* r*ritt*ulw gUHri* r, minute puberulis, racemo terminale lu# plimfloro pedunculisque oppositifoliis brevibus unifloris, calycis laciniis tubo brevioribus, Icgumitic tUgnu*ruli>.—KttM^t ifliHu—. EckL el Zeyh. Enu. m. p. 180. Tttmu ttnatu, K. Mey. Con. p* *38. Krel n<r Jtfrittii, Strut}. Nom, JdHU «U 2*

I 'altar Juii*], 4in thv'iidoi of biliti nemj Silo, on llie KJiiilut Ri>crf Ecklo « «W ZeyKrr, hetwtWa tLr OindU ami lite OfU-»UIIWUIK\ Drtgr '

7. *L. dicaricata* u jruttculoMa JJT>rtn.ta^f<tnomilmI, tub* spinescens, tcnufftiitmo c<no*pohcr<U, «hpuli* petioUj multo Wtvioribot. folioli* minci'o-obkin^ii gUIniutculift, <*h cis Ucimi* Initg* Acuinjiittit^ pedunculii hrciribui uoifl-ih** legu* mine n-lj»rw^ putwtcetitt ?. gUbrimcMio —Kr*&mn Hiraricata, Bctd. et Zcyh. i num. p. 1j»,

CalfrUud, <m iKc tidn of htIk, ntm Silo, on tk « KBpUftt liwr, £rifa« MM/ Zeyker ! on tit* Zunrriwr^ti, /**ri

B, I- *tirifitpkf, lla* (sp. iv.1, humiiv nrrK>>>tMim>T umli^a^ albo-sericea, foliolis jmrri linrr. bus cuneatisve, itipuli* parvis, pedunculis vexillo legumineque dense sericeis.—L dw*rit*i* ttmilii, nmulj tc>yiorr«. fciliuti an-

\V<!T< Kloof, iforA, /

Bert. .1. TttUtf A. Suffrutic>r cauiitmi nammmi KcHucis diffusis. Stipulae solitariae v. geminae, foliolis subsimiles v. saepius ninqTM. lFUren nujuicuU, in fMdawvlo mos oppositifollo saepius elongato solitarii v. pauci, subsessiles v. breviter pedicellati. Vexillum amplum. Carina obtusa. Legumen demum teres v. turgidum, interdum fere *Crotalariae*. Flores saepius caeruleas.—*Lotanosis*, Eckl. et Zeyh. *Telina*, sect. 3, E. Mey.—Species omnes Capenses.

Some of the plants of this section came very near to some of the ('rvttimn* *Oligantha*, with which Ecklon and Zeyher appear to have confounded them, as they have a *Crotalaria azarceae* with a blunt keel, and a *Lotanosis effusa* with a long rustrate one, the pod being nearly the same in both species;

the real distinction is, however, in this instance accurately
 <lfHW(by E. Meyer.

acteuta (sp. n.), decumbens, subsericeo-pubescentibus,
 stipulis geminis parvis linearibus acutis, foliis linearibus
 suboblongisve plerisque acutis petiolo longioribus, pedunculis
 foliis **u »ubbnrrwnim***. bracteis bracteolisque orbiculatis trunca-
 tis appressis, legumine compresso demum subtereti sericeo.—
 Pallide virescens. Bractea et bracteolae $1\frac{1}{2}$ lin. longae, deci-
 duae. **Calp 4 tin.** longus, subinflatus, laciniis supremis ar-
 ru«Us euui lateralibus lanceolatis alte connatis, infima subulata
 profunde soluta. Legumen fere pollicare.

Moose River, Barke!

JO L * i / v i i , ^ t i f f u i , r t a H f t i v * t M i p n f a c v i W t • t i p

t cuneato-oblongis glabriusculis crassiusculis, pedunculis oppo-
 sitifoliis folio longioribus, bracteis orbiculatis truncatis appressis, legumine
 compresso demum subtereti sericeo.—
 Pallide virescens. Bractea et bracteolae $1\frac{1}{2}$ lin. longae, deci-
 duae. **Calp 4 tin.** longus, subinflatus, laciniis supremis ar-
 ru«Us euui lateralibus lanceolatis alte connatis, infima subulata
 profunde soluta. Legumen fere pollicare.
 Moose River, Barke!

•TIL Thunb.

» Jtciih«|[e4 on muni) liiili iHS»r krmkakimma *tnl INstt Eli-
 »i*beth, £fifaa *W ^A er! (Zeyher, n. 922), brtwwn
 Kwrhfn>io<oh *nd tile Ufemtuo* ttrtr, /JWjw / also Barke!
 n. 4528.

11. *L. prostrata*, *Ononis prostrata*, *Crotalaria vexillata*, E. Mey. ! Lin-
 naeus *Ononis vexillata*, Eckl. et Zeyh. ! Enum.
 p. 17a. *Ttamm prostrata*, Ffc M

Mountain • near Cape Town, Ecklon and Zeyher ! Drège !
 etc.

β? *glabrior* (floribus a tnc nwt* visis).—*Ononis excisa*,
 Thunb. Fl. Cap. p. 586? *Telina excisa*, K. Mtt. ! Comm.

p. 70 *Lotmmml** ttrtfc*, Stow)* Nom. Boi. ni. 2. *Crotalaria*
Tuli^ .w, Vogel ex Walp. nrc* 13, p. 4J5.

D*U*t«k! r MOUNTAIN, Drtf* t

15. *Unffo** (Steud. Nom. Jot «d. »)i J'ffusa, toU
 suta, vtij>uli% j leriisq m tilitariis lanceolatis acutis, foliolis
 r'nirtltli ntUf! onatis ttrilque hirs IUU," pedunculis oppositi-
 foliis ... ataccis, calyce vexillo
 undique villosa ... gumine hirsuto.—*Ononis vil-*
losa ... Mey. I Comm.
 p. 70.

Mountainous ihickru al tticbck¹* }C«il«r1/iti Strll««IH>i ch
 district, Drège!

13. *L. acuminata* (Eckl, <? Zeyh. ! F.uim. |>. i;r.]T diffutn,
 ramulis pubescentibus ...
 gisve acutis, foliolis obov. itic wute •cuminfttU rigidutis pilo-
 ituculu T. tubtm wrricci*, ptdancului mbterminAlitiuH 1-2-
 floris, bnrttii scirciii, CAJCC TI xillo «xtai puicrulo multo
 brevior, lX*«uiw» turgidulit MV liler pdbaMMBI e.

Pastures nmr tin: Zmrcki)) Kirrr in Uitenh qp, *Ecklon*
and Zeyher! (n. 8 ...).

14. *L. «rpn/t«* (EcVI. etSSbyJI, Etiuw- p« 171)--; Unknown
 to me.

C«rTK» hilli between Ki««im«iiiiVKKif arid the daunt*
 Hirer, K aiu»nlaixt, *Etihm etui Zeyhrr*.

15. *L. mMarocarptt* (Kdtl rt SEcyli. Kaium, i>, 176)^-Un-
 known to ...

Sandy pUor» nor BnukfouUui, in Clanwilliam, *Ecklon*
Zeyher.

tit. Lh twrui ittrud. Nous. Bot. ed. 2), diffu**. gUhrft f.
 idpmM pubcruU, •tipuUa «wptu« gi minis umtb pctiolo hr&-
 vioribus, folioli ... uneatise, pedunculis ... lfo-
 jii« ttroWUim> v. vuHrverniuvo-^uTifUins, vrv>lk> uoplu
 eitlti «! Mftwn |iubc«fiif<.—*TtHnm ntrin*, K. M«J. !
 Comm. P 70.

Draakenstein IhIU. *Ihi*ie* * * *M in 7*AtMi*j o«M»diof.

Sect. 0. ...
 mosissimis. Stipulae gcminc v, mriiii tutturur lulu'li* sub-

similes. Flores mediocres, in pedunculo mox oppositifolio saepius elongato plurimi, umbellati v. breviter subracemosi. Vexillum obovatum, carinam obtusam parum superans. Legumen subcompressum v. turgidulum.—*Polylobii* sp. Eckl. et Zeyh. *Liposyge* sp. E. Mey.—Species omnes Capensis.

17. L. *umbellata*, diffusa, adpressae pubescens v. glabriuscula, stipulis saepius solitariis petiolo multo brevioribus, foliolis obovatis, umbellis longiuscule pedunculatis laxiusculis plurifloris, bracteis minutis, floribus cernuis, legumine subfalcato compresso densam turgido.—*Osonia umbellata*, Linn?

* *Liposyge umbellata*, E. Mey. ! Comm. p. 76. *Osonia ? umbellata*, DC. Prodr. 2, p. 168. *Osonia glabra*, Thunb. ?

p. (51. P.-frM—« frattfm, Brkt H Zeyh. ! Rr um. p. liff * JVtfrfaliw *Jihfurmr*, Kekl. ft Z*yti. F.tium, p. 181 ta» I p.

Common on Oic ifni'jfiikM- of C *P* **^ SlcM>fih>*»<fc districts to the Ziili<irrnnilr Ritrer, Qr^r ' *Ecklon and Zeyher ! Sieber !* (I. * \p. rt+. n, sir) ftttd utben.

1* f. *involuta*, diffusa, undique hirsuto-villosa, foliolis Hmvriboi oblongis v. infimis cuneatis, stipulis geminis linearibus lanceolatisve, pedunculis terminalibus v. rarius oppositifoliis v. subracemoso-multifloris, bracteis lanceolatisve, calycibus longioribus flores nunc aequantibus, calycis laciniis

legumine turgido paullo brevioribus.—*Osonia involuta*, E. Mey. ! *Cratularia involuta*, E. Mey. ! *Linnæa* 7, p. 182. *Linnæa involutata*, Eckl. et Zeyh. ! Enum.

p. 182. / *tpvffgiM iw**irrw/fl*, E. Mey. ! Comm. p. 80. OwMi# dyft<tfotfrt 1X\ Pr<Klr. t, p. 167. |\mcfi|iun *- M^liHi^ Eckl. rt & y h. ! E.urn. p. ! 82. *P. angustifolium*, Eckl. & Zeyh. ! *Erthm -U Zeyher !*

Comimm in imdy, stony, titiutim in Cap-^ ^! Stellenbotol .1 .»in?t», fimMB t)M Z^rtrU.ul to tU If •Will 11 Und M^mntain^ tnd Klyn Rirtf, Pr^yf ' *Erthm -U Zeyher !* and others.

19. L. *peduncularis*, JtffuM. |iilf>^, iti|ku)k grwumt II* eacibus petiolum aequantibus, foliolis linearit

Zeyh. Enum. p. 180. *P. intermedium*, Eckl. «t ZtyM Enum. p. 181.

Uitenhage district, from the Van Staadens to the Sunday rivers. *Drège! Ecklon and Zeyher!* etc. (n. 401 of *Zeyher*).

22. *L. perplexa* (Eckl. et Zeyh. ! Enum. p. 177) pro-cum-bens, glabra v. pube brevissima canescens, ramulis filiformibus, stipulis solitariis parvis oblique ovato-lance*litL v, foliolis cuneato-oblongis v. infimis obovatis supremis linearibus, pedunculii lenuilMM *lotag*tl+ l-*d«ri*, taetm UilbUtU) calyce« ttriceo, Jcg-mine oWotiju tericco twgttlu etljce tub.

p. LSI.

Tibia, IJ'in, fttid IK'vtl't M'juuiam*, ttar Cap* Town, *Ecklon and Zeyher! Harvey!*

adpressa subca-nescens, ramulis filiformibus, stipulis solitariis parvis oblongis lanceolatisve falcatis, foliolis cuneato-oblongis linearibusve v. infimis obovatis, pedunculis tenuibus elongatis umbellatim plurifloris, bradoM •wantii. calyce sericeo, legumine ovoideo turgido calycem vix superante v. paullo superante.—*Crotalaria micrantha*, E. Mey. ! 8. *C. tenuiflora*, Steud. Nom. But. ed. 2.—Carina fere *Crotalariae*, sed stylus, inflorescentia et stipulae *Lolunoidis*.

Shrubby hills in Roodesand, *Drège!*

24. *L. debilis*,—*Polylobium debile*, Eckl. et Zeyh. Enum. p- MI, Yrom their description, »i Opp—W to W very near *L. rostrata* t I Mire not toon tM pAmt*

Carroid Uilk, Mtr IIOTMiniablrf, in Svviickm, *KdUtm and Zeyher.*

'JS, 1* mc*i&**** pflraimbvttta, pabe Urnui f m w i i T.

subquinis cuneato-oblongis linearibusve, subbrevioribus laxè umbellatim plurifloris, bracteis pedicello elongato brevioribus, calycibus subsariceis, legumine sericeo oblongo falcato deturgido calycem vix superante.—*Crotalaria quinata*, E. Mey. ! < uinn) p. 27.

Plains near KraWlntUkrW, in CUti«ilU»m district* f>***9* ' 3*. *L. cryptera*, pruomtbenft, luWiic*o*|iulw.*c<-iit Y. villosa, stipulis solitar~m oblique orfttis UiKtuUtitr* fuliuti* obovatis oblongisve, jvdqneti! is folio subbrevioribus rilkw t »ubcnpniurn.jiluiiA(irw, hnwHn* p<hc<lto hwri**im<» lonpori-Kun, r«Urit»u* TIUOIU, IsgUDtM luari'luUi mlyn m JM ~llo tit p w t w ('w'— 'TfrfHMWw mypffy*9, Ei lltf I (-mm. p* 28. —C^lycc* qo»Tit In jmMedsntibttt mulio majores.

Klob t>rm*Vti»tcin Milk *>»*-'

27. *L. pallens*.—*Polylobium pallens*, Ec kl. ot Z<yh. fini m. p. 182.—Un Known to DM but Apparently tvtr 1. *oxyptera*.

Sides of hills near Brackfontein in Clanwilliam district, Ecklon and Zeyher.

SECT. 6. LIPOZYGIS. Suffrutices, caulibus decumbentibus v. erectis brevibus. Stipulae solitariae. Flores parvi v. mediocres, in capitulis umbellisve sessilibus numerosi. Corolla marcescens; vexillum obovatum v. oblongum, carinam obtusam vis. «q«ua t. t>r>u« superans. Legumen compressum r. ~~sub~~ *Lipozygis*, sp. E. Mey.—Species omnes A uitm Atnr«n».

28. *L. prmttrpkgU**, *iltrumtwn**, *nunata*, •nbtrriM* hirta, htipalii pwrii UnrroUtim, folioU* tabqiumi* obt>r&ti«, capitulis densissimis ibtcwtliUui. linrtcii ^towttft, mJjr«W» molttrr hif> sutissimis, vexillo oblongo obtuso carinaque oblonga incurva pilosis.—*Lipozygis pentaphylla*, E. Mey. ! Comm. p. 4 ^.

uis, Drège!

29. *L. polycephala*, decumbens, ramosa, mollissime sericeo-riIWi, »ti|mtM oblongo-lanceolatis, foliolis ternis obovatis utrinque molliter incano-villosis, capitulis densissimis sessilibus, bracteis ovatis, calycibus hirsutissimis subinflatis, vexillo lato obovato obtuso acuminato carinaque galeata extus sericis.—*Lipozygis polycephala*, E. Mry.1 Comm. p. 79.—

Capitula ad apices ramulorum axillaribus falcatarum sessilia, nr e in axilli • pw lunculata.

Kamiesbergen, Drège!

30. *L.* <r«A«/Au (sp. n.) molliter et laxo piloso-hirta, caulil»> btfvibus whoemkntibai rrtcUtv« subramosis, stipuli

foliolisque oblongo-ellipticis acutissimis utraque pilosis, capitulis laxiusculis sessilibus, bracteis parvis setaceis, calyce hirsuto, vexillo oblongo acuminato carinaque obtusa arcuata dense sericeis, legumine compresso demum subturgido sericeo calyce vix duplo longiore.—Affinis *L. corymbosa*. Foliola multo gustiora. Flores pauciores, duplo majores.

Macalisberg, to the north east of the colony, *Burke!*

31. *L. corymbosa*, piloso-hirta, caulibus brevibus ascendentibus subsimplicibus, stipulis foliolisque obovato-oblongis, capitulis laxiusculis sessilibus multifloris, bracteis setaceis, vexillo pubescentibus.—•/•ypfyfr *turybamf* K. ifcr,! Comm. p. J[^].

Grassy hills near the Omtata, *Drège!* and it of the Table Mountain near Port Natal, *Krauss!* 6.

.12. *L. hmtmUta*, parse jmtcnUm piUaa*, muliU* ascendentibus subramosis, stipulis foliolisque scutis, capitulis laxia corymbiformibus terminalibus subsessilibus multifloris, bracteis setaceis, vexillo oblongo longe acuminato carinaque subarcuata glabris v. levissime pilosis.—*Aspalathus lanceolatus*, ← Wey.! Comm. p. J;—LdOfumcn in specimine immaturum quidem sed jam auctum, omnino *Lotosmidia* et nequaquam *Aspalathi*.

On the Witbergen, grassy hills near Leewenspruit, *Drège!*

Sect. 7. **LEOBORDEA.** Herbae pusillae, caulibus decumbentibus saepe dichotomis. Stipulae solitariae. Flores parvi, in sessiles. Calycis lacinia infima **minimt.** **Vtmtlium** oblongum, carina obtusa brevius. Legumen compressum τ, demum turgidum.—*Lebordea*, Delile. *Capitis*, E. Mey. *Leptis* sp. Eckl. et Zeyh.

33. *L. puerrecta*, procumbens, subsariceo-pubescentis, stipulis parvis, **I-Jna».** parvis cuneato-oblongis, floribus subgeminis, calicis tubulosi dentibus tubo brevioribus infima **mtwi** na, omnibus exsertis, legumine pubescente breviter exserto.—*Capitis puerrecta*, E. Mey.! Comm. p. 81. *Crotalaria prolifera*, E. Mey.! *Linnæa* 7, p. 152? *Leptis prolifera* J. R. R. p. 175? *Lebordea puerrecta*, Steud. Nom. Bot. ed. 2.

S«»r Z«wtl>uUoljt in thr K(MJ|I, *Drège!* and if I MH right

in the synonymus, in I-imbibe ami Albany districts. Ecklon and Zeyher.

34. *L. clandestina*, procumbens, dichotoma, tomentoso-canescens, stipulis minimis, foliolis obovato-oblongis, floribus solitariis geminisve subsessilibus, calycis tubulosi tomentosi dentibus infima minima, vexillo alisque inclusis, carina exserta arcuata tomentosa, legumine tomentoso vix calycem auctam superante.—*Copistis clandestina*, *Coriinn.* p. 51. *Leobordea clandestina*, *SlvwJ.* N^om, *Hot.* ed. 2.

Plain » of (tir Giritp b*t*i*m Vtffeptpnjun ind Natvoet, Drège!

%%. *L. Leobordea*, procumbens, •obdiehotoniA, «ib«ri*vn-canescens, %U|uUtab(aRKi>-Une«oUUi)|«rrU, foliolti obwrftt'-oblongis, (tonba* 2 ?* »ub*n*Uibu»» c*Jre»» tubuloso-campanuUti Ucimis vii tnbo bfruiribu^ itiftu« ininou. petalis brrti^ime etmrtii, kfwntnt ofatoitgo Armum tutpdo imlftMn breviter superante.—*Lotus platycarpus*, *Viv. Fl. Eg.* Decad. Arab. p. 23, f. 1. /liifAi fmfe^ 8pwK^ Ann. fe. N»*. IW. I!

Pen... Near Cairo in Djeddah, Schimper! *S. Fischer!* n. 64. South Persia, *Ancher-Eloy!*

Sect. 8. *Lr. rri**. *Htrbtv* v. *MnfKtScn* pusilla, caulibus *fi<t*i|t}jl)rnlihu** > > r >x% *btwibm* *Sttp^tW* solitariae, rarius gemin. «». *FUifr** *jwn-i*, *mUtani* r. n n w 2-3 oppositifolii, sessiles v. breviter. *Vexillum* infima creteris *Vexillum* obovatum, carinam obtusam v. rarius acutam aequans v. subsuperans.—*Leptis* sp. *Eckl. et Zeyh.* *Liposzygea* et *Crotala* *Awi»* sp. *E. Wey,* *Leobordea* sp. *Spach.*

[Besides the species enumerated below. *lit** following *fob*** to dm *umiii*: 1. *L. lupinifolia*, *fLeobordea*, *Boiss.*), South Spun. '! *L. genistoides*, (*Leobordea*, *Fentl.* *Taurus* mountains. *vicen*, (*Leobordea*, *Lesleb.*), S. Caucasian provinces of *ftifT*fit.* * *Inch* last I have not seen. The *Leo-*

barbea argyroloboides of Spach from Asia, which also I have not seen, does not appear, from his character, to be distinct from *L. genistoides*.)

* *Foliolis quinis, carina obtusa.*

36. *L. quinata* i» pu*flU, pnwnta* tcnuittUn* sericeo-canescens, stipulis ptTfii tulitanJi, fuliulit miit utis cuneato-oblongi, fluribu* wdiuriit gemimtrc ojjj ositifolius subsessilibus, calycis U<*inia in6m* tflrtctii Pft'jU' nuuor*, vexillo obovato-oblongo dono Dwio sericeo carinam oblongam

legumine vix tur-
(ido oilyw dupio loMipuft; »i presse puberulo.—*Lipozygis*
y »/*, ft, Mtt.! Cumm* p. 77-

(ami --nbeffri»t rocks near MwKiifibaUtiit &V ge /

** *Foliolis ternis, carina obtusa, legumine vix turgido sericeo.*

.17. *L. brmrkyktlm*, procumbens, subsericeo-canescens, ramulis tenuibus, solitariis tinfftribus parvis, foliis cuneato-oblongis linearibusve v. inferioribus obovatis, floribus 2-5 subsessilibus oppositifolius, bracteis minutis, calycis puberuli laciniis subaequilongis corolla dimidio brevioribus, vexillo obovato-oblongo acuminato nijf.*. vix sericeo, carina subfornicata obtusa glabra, legumine calyce triplo longiore adpresse pilosulo

E. M... n. Bot. ed. 2.—Flores .1 Im. li»nfti.

South Africa Drège!

3 humilis, procumbens, tenuissime subsericeo-canescens, stipulis solitariis parvis, foliis cuneato-oblongis linearibusve, floribus solitariis geminisve oppositifolius, calycis puberuli laciniis subaequilongis, ptUht glabris calyce dimidio longioribus, vexillo oblongo acuto carinam oblongam subarcinatum vix aequante, legumine calyce plademum vix tumido.—

. p. 78, *Leptis falcata*, imvL N«n . Hot. «d. ;, -Flores 2½ lin. longi.

On the Gariop nmt VcrlrptpfMiit, unA tuuty hllU wr
Ebenezer, Drège!

39. L. *r*ri*a(a, ffbriiuctiU r. minute [MiWruU, mmU*
tenuibus asc rmtci tibibus elongatis, stipu!t> grmiui Uraribufc*
inequalibus v, mmiw nbtariu, foinJU mnratu-obUf^* l>*
nearibusve ... itifoliis 1-3 n
tomentello, vexillo

long* ettui mtoo-yUloiU.—*Lifjppit nrimaiu*, E. \tty!
 Commu p. 20.

Calfer country between the Omsamculo and the Omcomas,
Drège!

I 40. L. *Immtfum* (Bttfdli CM. GeOfp. B. 5WJJ, HhnM
 fiKfetmUnu pra*t?*tu puL»r«r«ntibti«, «tipalitt >*liUai» p*
 ...

... supra
glabris subtus puberulis, floribus oppositifoliis solitariis breve
pedunculatis, calyce tubuloso, veillo obur^to tcamit>ta
carinaque obtusa rti lon|wre a i m j>qt>cTuU.—hpo.yfu
hmj/usm, H Mw, Camtn. p. 77?

Sa«lb Afnoi, *RmxkrW n 9Wt*; M the f<wt ot tle H it-
 bergen, near Schiloh, I

41. L. ...
 Unknown to DM.

Nie ... *Hantom Drège.*

42. *mollis suffruticosa, nana, molliter* ...
ascens, ramu ... accendentit ... M MitiUnt p«^*
vis, petiolis elongatis, folio ... 1-4
terminalibus oppositifoliisque breviter pedicelatis, calycis
pttbertli U^ni ar>htu« setacea cæteris brevior, vexillo orbi-*
calato carinaque obtusa subaequilonga molliter villosis.—
Lipogygis villosa, E. Mey. l. Comm. p. 79. Leptis mollis,
Steud. Nom. Bot. ed. 2.

Lillefontein in the Camiesbergen, *Drège!*

43. L. *pumila* (Eckl. «t *Zmyh. Kmina. p. 178?*) suffruti-
cosa, diffusa, ramosissima, sericeo-pubesces v. subargentea,
stipulis parvis solitariis, foliolis parvis obovato orbiculatis v.
late cuneatis, floribus in pedunculo brevissimo 2-4 pedicel-
latis, calyaft l-ciniis »twHuilongis, vexillo obovato subci-

liato rfrinam obtmwn w w U m ftbltnm subaequante, legu-
 rmn« sdpn««c i*»h«*o«nle olyt* taUJuplo loagtav demum
 tii lurgido.—*Ltpo*irp* tsnthmrm*, K. Mey.! Coosnt. p. ?&
 &rf^M crwitjgi^ BttwwL Nom, But. «l 2.

*Jt«»ny pttton Ott Ibe liltJc Fiti, nrer »d Zv^ttCptMllafkOOft**
Drège! near the Gauritz river, *Ecklon and Zeyher*.

••• *Fotti* Unmtit, etrnM* obtuM. legumine turgidiore*
piloso.

44. I* *servicolar, suffruticosa, diffusa, ramosissima, sub-*
villosa, stipulis parvis solitariis, parvis obovato-v.
cuneato-oblongis subsericeis, floribus solita. rriter pedi-
 cciUtis oj^v mitifoliis, calyci • *Kadfiti* wli«q«U(i«(i% vuiUa*
 obov•to *ramin»U» »iiUnh»to carinam «btawni uciuUa
 paullo lon-
 r, E.

*Linun, J. p. IM. Ltptu tmit*lorf Kckl. rt Zejb, EMam.*
p, I7V I?ti* diruncat*, KcW- •• Zey h. l. c j Leptis fili-*
 <tt«ii#t Erkl. rt Zejb. J. c ? *Lipaspgtt KrmM*Ammsf MCIMJU j n*
Lmck Jpunt. Wfli. 2, p. 79?

Uit«nbftg<. on thr Zwwtkopt and F»H rarer** 'Ecklon and*
Zeyher, (Zeyher! n. 465.)

44. *L. tenella (UUetZryK! Enum. p. 178), suffruti-*
cosa, humilis, decumbens erectiuscula, patentim pilosa,
stipulis solitariis linearibus, foliis oblongis sublinearibusve,
calyce profunde 5-fido piloso corolla parum brevioris, vexillo
ovato carinaque obtusa aequalonga glabris v. apice parce pilo-
sis, legumine demum turgido piloso-hispido calycem paullo
 nuctum *superante.—Crotalaria tenella, E. Mey.! Linnæus,*
 7, p. 11^ *Lipozygia tenella γ. piloso-villosa, E.MfT.! Vomm.*
 p. 78.

Uitenhage, «»the Zvvtkoj» and Olrtwu iir«r ami in
Ada», Drège / folk W /- yKrr * Mundt! and others.*

Lipozygia tenella and β E. Mey., from higher stations in
 interior scarcely belong to the same species, but without
 » «rt»irr tumber td specimens it is difficult to determine
 them uvurmlrljr.

46. *L. calycina*, suffruticosa, liumilif, ilfcanlMftfl f* erectiuscula, ramosissima, pfttnilitt fjitoM, *ti|>ulii potitMhii linearibus, foliolis obovatis oblongis v. rarius sublinear us pflloEW, eatjrm | <t lo*o preftimlt 5-fido corollam subsequante, vexillo obovato carinaque obtusa subaequilonga sericeo-villosis, legumine turgido piloso-hispido calycem **fildi** auctum m ictqi ante.—*Lipotypis calycina*, fr« Mf 7. 1 rUim. Jb i 8. *Leptis calycina*, Steud. No m. Bat. «L }, - Tlu* Uuk pltM has much of the habit of like *ihc* preceding «prdo, but Pume of Drfgt • specimens

and Klipkit ri, /VJjpr^r Thfttit Uncha, Vul ri>t r iod Macalisberg, Burke!

**** *h'o&oJU trrmu, cmrim acuta.*

47. *L. lenticula*, prostrata, pumila, subsericeo-pubescentis, stipulis solitariis parvis, cuneato-oblongis, floribus solitariis oppositifoliis subsericei laciniis infim n« jk*u)k. ttunon^ Tfxdk* oblanfo art* minato damn media puberala wi«» ruttniU fnulto bi*- viore, legumine subfalcato calyce subduplo longiore adpresse pubescente rii dnmtni taqpdo,—*Crotalaria lenticula*, E. 16.

So Burchell, p. 140\$, in the St eeuwbergen on thr Ail brivwt n Kivertje and Nieuwerker Drège!

48. *L. diversifolia*, suffniUro«t, hunitlitt, decumbens, argenteo-sericea, stipulis solitariis lanceolatis, foliolis ternis v. rarius solitariis oblongo-lanceolatis sublinearibusve acutis, floribus rntitvu* oppositifoliis breviter pedunculatis, calycis argenteo-sericei laciniis subaequilongis corolla parum brevioribus i*f rrxillo otwnto acuminato subsericeo carinam breviter rostratam inquantem, legumine canescente calycem excedente demum turgidulo.—*Crotalaria diversifolia* E. Mey. ! Comm. p. 77.

C«(Ter ctruntry. B*tL« of the Basche river, hills near Klein mains near Schiloh, Drège! Thaba Unc hi in I < fU•!(« filer, /W I

49, *L. micrmUka* (Bckl- et Zcyh. Knmn. ; 178.)—Unknown tow.

Near Uta SantUy river in Uitenhage, Ecklon and Zeyher.

50. *L. crumasius* (Bunch, 1 C*L Geogr. it. 244A), procumbens, argentea r. cihtnutriiA, •cnwopubeacnm, itipuli* solitariis parvis, JbKqM eiinrMo-ohltin^i*, ttpituli S-4-iorii testlibui oppowtifoln*, n3Tci« profun^e fiui l*cinii sub-sqvBlibat corofkn •uprntiiihun, vnillo oblongo carinaque •cuU [Ltbrii, Icgfirniuc oblique oraiu •rnoeo (kmum sub-turgido ralyocm v n «njuwile,—PUota iu hgnMMU pro-trata, pube denn apprevM Kffeao-fLvifitiititm*. An nd L, ••-c<—!*•• r«fenetida>

Scroth Africa *BmHkU t* on the CalrdoH rinr (branch of ihe Nu Dariqi), Airi<- /

51. I., *iturhrJtX* >p. ti.). buntlia, decumbens? ramossissima, dense sericeo-villosa, cinerascens v. argentea, stipulii oOffMrf •'<>*;> OfbicobtistBi t^bii 41* ^k.vjii^s, paptUIis den iii pauciflorii *r*»ihbufc, bractn* UfiMinu subcordatorrt,W.rniul>ut, oiirolU ca^ee brrriof^ texiUo *Maogb* acuminato oarinaqu* areuata nWHiw^Tilifc, Irjoinioe acricao demum t«g«lo catyoMk «T^«WIHP —Sj*c»« hractcia distincti-imi, *Uutv icctknu* «i» Imir *9wm* affinis.

South Africa, *Bmrk*4t f* t. S 39.

Tlte t'tillowivig mprrk*. vHh «Mefa I am uru*ncju»unTML_T have also tx*fl rrfcnrd to •omc of the g?ner> *htrr* unttd under *Lotononia*.

*Utammi** Jtn, Eckl. «t SCeth. Knum. p. 177,—N«r BcMok.

L. pungens, Eckl. et Zeyli.l. c—Btt^eii the Fi*h river and Cafferland.

Between the Gau-riu rirrr ami the L«ngrk!ooi.

*L. <Jfr«M, E*k!.* «t Zeyh, Ue.—N«.r ii»* (utmti nrftf.

U * « * « t RHtl. H Z*yh. I. .T.<*AHMvy 4ktfkC

tVfiM w^w/wM, R. Mry. Comtt. p. to.—Witto*

Liparopsis argentea, Mr ban. tupra, p, 80.—Uitenhage.

Amongst Thunberg's *OmtmiUnt* IKJI ni«nfiniul »bof«t
t Wr« may «I*» puaaibJy be mom* tptoca* tiktind (mm my I
bare seen, but until din •perinitnj can be examined I they
must mown doubtful.

j7V4# a mihtmlj 77 338

IUmvrh um tkf LH+tmrtx> tfJSprcies im ,Vd*r<-r mmd m Boot* ;
ftrrltminmy it the weliff of tome rmrintum* 9*d ft
tions /fhar*ttrr, ob*ttrrd m the natit* f>Umt\$ of Britain.
By IIIWHTC. WATSON, Esq.*

It U QMfiV abundantly evident, hy each aucotMiv«» pnblica-
tion on the plants of Britain, that our native botanists are
yet far from agreed upon the limits aad characters of i
species which they describe. Since the pchiMi when single
•peoA« ftamr*, and ««rt ij«wrnjrt*»n* «uptnacWd t«« loose
nomenclature (J' t«* olilcr botaniUft, w« liave hiul >1unt of
England •uoo—nv*)y fruin the pi us of lltN on, Withering,
Smith, Luiftkt, ui t l(««k<^r; bt&iJrt MrrmJ ottwfi, which
rxpricTioed a imuller *h%on n(popular favour and tuppott.
la no two of thtftc work*, it Uiere the aame afTmnfetncl at
iTuiviiu*! iUnft into *rKnc*, of wf uiccic* into ganafn*
Fomu or varieti <i WIKII have been uuiud »»io single
species b. one author, have been disjoin
have named attd dtaenbed liwria, u it Ui>tfiiCl m»*Hn«*. It
In* rttiurkabk, that many *uch chafitt* abookt hmrp been
nioV in fencric atfin^winto j wi»nr genet* an aUuvrtd to
tie ptirrl) oonnmtiimj (tuup*. J «6W» WT con ily
bv&nrvd to haVe a iluiinet and ptnuaoail Tfift^-fr in nature,
•nd <mght# th«frfutv, (a MIin tit* am r m book •laeii
pre •(«• to detent* tl«««« > I, we Mill *r*m u> be equally
u ur u ertr ft«m UUB tattled tut* of albu« will reference
to ill* IUUIU of f pectfa. Nay, lookiog Ut WrwtiX recent sub-
VOL. It.

divisions of long received species, it might almost be said, that we are now farther «jff than CTrr*

In Ib< court * of thi* prrwjtj year, 1843, another volume hat been added to *ibm* list of our descriptive floras, in the "Manu! uf Briti»h Botany," bj Mr. C. C. Babington; and it till *<ld* al«n mow <-ia»pk% to the wfevanb of ouinfcw rriyx I,* V t > wi-r*h «I.-".M br drawn I^rfwrcn m* a <* ami Tvirttem. i in the STV*1 wiibtta wbirb thv author »iut Jtave derirrtl from tfee vock» «f hi* unujmaainr»t he hi* joined hi «uwn lofigand rfib*."? atudj of th o tut» pkoU in the wilds ijf iiatuirc, amt in collectio ;n for tbfl bvrbarium. A* tbo mult nf hin lli'^nim, wf Mt Ihc i ombin iitiafi of fOnc alleged «pccie«. which had baen h«Ui distinct by hi* prede- cessors, and tikewiat, (probably in more numarooa hoiiances) the •tib-dtrfaion of uilicr tpecwi which they had described as one and the «m«. Moreover, we ooeaaioTialty obawrve added to hi* notiea of v»rirti«, itill rrtain«cl M *ucb, th# dgni&- cuit hint of " iifii'mbly A ifatiliet ipede*.'* Are we U Wa- dud** from ttii* hint, that the *ub-iisvitutrt of ipcciei hu not ye! atUined ilt *marimmm*.*] fev m ; uul Wit, 1 will TOflttUV to my (but rrrt*itily without tri»hing to c-vince any dUrttjieat to Mr. IUt»inftan, wh<nr ftrti:en««f of observation M to he wtmtml,} thtti it vv^vJm na iw ^M frmfkt to pndwt tb« cwly rr uhiot *4 mtttd of ht. rftyautfeft*, •ixw»dy iMdk* or app«rrutly faNwdeil la b* uutlc h«nW^er.

While • mtrfc umvfUif ty is thus shown to reiDftin. *nd riawi «o dlMonknt «* ecmtjnaaliy p«' forth, ii uiuit b« obvious en- ^v th*i there u ft WVM of ««ao guttUaf pfii- eiples, or prectkallr rvrognixed ruin, hy which the of alleged «pociri may IN* mure *4tiiiur(uril)' tr«tad. la tbe •hiwi.or of »ny luch rule*, or thtir nntiaal iuwima if such roll's exist, I, ewch r«criber of plant* t» guided b? bii own indiivilnd rxperienot »•d wishes. There m. y appear some- thi» if itniTige in thus wnibt^ " v i i ! ^ 1 %hcr the lai/awaiil Objrrl tl, I fi aAfJt{> position of the , ^ 1 nature. But I will keep fe the word, in<l dt^icai, for a few lmw» into ati explar; ation of t* ute \u re. l there can be no

do iht, with tli ,> ** who arr nt all acnjvtomed to rrtirnalc the minds Ul<1 < otives of « *hef», (li>t tllir tint introduction of many unrc>i tpnncs into bouki, and oitrn ftmtfirir subsequent retention ltofc, aw laerifa es of scientific truth, u> tli<- wttuity of *thom* bouniata who arr ambtttoitl uf aj>iwaniij(a* diwsi-vvnen uf tomttfain^ tbat wat fiwioaah unknown, or aa elu' iiii-itur^ itt something: That wn* j previously obscure.

XT* caitoRi of joining the name of the bot>ni>t. who tint 4haacfflna a new apMkw, a» aji »uth*»rJty ftir tin: name |m pi < lo the af*edcs, ta good »nd profHT rnau^h in if.«rIC But tbi'rv M a lu^hljr unfortunate extension of tlio gdod practice, hi doing the lik« with the tmnwi of thoe aft er-botanists, wlio ftuly chattgr Ute name* of knuvrn plant*. By thtir sub-sequent change of murr, l he uriginaJ dcarnber u r>>>ti>><i v£ that historical record WJit'll *fi*tnn*! On- Uanonrr* rriranl of bit indutry anil Viiuwj^d^ ; «tul« I I K roei. inventor of the LW name ticcoiiw*, in imMMniTt'T, UMi auujurii^ iur uwv speci <* alao* 'lli-j^t who oan itiacMivr nothing themselves, or who om nm no tmTrlty to dncribe, at?, at %%j mt«, able to diriilr and IT-name ihe genera or ftpeooa alr< adly well-known ; ft&d l'y »• • doing, they can a<Njuuo a *«rt of spurious cUini to |mt tlit'hfil: reviation (if tllir own name* ahuig mtli th • me tif liie renamrt) plants, Hrticv c<xa« thr rapid in-crease of (kite iptCatij and ihr confusin; »uVdivisi>oa d&f well-defined and l'ug-rec oghied ^rnrra. The work, a.lwr» mentioned, llforif's striking enuplr* ot thii *TII, in frcood- ing the invention of fTrral (ifetrrntlrvl Bpcrara (W /J «s **>d the uncaJWd^for dtan^< of 'ionic in familiar apectm »«r *Brvmm*, which in tionvrrtted intu ajiccia of S*rrq/i*/r«M, 1 much regret to we Mr, IUUin^Um tltua five aanctiott a^d circulation it lo tbea triling tairiuea j Uw l'Wigrt arr not hia own. eieept by addition*

Thin ihort dl^waaitfn ii not out taf place here, ft nn^it, perhafM with adrantaft, harfj beco runtinutil fartl<er. l'he imHifdaton which *n»ac* from aJlowiruj tfap iirbmiiin<ti<iM of vpecat» to rest on individ ual v<t)itj, iDxtrad of bl ing con-6ncd by prtictaJ ntlea, ta an cnJ that * yearty in<-rraam^

and one that ought to be ditto-tenanted *aa nadi* → *pos-
-ititr*. But what other tests are there, in which botanists will
give *ix m r n l* acquiescence, although they thus frequently
neglect them in practice? So «i» *te*H* certainly *ftuat*, *aa*
floating *idoM HI Uir* minds of *hotaxiitta*, *ajkd* are occasionally
alluded to in books. They are admitted even in the pretexts
nude for eroding them, *si rridenonl* in the *hidcroaa* eager-
ness with which *InnJI hotaniftU a**QfB tt** (a reference
usually to a foe petty **arwty* on which they have bestowed
a *ipccitw* name) that "it n perfectly *dtttUK*/¹* that ^M it may
always be known by its harrow *lema,** that it retain its
characters in *cattanttiofi/* awl wo (arih. TannM rt»c*«e IM*,
then *i_g* be made *la be*f m*.wt* directly on the determination of
our true «[^])*rcie«_t* *inalaad uf Wi»»g* rather made into plausible
arguments for defending the *arj&iti* of *faWe* species?

In the *6rai jilacvj*, *Urt* it be supposed *tIMt* two plants are
before us, which are *tnarkrnl hf mmi obriitui dxSitmm* of
external *riiarartrrt*, although generally *eurrrtpoci<fing* one
»ifli the *l'rtlirr*, *l^rt* it be *arii -nppoard*, that *an>r* some
i-jaii|pe <tf M>il_T or oilier *eti cums untr*, though *Uitfrrene* be-
come less and less, until they finally *tliM}}* *K*nr*. In this case,
if fully *awju'td* of the fact, *b*Jtaniati wu&UI ayrw 10* unite the
two *>Uit«*, and all others alike either *o t ihvm*, under one
-pedfic mma. *Aa at* illttvtr*. tion, it may be *hen* net* tioned,
- that a root of *Fetiuot iotift** (Hoda.) *t_M* transplanted into
my (farife»t in the year *IM t i aUo a rttot* of *Festuca pratensis*
(Huds.). In this year, *ItMS*, the former *attl* produced
Vveral rarenesses of nearly *aeailc nfmkiim_t* with *aa* are seen
in the *wiW* plant* «o named; but *alotkg wttfa* these, there
were other* *in* which the *pedonde** of the *low* spikelets
were *clungatod*. *hranahod*, **tnl* be«ritig two to six spikelets
each. The *raceme WM* *thui* changing *ioio a pajiiole*, *whko>*
doaelr rcatwbltd some of the *k*tt-browned fiaaanh* pro-
duced fruit" *tlic root < 4 Fntmc* prtttfwtu*. *TI^u^h* the trans-
formation *VM i>>t* quite complete, it had proceeded far
enough to show that the* two »*upjki*ed* species are only
t-inua uf OAM *itaturtJ* species.

Secondly, Let it be found impossible to convert one form into the other, inervly by change of external drt*umstanc*e t Seating the individual plants, but that one of them will reappear in plants raised from seeds of the other, either in the first descent or in any future progeny. Here, ugsio, *U botanists would consent to unite both forms under one specific name, no matter how wide their difference* might be. It is »aid that *AnapaUi** onvwra has been nlaed from —yds of *Amm§mHit* Mmirq ; also, that *Primula miparu* has been raised from seeds of *Primmia peri**. Jf then be no mistake in tie facts, these couplets of alleged specie* clearly constitute only single«ceal specie*. It is seldom, however, that well-marked varieties can be thus converted in a single descent i more commonly the change is gradual, and fully completed only after numerous descents, each in turn becoming less mid leas like the original plant or variety from which they are descent lol. Our garden vegetables show this forcibly for a gardener neve/ expects to see the wild stocks when h sows varieties of the cabbage, lettuce, pea, carrot, &c Vat, very commonly, some few plants in the seed-beds of a garden may be found retrtigrailing towards die typical or wild form ; and if these be not thrown out, the race or variety quickly deteriorates.

I u fortunately, the satisfactory tests of direct metamorphose and conversion through seed, are very sehioru brought to bear upon the determination uf species, even in those case* where the tests might be applied with ease and certainty; and, in a vast many instances, it is impossible to apply them* Systematic botanists art, therefore, usually content to adopt as distinct species, all those forma tahn-h present some mar;ed peculiarities, by winch, as it u supposed, they can certainly and al«ay» be distinguished from each other. But it has, from tie to time, been shown, that several of the supposed species, so described, were riot permanently distinct from each other; while a still larger number of them may be said to be under suspicion. This leads to the necessity uf dis. tiiiKuishinjc two kinds of *pede» ; namely, those forms which

nature appear* to hart made penuanattij d*b»ct, end those which art described in book* under * au)fi ailinw tfcet tli*r wx- »o. Tjw former I ihall beg ben to deei^e** **t*r*/qtetiea; applying to the Utter Uw epithet of foot a^eriw. A book ftpccki and ft natural .prcic* may bo etirtly itkfttkal> or one nat uml ip«cics may be impwptrly Ui»i4«i itito two or more hook »jHcir*. *Fntrimus r*trtmur*, w n»w ondcf»to»MI in lliw coanUy, it ui cxatnplr u' iirntiyy; btilwhrn *Frajirtus Jutcropkyll** fu »l»»»urilf made into a aeoftd book .jwcie«* the kkotiiy tu dctut,yrd. i*f..!*%, it do« still .Dfnetima occur, UJ«C two or mure natural Bptcica arc i incorredly devenbed ft* OIM: in our bool* ; the *Mptmti** scurjioide* Q(lin»«uk m formerly «» exMnptr erf thii. II i» my prr%cnl objetet to enumerate wu« aJdUkinal teai*, tea* prcciac than the funrgoiiig, bat which may aaiat a decision upon the validity of book »j*vit ; the I i« to .*», bow far they an tnjly idcnliril with n&iurU vpecics.

Tlitrilly. then, in continuation of UJC former aid 1 better leiit, it may be laid that dianurt«ra which arc mutually lattf* dtat^ed between two book ii*cica, mu*t tie timfidtnt w> pfore them really dittim* *JKC«^ ; whiK? the bet of tilt intercha»»»K goes far to catabhah their Entity at a tingle natural species. When a complete series of intermediate forms U produced by thii interchange gf rliarartcn, wtto* gradually become more ami more unlike one of the bo. k species, by attorning more and more tbe charatiin* of the other book .jKcic*, until varieties of the our ppaleaoi with varieties of the other ; the aeriea may then be ukrn at equivalent to ft demonatmiim, tliat iht. two book vjtecia conetititte tofetbt only a aingto natural >iw?rie*. Thus, *V<da i m v n* (alo«r.) is .o completely untied with I !dm trieahr, by a continued series of intermediate fonut, thai no doubt can mu in ra> spect ing their identij aa one speciea in nature. »itbmigh ibejr have been drvcnttrd u two .pebee la tipofca. Agatn, among the few »|Kcit»cn* uf *Erim JJmcJtm* (hook.) whidi 1 have had tbe opportunity of mittwcung, a gradual tiackuiioii to* wards *Brw» Tttrmh** u m> deddatUy »hown, that I greatly

suspect *tfcair idmtitT* would be pmrvd by » sufficiently care-
ful examination of the farmer in iu native lofaditic*. Thi*
opinion it murlr Hrengthen *d by tfic frequent apn*ai*Tice of
d i m c t m aatignnt | ifodbtii among plant • < E. 7-*tra-*
ti i the arate Jcawt**, thdr gbbroas u j>pe* •ur&ec wul 0
rarely) n id-rib, beneath, ant) their crowded position on the
flowering shoots, way MJ] be found on pla/Jti of A\ *Tetralix*.

Fourtiily, character* whiHi art common to two book spe-
caM in the «arii«r atagt* of thrir <k>Telupmct, but which an
loat by OBI of them in its ;rfuyrc« to maturity, are nut »uf-
firictit proufe of tb«i distinct ctteca u naturaJ timles. The
uuocrtmii ty of such distinctivo ehartctvn u < occasionally de-
aioinirated by their |*crniatirnoe or f^*-appcaraoe in indi-
dual plants of the one book upecira v which vitiully ba«itbom }
of, «<v wrrtdt by thier di*»ppc*ranc* in in<ltvidualj of ihc
OLJUT book apecin, which coanDonly retain* them. Fur ex-
ample, IVreHM« *kirmim* (liopkirkj if diatin^uitlit«1 from
I'. *uffiammlist* rhwdy by tta entire csptuka, aa oppiwed to tlw
emarginate cap *mkm of the Utter*. In both book apooka the
capsules ar* entire at £rtt, tboa* of I'. *offt rinalix* becoming
emarginate in ih«ir progr*M to maturity. Hut I have gather-
rd atrtmjf pUnU of the lattrt, in which the fullgrnwn «; >
tulrt rvbunwl lb« infuit-form. being OIHJVAIC and nut in tb«
kast degrei cturginato. And I pootst iiao a tpcimetri of
K, *hirnUu*, from the Botanic Garden of Edinburgh, on #bi ch
there is a small capsule, slightly emarginate. I regard them
a* conatitutnf only one tp«ct«a in nature Ki«« Mr. Babht-
ton unite > tlwai, alUH^wti it MI done waller Urt saving clause,
applied to I. AmtfM, -probaiiir a duiiurt species, since it
retains it:a <rbarartm in ralttratu*).*' Th# war. eties of *Betula*
alba afford another example. *Betula glutinosa* (F-tta) is said,
in tin* Manual of British lloUr. 1, m br nmh by dist in^ttiibad
from tl «/A«, by it* * cotdatl anmtt" lean -, thiiivo of the
letter being " Hicmibmd-tmn^Db/.*⁴ *B. tut* pubescens*
(Ehrh.) i there described a* « r»r riety of *B. g tyfi nosa*, ktJMWtl
by iu downy leaves, pcdatida and youug twif*. Novc. »hr

fret U, lhm the prog pluta of A. *alba* bear completely cordate l**w: U* tca4iitj; ftltoota of otdaf In**, a* well as the fast-growing abooU wksAk «*KW? fro<i leppad branches of the lowtr put of ol4 itmi, alao prooW* eunUtc leaves; w bile the t a k , and often dmoftag twip on the very amc in**, ate rlnthi! with rhomboid or trm<)guWUa»ot. Morom, the IcaTCi and Iwk of IU fimgtig pbnt» arc utoaUf, if not M*nv«, pQbcKettt, uilMiitfai cue witli tfawo of Mm* iboot» on frown inai. *Thm imcu)mtd to \kc* presumption of *Btinla* <iA#, *yitJimt,*i*, u«l *pubescens* being only forms of « sogla Mtanl apeae*. I tf !•« alleged difference in the £mit and i^rfUaio of UM karea, I will state something here-

Fi fthly, tb« nawki OK Adaai alia Dato rail jr iead to another rule ; Tiaailjr. thai eontnata of character* abould b« matk between part* which *nc u c<jo*1 ataft* of gmwth, a»4 under coital condition* of luxuriance: tf aoaila olWviae, tbn? are likrijr to |tfote faUariuai. Tlmi, it ii iut«d iliat the mle of £Vkii JVACJUM ii " pmtnulttd f Uiat of £ma IW *tralis* being " usually ihdwiad." li. E. T^ro/ur (awl pro* faaM? m £'. H*r*»if» t»e eumUa ami pictUhun M» equal *mhen* ilka «ow«f find opctus «*« pJHittin papally elongating afterwards until the corolla fades, when the style is protruded br about a fuurtk of ite tnifiL. TU. mcWdavl or (jmUyil««l •tyla la tfaui a condiajoa of ac«. ami valoaka* a* a dutiavtiva character. A* a» rwimpfa of iMm prwp variety of ibakinf ooolraiti i>t) bat««a« pUuu m pan* I* «^i*ai ffmditaoaa of luxuriance, I wtU taka Camarfaw* a^iaa-M aiui CiimfiMai Joi|/Wi«tfi_t of t»e BntUb n«*m. In ihc Manual, TJL« laUar it mluecd (ifkcorfactjr, I tluua) to » yariclf of C *alpinum*; I ut the 7 afo both aborts oWnljati iUtn_t and it) their de-jonpuona it w atatatd t«ai iKe iumi of a •>! an ** f«ottljr •implc>' tboa« of C. *lut^/ohttm* «braacawL*' On the ooiirarf_t it it aaid Ui UM Biitiah FWra, that C. *alpinum* b •* much bmnch«L" TIM fan ia, both tpa9a» are much branched | C a//na«ai» pcfUp* dwMOai aoa and vbnt grow-

ing fit* from other herbage, Utt* latin- sjirnii formt dense cushion-like maaua, MK'II an wv aoe fanned by *Saxifraga hypnoides* or *Stittim rrjbf+m* \uu\tr ilia tike circumstances. But if a *sturred* or half-smothered plant of *C. alpinum* should b* oompamJ with • healthy and free-grow ing plant i f I. *ttifa/ium*, doubtless the lcnna "branched" and "tbftflf" mi>hi lw toutul applicable aoo^fb.

Sixthly, rltafBoiMB •!"—^*t aa Ittlio a* rtoaaibta bo tifem from conditions rhid» arc known to \w vary vmruhlc in othaT planta, and more inftkulatory, if known to h* i« Last km apaoica nrarly all: d to tlioae under eoniilentkHi. Appcn* dagea of the cutiel>, for example u hair* and ramcuta, arv wry uncertmiri. *BrmmtM mofli** and *H. rorrmtm** may be regarded aa book ipecacs* aepant«d alnott aolrly bj the praence or abaenre of pubeaecnos, whuh rmxie* much in tfeaa and altiod tpcdci*: cten *A. nmtMttitu** •• and *B. sccalinus*, usually descri b«*J at being slaWnma* are »iot invariably so in nature. We Itaw aj>oUi<r rumple of inonfttUncy, in the awns of grasses. *Lolium multiflorum* has been distin- fu ished from *L. perenne* bj iu awned Aovvn. But the analogy of *Lolium temulentum* attd /*. i/twuf suggests the weakne ma of thai eitarartef; and htuiinf; the otier alleged distinctio>« waaowtttl, I nuit now look upon *L. muttijfon*^ at a \HK>V tpedea only, |>fr>|>erly r««duc«d to the natural ipt- dca *L. petfmmt*. A^im, t|>c irnftb of the mteniodt* i» a wry thftiiffaM* rrianetdr in plant*, /Wfywun* Mori/Mvai and P. /?«*Arri (*Lol* a. Br. R) arc in |>rt diiUiiguiahAl by thm frlarive length of thir ttipulM and inlemodta, irIn-o*lad>d to l.« vafiahk in U M M plants and iwrtniiUrlj Tariabtc h\ tit* ailtrd v species, F \ *ru*tar*. 1 tuapert P. *H*b*rti* to be only a book *|p*rtt», whirh atmuhl be rtsvirrH rather ** a variety of *P. maritimum*. S<H aJMt, I would atj that a little mo n or less of men>Kr*»c in the 1»rart« and arpah U UM genus *Cerastium* it a very \u9uiflcu-nt charact for specific dwi< tions. The frah-inrniTinihout brarH, aiid to distinguish *C. semidecandrum* (pom *C. atrritmt* 6;uf utlirrallejpwf species, would go to disunite plants « hich grow intermixe d. and are

nil other respects 'M» like a» two pr*« in • pod." But in the whole mng« ðf tniunkml etunefcm w* ODokl tester find Wttrr r*MMI i les of inc<m»Uncy, Uian *re teen in the ton tn<l tooth ag t< the gooe i is the f ^ w vfrplur, which *r*. nevertheless, made ground* for distitttttofc brtwnn buuk species.

It would be e*vT to ex'vtit! ttiew rtifitrkii on tLr ditfiiation o'I' ipoctrh in books and in nature, by fUfgttrnr other raid, Mpplinhct in some dejjITr, m« te*tn of (he validity of book. apacM* I liul ihrr nr» already Kinprrr ihftli wftB wi»h«d or ftnticipftted when 1 beffrt to pot than on paper. It i* Hoped that they mnjr prepare the way for proper ittfetCMest, (ft« I con*eive them tit be), reipeotin&; the limit * of certain specie*, In which Tamiiotu havw been oUaeiwd fnmi U»e duurmten comiwmlly »nt»M<d lo them in book*; t»ore particularly in the * *i\ rrcnt w«i%« on tht plmto of UriUin. to which I h*ve utmuly «tvml tww« cJluibd. Sarh varia-tkm* mutt be wefred for »»otJb* r occuqoo; though some of thrfo, it nifty be wfn, Kkte incidentally been mentioned hen, » ilimtnkakt of my gnrandi for rejecting WHINS tpr-ies •nd wow xpwife <t&anctrn which an now *JmitteJ by other boUnuti.

In runrluiniti, t mmj «i wdl gpafei at woiv, Iliat¹. I ki ve been wr«Yd to writ « gpcm tht» •nfcji. th*4j on MJCOTI of the impedi me, in]rosecutin c * bvowto* rt^furtwiwl «if ti otanical science; inquir' nations of pkittn True Has of ipatey both *» rrr^rtU their names •nil tiirir fluuttetnei »fturr, ftir tfnctttiftJ to tuch inquiries ; mui yet it is impossi blr to make them true, while describers of pluiU in io cunUnuftly rhmi£in^ bi»tli Aft mes and Np«dM m thdr boolu. Forton^Wr, thrT «atno« change the ipeeieft in n»l«rr dw># if (^rmftneuUf di»t,i«t species do certainly exist.

On the Embryo of TROPICOLUM MAJUS. H. W. WILSON, ESQ.

[*ir%lk lu^plain. TAD. XXII. XXIII.*)*

Two essays on this subject have already appeared before the botanical world; the first by Schleiden, embodied in his memoir on the ovule of Phanerogam*, in support of his novel anti-sexual theory; the other by Herbert (iiraud, M.D.), in the Proceedings of the Linnean Society for Feb. 1842, p. 133; and as both of them are materially erroneous, I propose to give a critical examination of the labours of these, my precursors, in conjunction with a true account of the structure of the Embryo.

Let me observe, by way of preface, that I have spent some time in researches of this kind with the same design at that which actuated Dr. iiraud, and that I first entered on the study of this particular plant with the full expectation of confirming* rather than of disproving his statements. In this I was disappointed, and I have, in a subsequent sequence, addressed myself to the arduous task of thoroughly investigating this very remarkable subject. My labour has been well rewarded, and the result* is the more satisfactory, inasmuch as they furnish the strongest argument I can ever hope to bring against the theory of Schleiden. If an observer overlooks or neglects things which are obvious and tangible, his statements in reference to what is so recondite as to be hidden from those who review his labours, far from supplying a solid basis whereon to found a theory opposed to all analogy, may be safely disregarded. Embryology seems to be, as yet, a science far more fertile to induction* than in facts;* and it will be seen that Schleiden has ventured to theorize in opposition to facts, which he might easily have discovered, if he had been only a little more scrupulous and diligent. I beg to refer the reader to the publication of

* By mistake the numbers of the plates are Tab. xx. and xxi. The reader is requested to correct this.

Schleiden*. Mrnuir, eivm in *A**ak* da Sricncr* Nmtmre#<*,
 T. otn. ii.. particularly in p, H'I, «ru[the hjprvt itln«tr»tm of
 Ttapoo/wiw My'*** a* it is «uW 11rough ttat medium that I
 know *u* anything of Schleiden's pttvtava ldtmars.

Both Schleiden and GbveJ aa*trt that ihrr IN a vrabb
 conduct'ng channel of tiaatir from ih» style, thro ogb thr
 carpellary cavity. at far a* th# rxmtomc* AA*r very c uefttl
 aertiiny, I find not the %tuall«t rndci^r t to support this
 •laictni'ikt. To prMvc thr^ ofefevrtf* *b* olutely in the
 wrxm^it, of course, rxuotaicjlti but tu tKe «a«M niodr that I
 impeach Schleiden's testimony, I may argue against that of
 Crirawl. Il< «tae« thai iht ttucVa* to «xrrrr«! by on'y one
 inte[umeiit; bat tb« ovule unquestionably consists of two,
 vizL, tli« pnmbie tw! secundine, the Utter of »h*rli projects
 beyond the primine to lbrm the micropyle, and although
 thc»« <x«U are blended below, they art dimtlwBy *eparate at
 the lap of the nvulr. It it mortr difllrtiH to difrrrti t^b the exact
 liti'it bet««««n Uie at*undine and the nitdew* Th« existence
 of the Utt-r ii miwi apparent in tht lower part of th« ovule,
 when it formi a ycllcumii llaikshaped body, more onto/ie
 than the ffumiumling mw. Sdtlrldm'* %. 40 don not
 faitlfully rapr it. Th« ttirnwI cavity is acirlr M l> is
 exhibited In that fie^arci but tta aprc trmcht* higher up,
 almost to •hr mw*n>pij*_t and It «% litwd ibrooflu:at with a
 very delicalrUx UM>inbr«t)C, t W k w tbe km»»»rvu.%Ac. It (a
 that which oidbwif atul baue>adietriy •rrounds the oblong
 bodljr frooi which is vrinlue^d tb« Meant fmbn-t, nt 'the period
 vrhm it fint becotng* intrJTt^W^^ neenely, arnw? «Uy« aft«r
 fecundatio u, kinl only a »hort time befufe thr faded corolh
 falls away, a period not well tnnrlni |r, Qiraod** pmp<T. 1
 cannot find any jwoofp in all my numefum invnlfcation^ of
 th* intttTTvnfan of tbo eat rmhryommnr', in th* marner
 assumed by Schlciiil™ j anil in iku plant bia hypoth^cU is
 quite «»ntradkrbed by the fact tKat when Uw afnbryt> hai
 d«aotidi«l half way down thr cavity, the prdtte) whlrh «t|p-
 ports it is sti; i fturn>utidc<J by the U\ uxmbnnc t thU ft*-
 ture ttay easily e»cape th« ntttioc of an infautta* or unskilful

observe. oft account of the extreme tenuity of the membrane, but 1 km qmto attuod that it exitU.

In Cjirauif "fourth period" after impregnation, liif primary utricle, at tU loircr extremity, arxt to the haw? of the nucleus, i-. SAJ to be terminated by i spherical n»«* of evil*. constituting the tir*t trace of the embryo ;^{fl} and its upjwr portion * At this prnod asmutnes ihe cluiratler of the autpttuor,*[!] (Mirbel) 4-htdt »ub*cqu«nUy protrude* iU upj«r extrximly " through tU lij^x of rhc embryo>sw_v the apeK of tin? nuc!cu«» and the niwnipylc ;** ami fmiu this extremity a number of orlli^M hang loosely in the pasuge loading to conducting tissue of the ttyle.^

The Embryo makes iu timt apparanco at the top, and Mlt at the bottom of Uie cavity of the niiclcus j—when it ba* reached l he lower part of the ovule it i« in a irtale o ou- der. Jily nJv»ncwJi and b no l«ngcr «pberical.

fn dwaibing tlx Embryo, and its pr.»«»s, according to Schleier VII, Vc pri: uuy »riM-lc consists of an oblong cellular body (the extremitt-ofl polle^ tube), witli » lateral bra: ch whkti li**r» twS ruiliuicii tary ex ubryo it it' extremity* The WJUII* i« ttt t rest encl« d within tbi ovutr, Ir.it subsequently " th, o cciat of the c-»uii» * b « h rr " and wbiW the Utrcal brmoch v^f Uu» cdiokr body develops in the cavity nf t he ovule to " {arm the embryo* the roidta grows outside, and expands into ft oriittlw nrcitmi-abient tbr««d. The truth is, that this crilukr body nrithrr protrudes (tv-^a the micropyle; r-or docs it c>if> wi » wtJct in cnnw^ucfirw o4 the obliteration or " rrrwrptiofr of the «o«ta of tbo <mde t—

ufrfy Mr'' the r m*rifj4i, on ij>c IMI* nkMt mn«'tc from the axis d the rl^vcr , MM! tn*U*d of " touwety tMn^i Tig • cells in tb« ptuiiwge k^dtag to ttx cundnrting i m w of tbf viyk¹- " I find * teotrnd jifw«««<Mi U* tiiknrvt the ^ii wf the <rpHI«. which jm*>c* I*.w tbe tnw^pylr. into |^« CCIUIAT Imuo which constitute* the neck of the ovule (cont aininf Miiylon), Ami then jirucctU tlHrn « v minute channel i n U*« tulMUnce of the CA/jnlUry integument p «*IM mih^lbo *****u | i | y

reachin^ to a i*)rc »itu»tod tt tbc luwe*t point *f *UMJUMM< of the carpel to UIC receptacle. Tbc jtrrt wbriv tb« tkn* limii<»»r» unite i* iwvltal into ft roudkh kuob, con*aimin: i« its centra ft ut**» 0/ peculiarly f ormed tiss«? wiurti hi Lrrtgll bttXHBC* OffUpML

It ia Mttlrly to bt* ilouhlnl limt *ihhte* two proccMtt fulfil the office of molM* t« the tint tttga of prnninaion, while tbc etnbrya U M^ cnetxMtil within Uif car]>clLiry mt^ument j and tLat ii tbc Utu-r «ff« removed bdunr tlto LHOA «f growth, the K t>l wouki *£tiK* i» Mftmgntirip of ibe injury which vuUM ftlnoit tttftilibly bt tmliawt by *Vc*c* root-let*. One of them would MoMMrily be broken off. ft would be iifctetviibf U* know wIWIKT. in germination I, both Uw proceMW put oat M routtet* IIIKD the purr.

The followif drlAjU, wit:, tigum Ukru from ACtttl dissectic. [tut wilt *uj>j>ly vrlifit it wanting to complete my d scription.

Tab. XXII.

FIO. L—Sljcw» a [onyituluuJ atdon a f to young r^el, from a nenly rxp«mlctl floiffr?;—H this IUH) MI »U tbc Itgurrs, inUicBUft th« mit^wk of the tuhr; Aw the primine or ov c. the nucleus; d. cavity of

It o. 2. Another »*rp. rather nort 'irvftMOi; d, marks the place vberr the nuiusciit of Ibc embryo first appears.

Fig. Z. Tht oblonit Ixxly from which friien the embryo from the wit njutt i^'if'^jf ***0xiflrtt). It i* KIKIOMH in the mcmbfWK (ciwAry^-^tfi-), whkh lutes the r^ity of the lmdiMii throughout it* entire length*

Fig. 4. Then micropyle, from fig, \$4 inorr hjvtiti magnified. It i» farmed of the thickeiu-4 aiul mduntad mtftithoi the •ecanduie. ftJid w of » yrlJowuh OffluuTj rf, tJie ||M of the embryiKMT, cutiUimng the cwhryo in ft rudimentary sta .

Fig. 5. TV oblong body, mm becamr rrkcfntly branched,

part of *tlw* unite li»»* become mud) *U-s<i ms* olougatcil; *» that *tlw mkropyle, a*, it incontj *u Tbc mtMtan* of the nucleus *u urv* obliterated, *ami* the upper part of the cavity is much corrugated. At the point when the embryo, *e*, is connected with the *ftxiultkc ptucr*** »| 4 the *Uitrr b* firm and *Rwnrwiui tuberaulaicil*. It thence becomes *atfmiaird* into a cellular *ihrrad*, whose name may be traced to *, *vrlicrr*, from a *lumiJ knnb*, *twu bimiithoa* axis tent off, *llw one (J)* round *iho* *acod* on the *citentaJ fjure*, *KUIHH* the *c*r-*pellary *intr^nmcut*; the other* *{g}*_t *jm«es <lon»* & narrow channel in the *rubftUria* of the *cwp»*l, to *A*, *lint lowcit* [-point of *jtandtpn* with the *i«ctf*ad«A* where *tbfrv i* ft «m*JI pot** *i, iI* a portion of the *»iyk*. *Tin? nUcJii* of the *«mbryo* is covered *tt wih A thin Atnbniite*, which *arba** from *tlw baa** A*. In an *otrly vtefcv tht** *nmnbraoe p^oaaviy ewvtv ta** WHOM of the *ctnbryo> \mipctlj* to called, and may *ptritap^* be *rr^anlrd* as the true *vnkule ptimonliaj** of *Mirtwl*. In one example, an embryo *wam wen* fixed and detained in the position *pjftfkctJ m, aWrttvr*, but *lit ft »lnttf* of no considerable *t!CTlu[vmcnU* while the cavity *bcluw*, equally *Ur^e* with *thai* here *u [imnited, wu nlicd «nl\ i with liiui<l*.

I'iu. II. The *ptuccM fn>tu Ux ettiUryts w ii* jiuiction* with the *radicle, morr htftdy »*g*i4W li*n ** *i, in the lai|* figure. *H H9 <^ ^ *bry u haa hteai defeated* m otdrt »w tlw men*

lii conchuaoo, let me, mviU llanpcl and vaevh, strongly urge the adoption of a *fcrvpveva aaj4 waW iryn!alBd* method of *conUu ting : *m ***d wawkf wtyratigatwrna*. I do not hesitate to *dteUre** that more will *t> lear neJ* by a good manipulator, *umtrr ut ordinary lens, that!* I'y the possessor of the *brtt mktM«o]tet* who *U unskilled or nrrlrtt* In the «mployment of *dissecting trutrnineiiU*. It *i** while the *pena arc* in a *tute of mobility; n t *i\rr tlicr duafCtiona ara mao>*, *MWJ* in a state of rest, that *we fc- tj\irr ju<t ilc&»* of *attoctate *»i* of form. The *finger n, the urg*r>* of *touch*, are *aaaantUl lu ilw* attainment of *correct vtown tif t).mc»* *loo tmtU* for the *utluxi eye}* *tod benr tbuutd !be vi«ual orpMi alam be tnt*to»l* in

tlw iMmmaUun of mkrt)*rojiic subtleties. If the observer's eye be not constantly aided and educated with his hands, he is almost certain to be nmlml, thoggb fa* perton*, u yet, •wm to ta »w»i« of the frcl; and to iLtir ignoniitie m»y be attributed uof * frw • frw» whidi feppeu- in print, even U tfc |rtT*ct>l tUy. To Uio*c wlio py acknowledge li«? jutttkc uf U^* rrmvkij sod lo tlkcm <*nly, iW preceding memoir is now submitted.

W. WILSON.

Warrington, Spt, 11, 1843.

Notic** oft<rm+ ||UJAI|*. F101. Hv thr lirv. M. ft UP UfcKf.rv, |A., FL 8. J Uimg tt sequel to the Contributions towards

(Wtin n rtaU Ixn. AAIV.J"

1. Agaricus

On sandy ground. Oct

Resembling very clovly the form i're*n%lct\ in Fl. Da II. t. i;•. The (-)lor of the whole, wh* Hathered, was sulphur-ydlow. The |UJ» KT« lrvlf t-mote; the stem, which is tLi*! •!«! vlcrtdrr.nol *»nVuito the fnleus; the ring crcri imtl pvnitfeut, *hd ibe wdr• of tW |ilcn% it strongly niftrki'i). Sporidia yellow, elliptic, ntKct brjr, nearly color ir-i<»)* when tccn bj truMnrttcU h^lit.

2. A. (Fric'.olomA ^ - ^ r f u k (KU-O ewnvrxu ttOt1»- licato-demum expanso viscidulo gl... stipite... solido intus fibroso, extus subcartilagineo; W*t^»P|f aAtyy^ iVt^tTtU potlicc iieviter rotundatis, MJtHW falcatis.

G.-tnr placet, Uiou Ornn. Oct. 18M*

umbilicate even

* By an oversight, the numbering on the following plates is erroneous and the subscribers irr mpiliiint to correct. Tab. xxi should be xxi. —Tab. xx, xxii, —Tab. xxi, xxiii, —and Tab. xxiii, should be xxiv.

when of li raiumtetaligr ab», at length expanded, quite
•mooth, wiled with portion» of dead grass, &c., adhering to
it; acah thick.

Stmi ;H iinlic* high* \ \ inch t'tick in tiw centre, 2½-3
inchca thick at the tiaae, which U farmnaHad and bulbous,
somewhat ruotiiu:, and retairanf a quantity of earth round it,
by means of it* outtotr. mycelium, solid, stri"try within, ex-
tcmallf »mooth. tabcartitagiftoui.

Gilb moderately braadv attached and ahghtly round
bduiid, falcate in front* The colour of the whols in m dry
itate b a datt ttmWf s tht item awl fiilN being darker. >Un-
furttinatelyv no itotoi vim prfMr?*H of Hi condition when
gathered.

Thii magnificent species has the habit of Ag. grammopo-
dllkii which, however, it exceeds in size. It belongs, with it,
to the section 1 Tricholomata Hygrophana of Fries' Epicrisis.
I Jke UM> many exotia• aped**, it t* necessarily imperfectly
defined, but it :i too remark*ble to omit altogether.

.1. A. (*litocy \K) rhticvkr, Berk. Ann. of Nat. Hist.,
ml. &r. 376.

On a rotten int. § Linas. Oct. 1840.

4. A. (Mara«tniii») f*miffi*rm, n. t., pifoo mfalranaceo
convexo picalo craeo^cmt£inAu, itiptlc jtrarili turto cinereo-
ruarti gUUru nitiliuwulo \ baai urbtculan pilosiusculo;
WmeJllt [itllitlia, inter«iiuk ranoaU poatiaB attenuatis.

On the bark of * rottra IT e. bflnft*,

Plk'ui l{-^ lino* broad, oontvk, memInmnaonraa, plicatr,
yellow, f•miginou*. eitrerneW minutely wrinkled when dry, to
a« t'' appear jutlrrulci. Stem \- \ of an inrh hij^h, | of a
lino thick, ctn«r«ciau.bnwn» fXMnprtued, im'wU, shining,
*tatK>th with a gUwout tinge, vkh aritca friMa extremely
minut* globute% vnible «oly under a iiigh ma^itwt; ai-
Ud''i »»f a little dovay bulb. «ills pallid, few, attenuated
behind, r,r»rlj-frrr, with bnud veiny int ratter*. The exact
form (if the gilU ni^d |L* mcwU of attachment ««« scarcely de-
terminable.

This charming link species ta allied my ifaaaty

Ag. herosiphala, \fflin. fttul J. *nf, vtrvhrn**, B*fk., but b very distinct ln>m CIUKT, U**n£ • IBtrk •mwW ipWWi with a AfffCtttUy dotourtd |.ita». Titr %oum n pvteMy IB*' that of 'Ax, tuwftafcattphalu*. TV m w » t illy *mdflg*t Ku ropean species is, pchifHiy Af. j>ncicola. A |. b«MbujinuKt Fr. is imperfectly ddKTtb«t{ Ui fortrt m •otunitc t>j>iniao I is to affinities.

5. Ap (*Marasmius*) *albifuscus*, n. s., pileo plano-umbilicato albido rttfo* ; s. >. }i«ufnh9it)d»wTc^viilQtniOMiptminc rrasato glabrescente rofo; Limrllii ptliiJb, acute defurmitilmv, interstitiis pJmitn4|Utf lisvib'as.

O: I riKifleU viih t he f^rt^oin^ ipedc*. Minas.

Pileus } of an incb bro. ad, plan t depreued and am¹ilicate, or tvon *Kiu>v«lua itil'umtibaiUbnn_f dirty white, rugose.

Sictw nbout | ut mi kau liigh. | tif« Imctlurk, not rooting, but attached f XWtdjf U ill 4?« *lij'ih:n**i Hotlicd with very short cinereous TdvctT down, slightly incrassated above, where it is «t Wagth »ru'x>tt tad rufous.

Gills pallid, acutely <Wum-m_f with ibrir in terstices, for he oioit part* «rtn.

Attilled to Ag. (*Mafulitnt*) *ftrlitntt*, The *Becimens are few. anil not in M good condition as might be wished* but ihe chantler* *re to markcnl, that ihcfc prill IM¹ titlre iliHiruhy in divtii^titniihf; \\%\\% »j<t-tc*.

6. Aft, (*OmphftJu*) *Carditri*, *fttri: in Honk, Jtmn. of Bot., vol. 2. p. 427.*

On the loam of A palm caJtat I^ndoba. Kativit ade. I*RivincttufG<kt«s. Dvr, 1839.

7- Ag» (*Ompalii*) *r**i«f>MyH*; n. »., membranaceus; pileo rrnt/orati fouimeo gUbro; ktrjiitr hrevissiu>o laterali palvrniWnrt brvnticxilo; Umdlit \$-4 TmliiciMUi luteo-pallidis, interstitiis laevibus.

On ^pltuWn i>f vood i< the PoreiU* Nutivi dade. Nor. |i839.

Pileus 2-3. lute* arrO**, rrmftirm. nnooth, membranaceous, brown; stem extremely brownish, pulverulent; gills about n«e, ventric(M«_r pallid)cllu», with their inter-

stices quite smooth. The hymenium, in perfect specimens, resembles that of *Sclerotium htmmtmrn*.

(lonely *rrUcd ta Agt mrmilmt*, Mont., but dif'etMij in tu* colaof of the pilcu». Then i* *l»o a p**uli*r appcaraic* mlxwi the knAiium of tfei* vptciea, which n not aatily e- (irrcwn! in wortK U ornim alan m < luuuia, whence ii h»* been •fill by Srhtmifnir^k.

8. *f AitiLUH l^ty/mtn. Ft. Fy. p. 388.*

Ori a Kjtiri* trie. Arrial dji« Il erces, Mina* I Geraes. Oct. 184K, with *Iscsitt* appLxmtta*.

9, L, *viilwmMi Fr.Ep.j. 388.*

Minaa. Oct. l^m. Hora dc Armripe. *Vror.of Cearã*. Answering exactly to the description of >'nc* in th« E>jim?ii». This species, which i* one of itw cõ:amonest of the germ*, is generally regall*-x\ on T¹ the continent ** I*. Rertcrii, hut »t i« rcitaintr KJC lbc ap«rica diancteriicd in lbe V.l.r. risis, tho «*jji it m>r po«Mt*U b« * the plant of Spreiigri. l^ntinu* TilTfuut, Fr. ha> «Ti te distant g'%, aiitl< curled lit-%ik*ii o& the pileus; *Lentinus va B*rii*, Fr. has, on the contrary, ciowded ce rvuKKpatfia nOap atul tt< brntici jtraiaiti*

10. *L. Swartzii. BrtL L, rria#»iy A«rc, m -VMK. 1/ A* d. Hist., d. 10, p. 370. Tab. 9, fig 2.*

Brazil.

This i[tniu bcuttftht by Svi. it J um wo. ¥ hieb 1 have described nd fixrtd frum an tuthentw tpfcamt' in the place above died, U what Frk* haa cbw*dsri*ed a« L. •rinitu•; bat an inspection of the ftrctrorn *nf Agaricus crinitus*, in lbe Linie*n ll<rhwittm, whWi u iti fery good <ondition, ikopvithat ih« pUni of Swam n Jitf, rent. I have therefore itaoed the ffcmiit «pecka aAcr it* un^iual dkcoverer. I shall l)0>r to t»kc another opportunity of eumtuing tb« synonyms ol ^ j**1*1 of linrwnu, which U Ur^rr, UH! «rtainlj tW «oc ««h «hai Bcpwn haa fifwW k lh« lly- to- ry of Jamaira,

P 11. *L- \$rmr, AJbOxAi #V. ftp p. 389.*
Organ Mountains.

This very near to the true *L. crinitus* and *L. SmvrUii*. It has made some uiftkt¹ u t.i the lianj] at, no such *ptCMn ff^ni New Orleans existing in the licrimwtt a^ Sir \\. i i i ooker. Thru- *_f however, the |K«lnK dMbmbm understanding Klotzsch's species tit l*nbntt\ fam ha hmf wmma the «penc« in the herbarium, tiffwiMUFy fiwi UMMV V U A W hu\ \ ublished in the 'Lntmm ; MMI h»*ing ffiMAwtted ta Fries tin- ->i«ar« so published, itwbf «AMg ittinrft. Noiltm^ am Htlie the points of (tiffiruttr etcrpt wi imperil<n uf th« llerbar iuin «t Berlin, .11 «bjrti W inforiBt u* tic)ta« dirpoutrtt ^pcrimrtn.

!21 [n n v v n, a. k* I A W infximlitH. i ,T'.rmi i>chnioeQ* cervino centro nigro-squamoso, versus marginem filis deorsis cervinis circinatis vestito; stipite brevi crasso radio minute squamuloso; lamellis pallido-albis, confertis decurrentibus postice anastomosantibus denticulatis.

Minas Geraes. Oct. 1840.

Pileus 2½ inches broad, infundibuliform, ochraceous, fawn-coloured, t-iwk'd in the centr, ami aJornrtl wit h little black scales, fimiul at (mMciculmtc bmJm ; iMmrds the margin, dollied with deftN ertoped Uwnr flooi; margin slightly involute.

Stem hhort •rid thirk, 2 of an inch long, | an inch thick, u b d c lwy brawn, with n four minute »r*li'.

Gills crovdifd, jmlitl, ilightlr dc-nticulstc, dccurient, anastomosing' • ! the lw-c.

1.Hiiii^uivli'i iniin ilic *LM\ ipecic«i *L. crinitus* and *teser*, by its ftbent ihtck ntcui, no othe r di«nrt^fi of less consequence.

13. |. v. k'***, Fr. Ep. p. 392.

Minas Geraes.

The most beautiful •prctc* in i!*c genn*, bni cjtremely va-rUbK in liw.

14. L. % / ^ us, n. ., tl1»ii!ut. osspiliMtti ; pilcis excentricis, tenuibus mbdungatii dopreMiukctilii gUU is; lamellis iute^rrnmit •i*ut(? decurrentibus; stipitibus gracilibus deors. uinatis glabris.

On a lime ETOT< IliOTIDiaBnQ* VfCT* 1840.

Caspios¹, dirty white; pileu* 1|-2 inc-lirt broad excentric, •ub-<ioitg*trd, »rry tlightlj Jqneamil behind, juilc smooth, and frre from itCries*

them* 11 inch high, atxmt 9 lsa*a thick, more or lew connate, hnn, ptvitKMe, attentaitfd below fruch their cnrttd*d habit.

GilN rathrr broad, aruU*lr docurrent, qnttf rutire.

ThiR >pecimru approach™ .wmewhaf to *Lrmtmm** *friabilis* and *L* Ay'or 'V''*» ^lll '* '* dutin^ui*h«il at on*-r frrun the fanner, by k* n<t briog umhiliraiD-jitr fio**, and from the fatter* by it» not brinft umhiticaie or »iih-iiifamjiliu(Tffinii* and *hy* it* long »lem. The same i p i c i, or OIK- r tty cto»ely allied, oenn at the Caj« of Good Hope, and I bate fee* what appear* to W the mme, from other quarter*.

IS. U j«AawaiAnriMtni>tu₁ n. k« albt dtt n) pile** cTrei»tfti^> suborbiculari, demum »ubdrpret*a lobalo-ftmo, jrbbro wnttfre submembranaceo; >tt prte deorwtm aubK^uaJi cartfigtneo' corticitu nmotuln; UmrlJi* Utia^uIU d^currrnfibu*.

On a dead tree near Pining*. Minn* *ilmt**> Oct. 1840.

G rvganouft, dirtr white. Ihlcti* I |-% inchea brawl, excentric orbicular ttaooUi, al teofUi worn or kw lobed and split, wtifhUy deprpmi faehtnd, baft not umtiOiaate; aur^ih r%-ttrrvdy dan,*>m\ ahnoat aveiibtvnMWMA.

Stem 11 of MI inch km., 1-5 UMC tfeocat, iwaflf 14—1, sometime** WRPV it i, lajcrasaeAni at tna baa#« em tated with a cartilairnotsa bark, in »huh an numenwa u minute fissures.

Gilla rath«r lmnul. demrtvnL

Differing from tho forepiin^ in ita tiinnrr piUaa, and r r«r»lly oqual attOagiauuit, rimttloa* i m. It attains sometimes, * nmtitlrnlik «n<t but perfect specimens occur as small as *L**l«m Wi*W«*, and m thru with dtatcalfy distinguished. There U no doubt, hiwrrer^ that th# iwu species are really diattnt.

16. Letwtr« «/yWtt^«/«/, /v. A>. ^ . 101.

G rjm, Feb. 1840. ArrikJ d us Mer (TN Minas Geraes. On tho hanWi tii vl.r l'anJKibana. Oct. i 840.

17. *Pblyponii* (M«*opii») *lr*i*s*, to* *Eng. Fl., vol. 5, Part 2*, p. 134.

On A rottm item. Arrift) d** Kayetti Oct. 1840.

This appcftn to !x' p precisely thr »am species which occurs in KnglamJ. not uiifrcqiacullr, on I'lo* Kuropæus. There is not * «n£le itutiitguithiag character, «t least, in the dry specimens.

18. *P. (M mofra*) similis*, n. s., pileo plano-umbiliciformi Unto ctjna«ro rigid> glabro lævi margine ciliato; stipite deorsum incrassato velatino glabrescente; poris parvis pallidis angulatis uissimis denticulatis.

Or Minas Geraes. Oct. 1840.

I*ilruB I-11 intih bn«tt. pUwhiafa^iwlifanD, of * UKigh oonacoom whOnrtt> t%id when *dr**, qwte «motti ciocpt it the *m*argin, viocii » cilminl wr.H p<a« ripd btbtln*

8(«m 4-1 tnrh IngK, mmrtiino «qwl, in general atttuitrd below, rlithctd wil h very short v«lir*tt down, which at length vnuifcu< -, leavirig the *tcm (ic*rly smooth.

Pores small, elongated; dissepiments cstrrmcly *thta*, nHW« or ICM *u>m* WHI drntkuUu* Th« colour of llw; \nlmi% «wd item i» pallij umbtr, but i» probably iliflcrrnt iu *itm* recent gkaL

Thl* ifMCMt i» wludUtAf nnr %om !*«/• *hrumalti*; from which it ditfer* in tto aun miuadib«W«riii fvl^us it» velvety root, sq u*m*lij*«e Oem. it* p«Uid« «v* white pores. uiJ other points. 1 kw IMA k« vpadwMM d*iW. *krwmmU** wbirb »cf« not at UtU» diiUikguiihdble Wtti tbe prow l by Aprrulmrftp* pevvicc *thamU iHe pan**. Tbc »bo*c L*»>t i* difletent from that of *Pol. G. MMWM*, *Tric U mit*, «>«/M müJ *gracilis*, with which it agree* in tjur dluUd iusr)ptt, bong • f»r less elegant species.

18. *I*. (If**O|m») *!#**•< n, t. piko* plano-umbilicato glabro margine ciliato; stipite gracili æquali flexuoso rufo sericeo-glabro; poris parvis subæqualibus angulatis, dissepimentis tenuissimis.

On a rotten tree. Minas Geraes. Oct. 1840.

Pile ui 1 infill brawl, pMno-umbilole, rxtriiely I him and delicate, so that the pores ar visible through it, er», (** * the l... scrobiculate, zoneless; margin laciniato-pilose.

Ste... thick, rufous, flexuous, ...

Por... rly equal, niui>> l*n^rf tlian the rahOaHOt of ill* pitcuf; dissep ments c\tr<i>elr lino. The pom Mid ptnla »rc Ota ore or less of Hf<<iMstmL In the t wo! plant, thry ire probahtj nearly wh ite.

it iilieti to P. Tricholom Gilgnmrfr. Int it •iffers from mi both in iu km n»ri<'eous substance, and from the former, in its smoot h. not Tf lvyety stem.

Polyporus gracilis, ... with it b many points. •tul it has certainly 1 cili*uJ w ^ in, tt.ii ough this character is wi obicurdy tnitinl. IKAI 1 b*d wrrtor ked it, until my attention on «• called 1 the point, on e sparing it wttii Pol. €r<t<<<ra<i> and P Thr A L f— J, Thr |* »fr*, Ho*c verr, KI tmodf innutr. »wi IU ilm it iu4 ibur» bill u ibkk, and tilt pita* hnt h*lf tn inch broad.

19. P. (Mesopus) calcigeros, n. s., pilcotenui coriaceo orbicnikri ttmbittaMiH wafn* plu* n ... minutissime striato; abptt# cr ... rubro-castaneo zonato ... centrali radicante ruguloso subgracilli crustaceo-corticato subtiliter velatino fusco intus molli fibroso; poris ... ugalstis dentatis intus pal-lis.

Natividade, Goyaz. Nov.-Jan. On calcareous soil.

Piles 1-1 inch orbicular, umbilicate, will* tfir ni<rj;IM dq>nr<<<cd AMJ extr^mclj 1hin, cr acute and irj and; ti fir>t T « 7 minutdjr ve*Yrty? <t length qu ite smooth MM! liiiums, </ m rod «botnut bm<ii, concentrically zoned, wmi otwodf nainuirfy tlmto »ith in MU fibres: substance tMTpy.

Stem titrr l, 2 inch ^ lof^WKWt I li line thick, rooting at the base, bat ohtufc*, u<rft within^ <tu6*t with spongy

spongy librr*, oifftc 1 with a thin browniiti, cruiUeeou* Urk, which. t« ubirurcly rrUctjr*

IWv* I*/ Itnei or more long, A of *n inch broad, tngular, with th* <K**ej>imtnU thick, of |hc MUIP *\\»b»t*nc* u the lower coat of the JHICUJ, which ii paler Uuii the upper and more Uwny portion. Sncne are «mguWly wnAkted witluh, but this di«r«ctr t% not constant.

Thi» ii a titoMt inifrotiif aJUitkm to the vast genus *Poly-puru**. It eteady bdoiig* to tho HAM; wction •* P. M«rr, tmt ls di^ttDipiifclied from all the »pecic« uf the •ration ejteftt thftt, by ill bujerr pgre», »wd fracii /W rarer by its whote habit and nature. If die |cnu« *TVatmrln* be 6n*Jly «kUbUi]ird, ^** •j*ccic* niu»i b«c adniiltcd into iL

\$0. PuJ. (*Pleuropu**) iii/rnw/iv, n. *. pilco flabclhftmiil ittiegm vd aub-lobtto po>itK« depreto tcum Mttto dcrauni aoWjoio-auwctj gbbtfriuv, lievi, baai *excepta striato-ruguloto* bqwtico-iiifrof itipitc brtri ktenJi *ni&u* tnnajn *incras-Mo* |>undat<. (mUcrulcttto; hvroenki bnuwieoio: porit mi> nutii rotund *brevis* tuitms; rikargin« atarill

Ort the atem of*o old tnre. Arrtal da* Merea^ Ptt>r. of Minas Geraes. Ort. 1840.

IMcui 94 inches bro»d, fbbdliform, ^aite entire, or alight! / tolled «Ad cretiftr, marguivto-deiirened brhintf^ aulwruwmxK *riaceous* when dry; extremely *moocJi and ereitj, except at the base, where it ii jmlrtrulmt, and iiiinutcly ropdote and striate; uffe bLark brer colour.

r8tcm J-l uu'li limg, 4 an inch thick, ingnuaattd al>ore, wrinkled longitudinally, and dirtied with «U>rtivc J « M, bbrk, pulveri kut, whjt* wttiun.

Pores eitrcraeJy ati«lk»w, putftttform; hymumun brownish.

This rery dittinct tpecam u aJlivi to /W. *iarinus* and *dictyopus*.

21. P. (*Pleuropus luteus*, *Nees. v. Ex. Fr. Ep. p. 445.*

A vi^gU upcctneu only, without any ipccUI locality.

22. P. (*Apus*) *australis*, *Fr. Ep. p. 464.*

Minas QWMii

There i* «l»o • r«ry b«tuufd *Pvtfpmi* aJW t* *P. sulphu-*

reus, of a soft white substance within, externally smooth, and of beautiful red-brown. A*, Imwcvvr, the pores are not formed, and there in but a single specimen, I do not venture to name it,

23. IV (Beenpimtaa) *xyfottrumafntlr**, u. «. albidu* lotus (i)ituito; mycelio moUi rlaatieo intertexto tlemum porifero; poro

rfs p.irvia anggulatis aric subintegr*

Minas Geraes*, Oct. 1840.* On rotten wood.

The mycelium exactly resembles a small thin portion of *Xystroma gigaitifw**; white, closely interwoven, and with no distinct border. This at length produces pores which are small, but perfectly visible to the naked eye, regular, with the dissepiments tolerably thick, and nearly It at length become* incorporated with the wood, and inseparable*

I. *Tremetee occidentalis*, h. p. iff.

Minas Geraes.

The specimens differ greatly from the state described by Klotzsch, but are connected with it by intermediate forms from Cuba, of which 1 here a specimen from Ortagner, and other* from Guiana, collected by Schonthur; V Gardner's specimens are very strongly toned, imbricated, and subnugate with the substance more hard and corky

a&. T. *Ifymmdtv*, Fr. Ep. p. 490.

Minas Geraes.

2. *T. imo/i*», Berk in Hook, *Jem**.

V. r. *MMoripom pallidus*, «,

On a rotten tree. -Minas (Jcrars).

The Brazilian specimens differ from those from the lippine* and New Orleans, merely in the tinge of tin- am) their paler colour. The texture of the pile is not altogether unlike that of a *Dictyonema*.

\$7. *Farolu* Hrazthen**», Fr. Ep. p. 40%.

On the rotten trunk of a tree. Minas Geraes, Oct. 1840.

W. *Stereum ryutkifnrnr*. Fr. Kp ;

Natiridade Minas Geraes. Jan. 1840.

S. mtidmhimy n. t. p. infundibulifunni »ul>uicti>bra

IM000 rigdittfrulo crruato glabro nitululo scmato Itrunneoli);
•til ite ce?itfatitnmi; hyracni"> jUta.

On a rotten »iirk covered with sand, on the hank of Rio de
KUutrl Affix. I'mr. of Guy**. On. 10 39.

Pfeas about half an inch I road, infundibulif »rm_f thin,
Mibm«iibniM*rron_T but raiher rigid, bnmm»h, with i tii[^]
of r«d_f mai-krd with darker soncv, trao. »th, sh'.ninjf.

Stem J-1) h«*h UM|;, about 1 Jint thick- Ilywnium, on-
vering part only tff tiic under *urikt% whit-.

30L UictycHirma *eric*m*, JttMi. (mi VKc\intwm*ie. in fUL
Voy. p* 13i.) TbdepJim ncricm, Stuart*/

Org*n motiDtmtn*.

The «pecimi*n» arc in a high fttal* »• true tHiciiiMn, being
covered, on the under »i*ip, vnth an iK-lnafMiui, much
cracked hymenium, exactly tike that of* ^tereura. Prrciairtjr
the same -hrmawom a k s in AU|««a % ftm/nVwif of
whkli I have MCS an agtWatW •partujan^awJ which due* n ot
differ ipmericatty from Acaawa^* The f*»«u " i ll come next
to Coi r*, wlioav bymrniwD u aianilariT fofaiad. DitMwmm
aruginosum, Ve«» T. Eft, t* ippawnUy lhc mm* tf^tcica. The
margin is pale, m m«i«cqticCH» <4*bt fWaVu or Styttmnm
whirb ai»?o«Dpaitica it* «ot baring gruwa »o tawt a* thv mitr ix.

31. Nidu laria pit*ala, IK »A Jjnruni, rot, S. p. 553.

OB a dry bank Organ mountains.

32. Spharia Hyj*i*yhm, Ehr.

Var. mucronata.

On the item of an < M tree. Arrayaa, Prov. of Uffj-a*
April 1841.

Tilt* variety has tbe form of .^*. ttthanuie*, Ikrk., and
appears tbe, aa nearly u poaubta, the um« with n Itat
HelrwittiU bat figtmd nader the name of & m«rr»tM/d in
Juum, Ac* NaL Kc_k t Ftul vol. •, 1 # \$y p, J, ub. J. fig- 1.

The item ia Blender, J to 1 of m inch lotj[^]. Iload (*I of
an incb kmgt I line thirk, cylindrical, in general lipfwd wttli a
short aeartctttucro.

as. Geaster fimbriatus, Fr. Syst. Myc. vol. 3, p. 16.

Rio Janeiro. A «ingle vpwimcn on ly.

34. *Clippopordium* «r«06«*M», JUW. *Awm. d. Sc. Nat. Feb. 1842.*

Minas Geraes.

O! thi* ipeeie then are •ptrinwr[^] m Sir W, J. Hooker's collection from New Orleans, and it was fathered by Gaudichaud in hb Lattroy's.

SS. Antennaru j i m n , n . • I Hallo penrtn* exp-MMOi ftoccu enctit riglditiBruli* primum nooiHioTmiboa, dein cy ltmirici», ratnoau; ramtalii atfltruotfe wabaUernatift,

On tbi leave* of a •paoks of Pijojirfafcw Chapoi

Ill jpo«iul EpiphyllkiUB; m vrtttⁿ* the karca and *Um» with dotl»-like black patjehat, conAliag of «rrct bratichod flocci, which in the footer pant are tUtingui»hah)*by the naked eye. Main bnincbta* Tery int[^]utar, oAm fonoioog a right angle with tlte *um ; ultimate nunofi IOOIT or lea* altcKMrte[^] con-feting of cyliudricd. or but aligitly vwolish vⁿticulation from l-S tifo* a* long a* broad. At the hate arc found a U w moniUAirtⁿ tlireadt, whirtt hav« rvidently iproog fmHi «a)'-tulri, but I have not bnrn able to find the captujti UJWIIMIM in • perfect state. There arc aln other more •kndor anoH moing nJomctiU, which arc apparently i aort of Myotfam.

Tlitr speciem is dis rinfubhed froia Uie other dcatrtbed F pipytooa aporioi, by iU larger war, and equal aruoalatioiu. It WWIU U|UUUIT| tO UM W v W v Mm pWavD* (I p m n i W VOISvWU hv t'i'riJ* tn f jijj.»o/j*idhtai_T Mmieuf ihv «Mdfam uf whtrh v nit* are prubabty true *Amtnmmrur*. The r[^]», though it tint prtipeed by link, i" Sehrader*! New* Juumal, oo very insufficient rimracirm, founde-d upo* an «errottemi» »u»U'is, was welt and awttrarty ATM n[tn\ by bim in liii ookitinDatiott of WiltdeAow¹* Specie* llwiurufiu wbeiK[^]v and frmn Ore-nlU-S imlyiu of H*n*/i*m qp/Wr, Knn hot tahm him charactrn. It i* «tTaneje# therefoff, that Conla >h«wVI have given »ucU » very intufikmit tlla»trMkm nf the genus, if indeed, the two •perir* fipimJ br him, mtllj Wionf to •t. The characters are beautifully rhibited in h cpe«i«a from Joan Fernandez, noticed I in flora Ferwndatiane at & form of *Cladoporium Fu-*

magt, with the symbol nr1 *hlUmgetmm*, Mont. Dr. Montagne, it now however, satisfied that it U not only dutinrt, but that it belongs to die genut *Amtamaria** as characterised by Link and Fries, and H there ii no satisfactory analysis, he has kindly traimrmtrit iikctrhcs and specimens, with a viru to the publication of the »|RCIPS under the mm« of *A*tennaria l<v~tnnM<vit*, kiOQt ami Ucrk., tOfittMT with *Antmnarin fuumMti^* of which it h»i very much the Imbit, but the 6Umeuts arc nu more ilendcr, ami some of the articuUtiom are moniliform, ubilc in perfect »pectmena of *A. pmtmoaa* all are cylindrical, or nearly to. I have little doubt that the capsule* in *A>panmoM* arv at finit laterml, but 1 have not aeen this with sufficient preddon to allow of my giviji^ a representation. The characters of *Ant. ttv?>tnio>thei*, will stand ai follow*:—
 thalci pannoto expftnso; fihrit termiiaimu elongatii ramoaw; urtirulji* avjualihui monilitunnibuurt; iporii lateralibu«-

It it not necessary to compare the fraottfying fibrei with *VirwmpjffiM*, which they greatly resemble ni general habit, but the content* of the capsule in that genus are quite dilferent,

TAB. XXIV. Fiy I,

«. portion of *Antnmaria pa**o*a*, slightly magnified, showing the perfect erect branched fibres, and the more procumbent young BoniliJbna tihrcs at their base.

*b** jxtrtions of the tibrn, moniliform threads, and anastomosing mycelium, highly magnified.

TAB. XXIV. Tig. «.

a. portioni of *AnJtnmaria Hobitwmii*, highly magmfird, ihowing the usual ttate o/ the fibres, and ot1 in which ail the upper arttcttUtiofu are nsouilifurtn,

6. rarouU witi peridia, which an mostly lateral, but uft«n arise from a swollen articulation.

r, evolution of a »pore.

*d** ditto, ICM nuajjniii^ t; in this csu*, tbc c - M < i > i s of the
spec n form A U btd gclalifiout man, «rich, with the iocloacd
branched colour Utt thready teiembiea vcrj much • *Che-*
tophora.

r. tl.rrnU from a gcrmiaaiitig aporr, fth«*ing the iiiaftico-
hftl «.li -ndrr lhl*Bill (if Mill ni.tr*, a-ul tie : : ! » i(inmi U | i i
lifform threads which ariie from them. TbetQ gradually tu-
crease iti iie, acquire a brown colour, and at length attain*
the characters of the perfect pUui.

f. a partial], W*I regular, very highly *mnyHtfini*.

t. a apor^ giviutt ^{iml}- thnwta fi^iu the ctrlli *nf* the
peridium.

A. a portion *ut* the Mtno, more highly *magnified*.

36. IV ml » *ptwmmvi* Fr* Clavmr » plmnoaa *Schwein.*
n. 1 29.

Clay banka neat Maranham. June 1 MI.

Toe «jK>dinciu, compared with one from SrhweuiiU, pre-
acat but little dinfercti». Tbrv duT«rf indc*d, noiv *torn*
the technical nmractrs, as f ivrn by l'rva UMI S^hwctnitKV
having th« ultimate ramuli, for the mou p«rt, wm|Jy «lon-
gitcd, but ainofigtv them *tn* totna which an> dilated abt^
and dnoM plosMae, In the freatef ntunber of individuals
from a coopvaaad item, ari*e A Urn quaittky of braoehe*,
disposed 1, in wr ll ifnw n apeoncM* in • jtalnhn aiaiiQar, *
the ultimate nniuli half aa high ai thr whol* plant, and *|*
trtmdy wiit*. 9mm onnrtdt imlitidoaU thov tittle of ttwi
palmate amfement. Tnfta about 1 inch high.

37. Stillmm *tatrrittim*, *Utrk. m Am.* • / Mat //M/. ro/ 4,
p. 291, tab. 8.

On atkka. Maf«nh«n. June 1841.

Tbc apedIMKa *mrt w»t* ** inclined to bcootne faaciruUtc
as those pre-etirmi by Mr. Danr.n.

3%, *H_w* *trttm*ticmm_t n, t, fnsqajium # vtmrnalr nigTw
inac|uali; iUpttibm eompfwak atmtliti* *u^N**; capitulis
aureis gbttoau; ipotia miimUaaimui subglobosis.

On a rotten trrrr_k wHh Jy. *ferruginus* and *mitisculus*.
Minas Ge

Forming effused patchTM on the turk, ajiringini; fr»»n * black, WIMKHIL, tuiduUlrd *truin»p which tiai exactly the »tnic- turn V ft Srtrrvtimm, <onnsiting of uifpdIT CcU» each of wb** ewttaidt a nut leus, those of thr cuticle Wing darker aod •titalkn-. Stem* distinct, 1|-3 linn I>>5», i «f an inch Iliidi, oomprrud, blick, cooaurtiif *afreerj* fine fibres, externally slightly striate, KinwiODtCKi Hy a yrUu w globule, which i» eo<t«d with v*nr o«BMfo«u extreow mtneuU aubfVul pose spores.

I know of ttO if>r4M» v^ry nemrly »Hicd to this. It resemblet innii, pff!ji(»»), 5. *eiarmt*t*m* MouI. but differs in many fwpaots. It u certain IT cm« of the utott striking of the genus.

39. *Cladosporium herbarum, Lk.*

On *bmsUa aptomai**. Miiw Ucmci. Oct. IMA

[This U not to be couritkratt M it »IJ » perfect list of *Fun* <i o W ncd hy Mr. Gard iuer, who infurms nr that if he had bftd Ifott, »© oolJ h«v* «otke>ftdt ** *«*? ten time* ilw number,)

BOTANICAL NOTK, ««ir M fir *JtepuUu: iff* Ki, BCUADOR, (Quito, *Escuela Superior de Ciencias, Esq. University of Quito.*

RANUNCULACEÆ.

Ranunculus Peruvianus (AV 1} it found On iht elevated pasture grounds of U«« AMUCV, brtw«en I J, noo aixl 13,000 feet; *R. Guzmanni*, [So- ?] *t, or iwfttrtJie MOW limit The former has rather an extensive range, (Λom Ccrrro de Pasco, in

* This talented gentleman, who, during his long residence in Columbia, Ma brpJr «n»i»»Ul4 lo our _____ pages of this Journal, has at length been persuaded ft v u», id <rt«i>it 4 dozen sets of the plants of these interesting regions, which have been collected and numbered, and which will be offered for sale, at £2 the 100 species.

Peru, to I the Equant) but, with ut »t l*e*t, ii nunl ke considered of rare occurrence. 1 am *cquwuic<L *x<*» tmlly three localities; « El Cvnuuu." » here it was urif inatt] discovered by (iumun; "Ccm> del Alter," in the Provi m of Rio-bauiba, where it **• nmml by the Ufa Col. 11*11; and Mlouit Carambe, under the equinoctial line, 11*117 feet, where I hrtil uv it in Augiut 1828. % . 3. u •* common willt ui i» R* ntrig i« IB <iitai HnUm; and, like it, gives • yrllorv tiut to the nsnlvtt jNiiturci of Uuito and Machachi.

Of the i«iu» TAO/irirvj*, .Vu. S ii ike only species we have. It is cstdunaoribeil wittin VIJDRtb aiiU IIJOOU feet of elevation.

The /IMHBII (ami in a farmer collection) I hart nowhere *rrn_f excffXitif on UM mcUlltJ'ttnous veins of Pillshum, and

I i u thre it IJ by no tue«ua |aleAliful. The genus *Hamadryas* does not appear to advance to the ftertharvU of the tnuirene mcwinlahi ridgv, denomi-net^tl TK- pAnuiio α* Atoay, Itirmiuj tlw twuntlary between the province* of Kiubftrali* »ml I Uae cm, Oti either *MJC of thi» m^hty Ukrncr, there U not the mJtgbtest otoJiftcetatn of •oil or ctimnte; *nd itlboogk rery many pUaU art common to both |»ovinc*», then ax*, iMrtrnhelee*, » irw peculiar to each, of which *Hamadryas Andicola* offers an example. In my remark* on other tube* 1 IUU a^siu edteft U» this subject.

Of *Clematis*, theet appears to be one species only, C strict^ (\K 30;>, O! common occntmxx thoul the suburbs of Quito.

LEGUMINOSÆ.

The *Leguminosæ* abound on the lev knd* namr the coast, where they frequently IUUJM tht ftppraranoë of majeatie r'ln-it tr«» and lofty dimbrs. On the table land* af lite Andes they i» even fewrr than m Ike temperate tfOtttttrir* of Europe. Some of the gftafmatc Tprrrrn to both hemispheres; ki, for ioMance, the g*nu» *Lmik*rm*: of which we

have here two or three-ipeaei. TV iVorvfet t* a native of the central tune tif fthmbi, and ita dried Iraf k sometimes ttwftuyrd aa a •nbtthtrle for tea. One of the moet abundant pltnU it tbe *Dmkm?* (AV 7), willi blue flower*, *m* universally found in the temperate rrgtuti* of the Andr«_t between th* limit of 8,000 end II ,<*X> feet. The Ivupme, of which them a» many specie*, flourtshea on tU mure elevated plains, LVIUO—1V**» f«*t *«« wed*, though disagreeably bitter, are turd by the Indiuia a» an article of food. *Lupinus*—(No. 9), it one of the moet diminutive, and ocean near the enow limit. But *%ohm* moit remark* We of the whole gronp ia a gigantic apfciei from fichincha and Antuaaa^ near the minifiit of thc*e niountaiiii.t_t wlicreit* peculiar appearance carroot (ail to attract the strrtiun of the moit careless obaerrer, A floral ipikr. about thirty inches high, and hollow in the centre, vpriiijf* from the grosnd, beafiaf rmmntoa »nwl« biottoms rrtTtiuped in a aobaUnoe twin* blmg itlk. It* dUmeter U about four riches* and, in tliapa* it very much reemttJea a dub. The leave* are atl of Utem radical, deeply <fvit!rd, %on& snjiportrd on long *ilkt foot* stalks. TV entire plant i» loo Imllry for the bcrbarium.

MI tk« Lupinei I have hitherto found in thit countrr hai blue flowera,

On flic dry and parched utvuinaht of the coa»t, and dif- tril Kttnl in clamp* or jiatche*, are tmany trboretcent *Mtwoa#t* more abundant *JU* we recede from the ba*e of HKc Andaa, which qaooJyboaooiuiledfor by the mperiordrynwar *vf* (he climate. N«ar the «oa*t the wrt *eaac» aoatoalf hula ftre* months i but it tofDetimc*, though rarely, liap|cna» that little or no rain fall* for two* or eten three Ttara. A complete failure of the more tender gramineous j»U»t• i« the LHwatquenci t and the nomeroua herdn of oaltk, reared OR the pUin*, hare thru no other meant of •ubsiatem* than the Under ahoota and foliage of *tht Mim***, which are gTurdly oWoored. A* n»t«ht be expected, many of the an.inabjKTuti; bat the morta»ty. I Uliere, W be occa»ioned rather by the scantiness, than by any noxious quality pos-

sessed *hw* *tlia* *apocfoa* of *fotliicf.* the lower branches being alone accessible.

In the *dc* p tnd hot ftife** of the *And***, *m » - ; < »* 30 feet, *whrn** the ** > / « • > * < !* *rive* *thinn* *Jiroffit* *more* from the *sir* than from the ** > i 1*, the *M* m < + * u w « c* the *appear-* *ajice* of *throb** or *ctimmuurc* *tfro.* 1 *rcnUeet*, many *years* ago, while travelling in the *Prurirtce* of *Lot*, *finding* • *thrubby* *.VMCM*, *mn*rk«blc* for the *Uanty* of it» *flowers*, resembling a *tiuuc* of *rimHKi* **ilk.* Two of the (*pecks* *advance* *ncmiW* *tn* the *Jmd* of *Umta.* *Jf^WM*—(*No.* 13), *vtih* *rrm* *opfaurw*) *flow* *en*, *|nrv«* on the *b«nk»* of the river *Machangara*, not *fOD* feet *bffcm* *ih«* *lwl* of the *city** It is associated with *K friigfint* *v hiU** *An* *nfycd* *tpcoc%* *BMH** abundant, however *f*, on *th«* *pknu* of *8IH* *Antonio*, * • *null* *village* *Ktaath* *dirertly* *wwkr* *lh** *^qvalur*, *uid* *cWntcd* *8,500* *fact* *afam«* *OM* *fe«i* *dftil** *m*,

All the *Karofwnn* *f^yw-im+m* *VM&* *M* *ftrtkk«* of food, are successfully *cuttiv.tcd* in the *temperate* *nfion** of the *Andes.*

GENTIANEE.

These, *aa* in *Europe*, *m* *pecwlUr* to *dw* *mow* *elevated* *lands*, with the exception of *Eiyt*r*m* *Qmtamit*, *wliirli*, if I *mlk* a *not*, *gnra* *aiao* on *tl*r* *alimial* *country* of *Guayaquil.* On *Mb«rsii^* (from the *fareat* *iJiftt* *ritand** *fnrni* "Camino real," (7,852 feet) downward to the *flat* *country* on a *levd* with *th«* *oout*, *Omtimm**—(*No.* 15), *k* *th«* *firu* of the *trib«* *thai* *prownu* *ttMaf** *Iti* »*up«* *rior* *limit* *ti* 19,000 feet, or *juat* *bayoad* *tht* *puiat* *whm* the (*VrrWw* *oeaac* to *becukivMML* *At* *f,000* *-rt* «« *m^rt* with the «*hmiiurti*» *G. miif'Jm* (*No.* 20), with • *oorolU* of *pak* *MK* *ur* « *hi^* and *dulled* *n* the *emtrv.* I *t*Urir«* that it *u* *universally* *found* on the *AiifW*, for many *dtgrea** *vortli* *md* *south* of the *Equator.* It« *moge* on the *Attiaaof* *th«aa* *nountaina* *k* *6otn* the *cJrr»liun* *ju*t* »*utrfl,* to the *hftgnnl* *>mit* of *ng«Uhl«* *hfc*; but in the *tatter* *nation*, there to *m* *regparkatW* *Jtlarenci* of *Uw* *eorotta*, both *b* *MM* and *cukmr.* *tl* also

possesses, in a «thkffig manner, the property of instantly closing its blossoms. 00 brmtj ftlightly luutrbed by the finger; and BO cuQ9|4ct*4y »• this r&Kted* ttmt otie hardly recognizes tlic aaapc |4aat which, a lew w i i n l i before, WM expanding its deep azure flowers to la* •«JU'» ra> ». It is a curious circumstance, that wUL «r pobtibly wane other cause connected with tfioawphi rir rareftctioti, should, in this instance, excite vegetable irritability. The reverse happens with respect to the *Mimosa* species of which are tiki res of the te {operate tununui ri ngion ; yvt rtoiu i of these con I ract tlieir leave* on being touched j while other a; species of the Mt&c family, abundantly ditttihutod on UMI »uUry aarannah dial borderi the coaat, nuntfcit that property in a *rry remarkahW decree.

L•otiiifj tUe village of (iu*nuula, (9fi00), we immediately commence the ascent of Outu^xtraia, over whiob lias tlie main road to Qi*n j. *GrniiiiHa crrmuti*, (A5x J 7_n |iretenta iUeif about half way up, ami BO an adminr of Alpine vefeUiiom and more partkiUaHy of the ckfaxd and important tribv under nMiudantion, It miat prove a valuable acquUtioii. Its flower* am nurwrrou*, of a bright Kailet, and very Urge in proportiDn to the size of the plant. It reachej to nearly the termination of the ascent. t»cre, we aUo meet with a iniililtng-aiMd tree, cerUinty one of the haidkat, iwoe it thnvt« Nctt on (be elcralcd rocky paaam of the Ande«, «li. re, every night, vegetahte life i* subjected to a frcca- ing truiH i it in : J hare wen it on the »«tem dtteliriitfa of the« mo ntain i< M high af H,IMM> feet; I allude to *Poly- lepis lanuginosa*. The epidermis li*jifi in latter* front its cinnamon-coloured tfwtk^ o/lcn xeut by f»tufc«, at v it had been btightted by the *tkmcntm*; mnd its pinnated foliage, of a »ombre green hue, ii v«ry din>re>t from those bniliwit tint* that cutiren the fbmta of tin? low coun- try.

Iltr highctt point d the road in the "arenal" elevation, 14,049 feet above the co**t< The »nwwy namaut of the

mountain lid on ih* IrA hand ifafa» and aamimiapr t the mcarareoifnt of Humfxtl.lt, it ought to be 7rK* fret ahoi* this point. One would ttppoM it to» be m«h lower, bat an uninterrupted mas i of mow, when •e*rcely any object roter-venes to relieve the eye, hu the dfeet of oetendbly dir* inishing distance. I, nany Tc*r» w**; fotmd Uda to br ibe case, on visiting, for IIM fir*t tmtc. (he a w t <f Oiwuk- ad, where both sea and land lie concealed bene^{AAAAA} AB 'a^a|^ff AP ^1^Aa%a^A^f ... MNlwftoW.

Hating crowd the WHIUMTQ Sank of Chimborazo, and armrd at tha Utile rill*jt« of Ma Ha. a dietaiico of about fourteen le•gMa, we ettt«f a wide vattay^ of which th« two main ridges of the C<*dUlerac**tfftitute lilt bountUry. Towards the north, and on th* road to ttuiUn art Mtuted the villages of Affbeto, I-*t*rw>f»f and MoUlo, all of whkh hav*f at dif-Arcittt penod»p taferrd from the mloank rruptMmt of Tu-guragua and Coti>pajci; a eifcvtmstafioe which baa also com-Ihfiuted to impart to the whole waller a nthcr \mrttm and desolate apparanee*. A continuance of eevtnl no nth's drought ttttully deetfoye every trace uf rc^etalion, ei«cepting «ucb planta ae extract nuotULment from the •oDmtrnt Ame-heao Aloe, whk*? by i* bye, thrivca «soa«diH^] well <m thnae Mitdy plalfti) a* abo a rew apieciea of the genus Cwtm*. I havw obaerrod two r>h*tie» of the Agave, distin-guifbed by the colour of tiwU fetia«i i the one being of tle tttttal fUltcttut Unit •»! lh* ptber a bright «f«en. Ilic latter I have eeca in the hot eowJitfy i near the sea-coast, but nnthttr will grow tt an ek«v«ibVm Uut cxeicd* 10,000 feet. Of tree*, the CapoJi [Pnma* amlia^Uaf) alUina a large size; and an the n>ad fn>m Ambato I o Latacunga, (8tM» feet) we roeet with &*km Mwtk, the trunk of wa ich <• lude* a epeoka of nun. A lew huthea of Baccharis {Aifoe, Iioaomtn m m , (\o, 2J5J# and exicnvtv patches of ^raiu/o *#iMi«, make up the rr>t of the vegetation. The cultivated plants consist of Indian corn, barley, pease, quinoa, and lucerne, lifdgtd in hy tenet* of Afmm* T^t length of the vftlky, irunt Riobateba to Cello, b about twenty-eight

leagues, i<t avenge breadth Iru, and it* deration aboYc the
aca M0D~IO,fYK> fceU

Aborv the farm of Ctflo, the two chains of the Andes uv
vasted by * transverse ridge, kmxrn by the name of the Pa-
ra<io of Tiopuljo, or Knot of Clualadw. Its deration is
scarcely 2j00i> feet above the plain of ("silo t> the tottth, and
that of Vlachachi toward* Iho north. On the right him I side
the virw is bounded by Cotopaxi, of which the plain of
(VI" forms th* hue, and lh<? rocky a>d prrdp^tiHu *uumiits
of Kuininari, ocomiioruilly fiprmklrd with muw. On the left
it Kliniaa, with iu two snowy peaks. The interrrening apace
is scarcely * league in breadtit. The lop of the " paiamo,"
nearly Wei, if clothed with a abort gnuay turf, wiameUod
with the purple nWcra of * preitjr (Jrmttam, (A'o. IS), and the
white //JKPOCAVTLI *»»Wiffcra. The inferior limit oC the
I *Gettitm* u] lMX> iNll but it b one of the few bl->*w>ms that
adorn the barrn soil of Cotopaxt, rebelling very nearly to
the snow boundary.

No atfaei ipeeiaa occur* oo th» line uf road, exoeptins; the
in>significant *G. ;imm*4tvuii**, (A'o. 1 i). growing on the boggy
meado ^ i qf J4aohftdu* Gn/iwf, (.V>. I<) scarcely erer oceun
bel >* I be l<Ytl of 15_{lit}*u feet* and it oonuaoo to uu>%ot u(the
Andes. *G. Uwmm*, (A'o, 13), has only Mi locality that I
know; th<t Q* I'icluiii, On tlic western side of Pichiicha,
J2,iOOft*C

The *Om*r(u* (No. 2t)t occur ou all (he Ahdes. betwixt the
level of M/MO and i i.uuo fecU

The t llowm *id the* (*imiimM* exhibit in this, country almost
every TftHety of colour—rrti, blur* purple, yellow, and white.
Of sixteen specie* with »hidi I urn acquainted. r>nc half are
red, f>or purple, two blue, one yclk>wf and ooe while. In
Kyrope, 1 btUviVt Wue ia the coivvf that pretloiiiiiatcm.

SCROPHULARINÆ.

E rhe uble-Und on which Quito U tluat<d_t presents many
fe<tun-* of sjp ilarity to the tuiftheri) countn** df Kurope* The
city >• eofiatrurtrd on a narrow *twek* of Und, on what may

be termed A Lnlgp of Pfdimcha; but ih« country towards the north and totth widen* into «n r Henwre pUi*, clothed with a Aort grw*y turf, ami U ttmdar in mry mpeet to thott U»rt» of had, called inK**Und* <kn... S* much do the fnmnttttis plamU rtirmWe <mrt, that &o one but « botenUt teuld]wui«ouncc them •pcaftally t*%«mrt W« kfun iscof• ni.

»«7 imjH-rtjnt «» •(Tmlit^ food for mttk. Oi> •!***• Ui«l h*T« beat «ah)*cted i cult imtimi, w« eren find *t»^pfr •nywM, 7U«yA /Urtfl.^i/orw, MtUtri* me^w, «sd A fr ftlllt ttirfr* t]»WnU that mutt har« UM ongitttUy intio^ duc«fl viih European Certfrnli*. But we iw*he» ob«rTfr th« red («Ppy ^d btiw bujcli^ by i s, it b in*r, ftagafded M wwli* ihouitb ceruinly t*rf pntty mud otnmwtak Thr red poppy (i'tf^twr IUMH) W *O higMy e«t«em*d by the Sp«itth ;ViTirn«afi« M to lie cttkir*twl in pwtarr*, «w) e%«i in poU; vhlr muy linnrtmne itAtire fluwen th»t wou«l cxriu* Oi«* Mftniiratitin of the European htirticultaii«ii, mtt hmU in no estimation wiiUerer.

So d in the (Mlt+okri*, of which the rioint* uf Quito affords a \cry gral vmnetr. TTe ravines that furrow the sides of ISrhiirtii piodoo *Calceolaria laevandulifolia* (No. 26) c M of t l 4 bMd*oo)Mt of the tnbc, tad *C. floribunda* (No. 28). Tlw fwrwt dual n«rt]an^ptr balcw ilie Iml of UMAIO feet, wliktt the Utter reach* the valley of Chillo, about ff,«0« fee* low dowtu C. Jtv««aat4M« grows]ilt-ntil'uilr op Ike J^b»n lo 11K* •out}» uf QQHOI vbcre the mean *nnu»J trmprraturr w 1* btUm tb«t of iht city. PIT- ming like awnc dirvdJoti. w* find it on tlw tn«r (Iuin uf Uartuchi, now tbt northrm ircliviiy of Tfepalk. We i^»^ n iIMct witlt it fet the haw of dumbon**, near the nllage «f Mocha, ami it fin U> ditappter* on the hottl«cn slope. «I' ih« 1'iirunii of .liuAjr. The pruTinoc t4 Ltna, which bordtj* on the Peruvian territory, eoan*); produce a eiafk t>dtvidu«l belonging to ihii SWIM.

Eight thouwnd fret mny tw cuntidcird » tlef btol

limit of the *Gmetotvurur*, although I, many years ago, recollected gathering a *pftmctu* in the ditch of CalUa, on the coast of Peru; but then we have a difference of 12° of latitude. In this country, however, they scarcely occur below the limit just mentioned. *cricea, dr** (No. 2, \ gnrv* at 13,001 feet, and C.—(Vo. 2?;, mil higher. A third species is peculiar to the rocky summit of Ptahineka*

Columellia sericea (No. ri), »iui iimUbia—iXo, JS), art among the Aral fls of the forest that occur on descending the twtfm rUtk of Pichinrh* Tiieir (lowen, M vail aa air very bc*aUfuU «»J they »r«t moreover, quite hardy trvc»: (or Uicy thrive? admirably on the heights of Wt 12^86 ffl above the level of the factk* They would prove illy ornamental, could they be introduced in KngUiid.

ONAGRARIÆ.

In a country like equinoctial America where nature makes the «r.in A I awl vegciahr Iringdoma with rulinim tht* ritual brilliant, it might be «apjfo««ri that certain pUrtl*, who* etype ia ODiDmoti to both \emisp Item, would, wtUtm the troflb*, eatrel tti beauty those of the aacpe *fktnilf* that are native* of Eurppe. We find, however, that thti does not aJway* occur. U'err it »owble to Imng under one point of view the whole species of a family as ronn^tituted, t am convinced that, in many instances, we should w\wt, u the mon ornank-nta), thme that belonged to the old continent.

This remark was made on nLhenni a little *Epilobium*, (Vo, 2*3), a native of the Andes, »nJ comparing it, frwn memory, with those of the umc rauuly in Eurpr. The S. American plant, of whirti llwrv M but »r rncu't, might be readily overlooked!, M> very in^niticaitt docu it appear, and were it compared by the »ide of our *K. tmfputtfoii*m>* tJie comparison would be Axceedin^ly t*» the diiadfiMrtigv *£ <J* forme I 1 nitchl aintly- the MIUO obaenraliun to the *Ranunculaceæ*, comparatively few in genera. a% well w in species—

Veronica, a representative of the present Order,—*Saxifraga*, **flak**, *Campanula*, and the most esteemed plants of the *Hatatmm*. We cannot «KpUin th* •nomak; but why aj* not the gener* 1'miwn and *fyiaUmm* rtfwoducnd he/*, iu tfi* •am* proportion a« in BnUin and New ZoahwiH, cow*tria aitaud at tb* *resl«at powibU dktuw* £rowi each oth#r ?

We »«««« hovevr, oft* group of plant*, rhiefly & An* ri-ran, for beauty, perhafa vmrallod. The AWA#>> •» witat^ cevtcl by eoikcton, art t,nLi» of UM wooded raiiun of tha CottiiUeem, i aytatlaf o» th* baeka of streams, or in localities where the air is saturated with moisture. They are never seen \m * dlmatt Uwt &ro«ti Uw growth of *Cactos*. Hittliai fr^ayffa rrow« tm UM wiwUim, or what b 1 the same thing, on th« w*oded tkieof Pkbincha, at I3«000 £MC of eleva-%own_f where th«air i» to mobtf aafanaraSy U> nwaim tb* ap-peaiam* of a drnatinj; nun, or miat It tb«r* diaplayi iow-t n, rt-oiarkaMc for their an*, and of tb* bftglitaat MarUt colour. Tbc MHO pluit oecum *t T«mt»Uo, nemr Quito, (|0,000 feet), when, although it very frequently ntbt, tha afr ia gncnliy OmitipareuL Bat the down an vmaUer, a* may be i««ii byooBpchag tha tpecumns from both l*»hti«t. *Fuchsia* *fMAv (NQ, 8AJ, nqdn* a •omr»Ur mifakf climate, ami ihoandi iii the ralky of NOWJ, at aU.ut 8,500 feet of tlmtum. IWM« (No. 32), » from IU Taii«y . of Lloa.

I racoliet, many y w i kftS g»li«rin^ in the province of ALmai an aphyUottf fWJUw, with rtmuVahly fine flowers.

CRUCIFERE AND UMBELLIFERE.

W* a** tokrably well acquainted with th* r^ograpljusil dUtnbuUon of th* *Crwtfr**. Tbcy kbotttd moat in th* cold and temperate OMMtric* of both hemispherev 1 haiw not Lithrtu found a tiagk reprewktaUto of tU Order m the tborw of ^umoctuJ Atnerks; hut oti the eold and elevated | plains of the Andes the y are associated with those v cf-table forma with which we arc tamttar in Europa, TtM «

genera, too, a*» nearly the mme. *S*mbrium*, {*Xo.* *01), called Aem* hy tin? Crcolci, U *iu»ibr, in every rcsptti, to our wtrr-craxeff, and ii held in repute u an antiscorbutic, *Cremolotm* Pcntryin* us (No. 8;), U » targe shrub, jbuod on the middle rryion ol *Pichincha*, chiefly u>wartb tlie we>t*ra id. BttL ot all ibe plant* *Wosj&iijg* to *Uu* CfoWr*, the /*Ana** mtiit* be allowed to hold (he lint rank, la J ;*-. oiU* wmiyd hardly think U worth while U> mliW&la thft ucDtxl /*NwA#*, Mi little atintctive •» they; wlrnw. Amfri, we hftrr *Mwml lperic** thftt atuiti the • •hrulw, tularned with *Urge flower**, purple or w» Of tlm /*Arw^d rioUrvM* H U a very cicgrxnt , with ilcep purple (lower* u>d downy *fijmgi*^* Ixnng peculiir t» tliir lofty rtdgCft of the *ATIU***, to llir nmitJiwanl of lh^ Away, vhwiv it i» aftrn *M<i>nntc4* with the no 1<i>i rleput *.Itttrrmrriti tfmmrt***** DroAil \$r*tUfaw f* adornt the bare rock)* prtcipton mbonio. U c*it w*n*ljr be coUc.J a shrub, but i* ivaMurkable lor it* *laKg>* anuwr hloavorvti, *tff&m *tf~vitC* , fir<t wvun *t sn vAion of Bud rcsyht:. * tfwnr UniL Of all the spec moit gencmly dittribul^r *Ormkm mn* unr tlif tummit i>f *Pich* when thr grmifid n frequently aphnkl^l with aitow* fmwi«g <n tle e aand. 0 sliajn* of a t!om|<rt regruble ma%o», 11 a*«ociatod with *W«Ai* r^*xu? (,Vo. 105). and the { No. 228, 229, 230 \ SSI), *Dr<t6a—;V<- ft!*, <m tlw L^<mi del Altar, unr Uie mine of *Cmr fajptq*, at anvkrai .400 iWt.

*TIw cuUecaoQ rxMitain** alMgr iher wvm »p«e»ea of thi* m-Kfswtia^ fcnor, whcieM thrc* unly are *ietcnb«*i by *Kutith ai Nttim* of *Uoi otmnty*.

*EO uiio olv»cr\i>iii>u** aa to ^wdfTwpliiod puitiOA • apply to the *rmtktujVr**. They are uor, haw»yer» •« much restricted at in dimate^ and *cunMsjuchUv* oc««py a widar range on the *Hauc** of the Andes, *fffJrx>eittfb—()' 11* <*t*Mto a long way dawn* maud the danta «n<l miair fofcata that overliai — E U fe i although tnott

vot* it.

species prefer the boggy meadow* of the inhabitaUsI tabl
lands. No. 292 tin from th« p&sture gn>ands of
Uuifo. All the tpedes, however, seem to be Utniicd by
the centml sotic of shrubs, (!,!,<00 feet). beyond1 the«»
where ihc region of gn»»*es, or •* pajonal" romomcci, they
arc mrrceded by (*Mtoa amantkojn*, (No. 119), « pUat re-
markable for the »tstructure of its leavc», resembling in ah*;e
those of the con sion onion, but divided into distinct trans-
ver*c cv\U. It inh«tiitx the rocky soil of Pichinchn, wbera
vege tftioa u othrrrvue Mmfity. I h»ve not lw*n »n th< spot
cited by Hutiibihlt, where it t* niti to gram at the niotletate
•kYBtkm of !,200 tobe* (tide %n. l'/ v. 3, p. 101);
w IK-roam I h»T« itiwtabh' four1 it U-beyond the limit of culti-
vatioi). Between nyrno »mi 14,000 fert oi elers' lion we
hirr *Frajom arlioid***, adliaing to the iocks in large
patchca of * bright frecn, rettabMnt, in the frm m
aiTftnganent of it* leavea, tome of our alpine *Sa nfrmgti*.
Near thr numnut of Pichincha we meet with an *Api*m>* (No.
120). t melhug citfcctly like wlery. knottier •p«d«a, hardly
dntinct, U found on U»c Cotopaii. There ire tpecsinens of
both in ihe coUectio:.

The moit inifortut plant belonging to tin* tribe >s the
" *ArceodU* • or • *Tthmirit*^ (a apeeia* of *Apimm*) cultimte*!
for the wo of the table. The rooU are about the ihicknrw
of a carrot, and whm boiled are not al«ll unpalatable.

EtICftJR AM> VACCINIE.

I hnc mentioned ^laewhrrr, Uiat the superior limit of the
Cerr&a la mecedad hj* a aottt of thrubi and small tree*,
with shitting eoriafleooi lemTes, many of which rruwent the
Ra allied Orders of *tCricr*+ a<4t| I omaMar. The first of Utee*
allfsoet wholly comprehended in the aingte genus, ffissi-
irritf, none of which, ho«eTer, vegeUtO bvlow the lerei of
9tm<v nor transoend that of 13,000 lect* N<ilber do they,
lik« thi North American *An+vmte* e». grow in peal bogs of
Boraaae; but, on tbr contrary, thy »re all native* of a dry
soil, and! some of them even penetrate the ovrieaa of rooks.

Some plants were remarkably well suited for the cultivation of the hills; nor did any where collect to form a Bawbiage of them. In the Primero of Siraguro, but in the Pnmiwe of Lo t n. i l nt an tliu inuwnting if Kit, tin- null vf «hid t »• a «Urk femi£tno«* clay, *thwx* I found the very curious and rare *GwUJteria tam-gern*, ftuocUiod with some of the dbofoesL pfodurtkiM of I the vegetable kingdom, which no garden can }fodw. I allude to the psrUcuUrlly to «IGJI^ elqptnt ihrabby *Brfmr%+% jiro** fusely •iivtrilmtrtt' itvrt the rfat Ubtft I*f«i, and c!lffu^tti% far and Tide, a glow of tW riche*t porpk; bitcfn single d wttJi oopt^t of *Thit**d'w* and l'tfc^flwiw, on whii'li l»an-» the *Eccremocarpus longiflorus* (No. !***;•, ku>fvirt«il by tta long letictrils. I *lid nut ohtcm any (.V*/#««#, which I suppose to bl owihf to the taller*!*- dcVBtion nftthn (mrama, acsrevfy 10,000 feet above the coast.

The *IXtUutiLt vxvur* pmtti|»*!j* *w tlw forest-crowned oounUin ridgw that Dank *tfm* wcrtfm A «1M» from 7,500 to 10,000 feet above the sea. The *Thar** i* out tperic«p p*r-ftattlariy §««» dkttsfMnlMHI by it* lute t» hy tabuJ*r flowers, of the purr«t wlmr, Upt with crimson. *ildb* *Andia acuminata* (No. 166), gr«w* on ih«- uUe UTMJ of Uuito.

The list of shrubs, which will ten* to Ulutt'raie thr Him ill feature* flf ihf vwtatkm of tlw Aitdea, inimnltatry abtirr the limit of UM rufiirnUd lamlt. The nulrnic hi, on the ftkle facing ttw UitcraMAita inhnUted nIky, presents a zone of shrubs in nery rc*|H-ct similar.

<i>Hypericum laricifolium</i>	No. 123	<i>Rhexia</i>	No.
<i>Barnadesia spinosa</i>	205	<i>Melastoma</i>	309
		<i>Berberis</i>	181
<i>Labelia</i>		_____	182
<i>Pachia triphylla</i>	31	<i>Buddleia</i>	23
<i>Tillandsia acuminata</i>	166	_____	24
<i>Escallonia myrtilloides</i>		<i>Baccharis odorata</i>	244
<i>Ostrya myrtilloides</i>	154	_____	210
<i>Mespilus</i>	153	<i>Composita</i>	236
<i>Cyathoxylum ilicifolium</i>	176	<i>Ribes</i>	138
<i>Eupatorium glutinosum</i>	216	<i>Pyracantha</i>	

Valeriana	133	Lernanthus	163
Gaithheria	161	Vaccinium	165
———tomentosa	162	Rubus glabratus	211
Lernanthus			

A few of these ligneous plants, such as *Hypericum loricifolium*, *Baccharis* «far«fa, and |h* Cih^ **tut*** nr'.ied (No. t36), wcmduhigfeu 1V*X) feet, into **nmtfkjd with * Un^** hanl. winr-lnm! ^n**, **uttkfc** very **w*m nonopott*** the wlm! **foe**, t.r (IK «rvduMon of every ntlm- vegetable, excepting, perhaps, *Valeriana rigida*, *Svertia umbellata*, *Vernonia subigena*, and the common wild thyme of the **country**, (^ n. 147), *Thymus subigenus*. The practice of setting fire to the "paramos," as they are called, is perhaps one reason why no shrubs are found on this region. On the eastern C4M2« ct the Andes, the domain of the grassy plants **U Tt** y extm«TT, and ftwnh of' tmttk MY rr»rr*f |t an **tier*** ion of from 13,000 to 15,000 feet.

The tramwn* nilj* of Aaoay. «w wfcid» w tr^rtd tb» main road to C« **rt*%, i* s *ir*>Ut«- tmd tittmry »*n?** «f cowtlrr, ihittwif vitJi tua btf^olewvd pMt* vttrtg «bast in the bfiww • not % **tttqpt** ltwMrthHi n p ^ railw l«n*ajh- out a bog dft/f jwmfy. TV •MIhii. too* u subjeet to sudden vicissitudes; **front** bnght mtfi line to su ililm 6^; and, not unfrequently, shows n of hail or sleet, accompanied by violent thunderstorms.

At |*ff 100—15,500 feet we enter the region of the Alpine properly *o called; comprising the *Gentiane*, the *Calcitria*, the *Valeriana*, **Uv** *Draba*, fa. Thrfi shrubs |irt*uiuai to this region have generally a twisted knotty stem, producing a tuft of leaves and flowers at the extremity of each branch. Of this description are *Aster rupestris* (No. 233), and *Aster*, (No. 160). *Chusquea insignis*, a compound shrub, is universally near the summit of the Andes, has 4 remarkably stiff **knfvi** |m*m. A few *Caryophyllae*, (*Cerastium* and *Arenaria*), *Leguminosae*, (*Lupinus* and *Astragalus*), and *Geraniaceae*, (*Geranium*), make up the rest of the vegetation of these lofty regions.

On aU the anowy mountain* the genera arc essentially the same. The *|wwi, howev<r_t are tome what riiTcntned. On* mount ain. for lu.ittiicti, |inxlucr% a peculiar lpecie* of Gew-laawj; another * *Draba* : while a third plant U common to two diitmct «no*y suramiU. Hut what appears **ilt more remarkable i», Uui- certain Fci na, whose light powdery seeds arc; M> mtily tt«M»^ort*d by tfa* viwU* should be restricted to certMii Lfff liffTf

Tb« ^awMMAaw M ftrand In 1 he greatest abandanoë on tb* grassy region of OayatnUc, Condofvito, and the mountain* of Cuenca; bat I betiere it might be Bought fur in rain OB Chimbotazo, Gotoftaii, anf Pichinca>a, *Grivkr*u\$* «»»;*/* x, *Cryptogramma nitrofracta* (No. 59), *Hymmgrimmti fluUH*i9* (No. 6 i), am! *GymMiogmmm* fkmfatt* all tery abundant on the movntatni of Cacna, do not at all occur on tboaw of Rioba itnba and Uoita, thr rid|v of Atony forming ihr Vine of separation.

On all Iho * nrvwlo*/ ihe line ni perpetual congelation may b* pbrad M*ly ut «aw tU itne panlkl of altitude : a the following table, founded on barometrical me aMirvmenta> will luArirutly tfemon strate; the c re sults v vryinjs, howeter, with the season of the year the limit being gCAerally higher thuriif- the time of thr vontal rquimii,

Cotopaxi (Dec.)	15,646 feet.
Chimborac, [Mari h)	16,000
Condorasto (Oct.)	15,838
Pichincha, summit of	15,676
(Very frreqnUy with>ut *ttt>w).	
Cayambe, (June)	11.-M?
Condorasto (Jan O	15,600

The western side Of Pichincha, fronting the Pacific, is frequently obscured by denae fca^ sweeping across the face of the |«T«IDQV occasioned by aavtnduif arnal ctiirri"», charged with moisture, h tcermiiigiliif with ih* oooi ntoontain ah nosphere; w titlr that of ihr taliW land ui Uuito, un)ea when disturbed by the trail*ient effect a f * iluii'dfrmtonn. b f>-

markedly diy uul trmniparcftt* Th» nttv #* one reason why no trees are found OA thi |ik in of v tuilu. excepting such as have been planted round the "haciendas." At Pichàn, 12,986 feet, wkw-fr tJw western descent commences, we have, in<t#<d of thrubi, Urf dirtmt trmm clocMm the precipi» to lbs h4%ht of n**fi 14,000 feet, associated with fe (fw Alpine ff^mut, m Lptkmi* (W^ 115), Cerastium (No. (108), • (tvpmtic D M t (\» . 7?)» wit » tttftfif* /sam, with ft flo*cr of tli* fnlo«r and tkm of Mi orange. From this point, oVnm Lu tW k?t«l «f fbtmi HOUO feet, fw forests frequently h oak info dinsp* or j^l rh* with vacant spaces of soft fTtrn putuff, very much resembling English park scenery.

Nothing can exceed the richness and variety of the Flora ofthi* rrpcm. The gorges, or wooded defiles, are resplendent with *Fuchsia*, *Thibaudia*, and *Begonia*, entwined with *Taxonia* ttttu *Alstromerria*; nor can I conceive any thing finer than the curious genus *Loranthus*, vegetating on the large forest trc«₁ and displaying aloft a profusion of splendid flowers, in particular, produces a large dwrtcr of pchcbtul flowers, each measuring about ten inches tti length, and resembling the finest coral. From their peculiar mode of growth, none of these shrubs have been hitherto introduced in a living state, and consequently no idea can be formed of their extreme beauty from the mere rtupftkw of a dried specimen.

As (lid tltf multitude of fine flowers that embellish these tropical forests, those of the *Orethidee* deserve particular notice. Perhaps no class of plants displays so much diversity in the construction of the corolla, while the whole group is at once distinguished, as constituting an extremely natural assemblage. The resemblance which some of the flowers bear to certain animals has not escaped the observation of these people, little inclined as they are to investigate the natural prod iwtimtt of their magnificent country. The fine genus *Angulou*, a native of the province ol Loxa, produces a flower which, from m mn« fancied resemblance to a bull's head, has

received **llk* ntmt at** « el Tocito," f >* «*ifa« *pardiquim* is a native of Uir *JIMHC fur«»u of Cmmc* *nd Lova.

11K? mil* fern of Saracucho, virgin* on the paramo, or*r which i« fiw*ti tW main road to N-trait}*], prewnta a greater nutaWf mf th* mom minute wpm&m than »»y other locality with vtah l*m acquainted. Ut- hire « description of thr.*e *intm UME* «hk p^ of Professor Lindley j witi though itttptofW'1 for the advancement of botanical science, I doubt much * farther tfety will ho em ton in « tiring »Utr. The genus *Stc/i**. of M hn h tltre U a vfi>t HUUIHr of s IWW, b less affected by cold thflii the gencnbfy *il ||IBIII WiMiging to this trie i *orrir of them TCfrlatin% iMI lh« perpendicular cliffs of Pidiinrha, M liiyh u **121*00** fret. I h\ the western «d« of tin* AmK'« iitt y »ci>>mjwiir. the forest .rpea to a more considerable elevation.

Two zones seem particularly well suited for liic production of *Orchidee*. **Tb* 6m. ftod qHM« cttraiifc.** in Uwt j just described, from **ICMMO** to '•M** fen. TW trthrr i% OK iur«4 land sk mm^ the AMMI MM! < m f l H I |»w«ni» to tw*i y 1,000 frrt. U tht dUuruU cwuUy tif Cfuanqutl tlrM Mm ituuiy *fum pbiita* h l p ^ i ^ lo tki» finally.

Krom lh* d m t m t« 6,000 tr«t (Kmv: rds to within « frir h H— of ibc rout, the namtfr b » v%kt unl>n»k«i forest, forming overhead a dense leafy canopy, through which a transient sunbeam scarcely ever penetrates. The soil, perpetually deluged with rain, is strewed with leaves and timber in a state of decay, exhaling a peculiar vegetable odour, and, as in Choco, ;:ifat*4 V venomous reptiles. Rare and beautiful *Cryptogams* (*Trichomanes* and *Hymenophyllum*, Mosses, and *Jaspermannia*) clothe with a mantle of lively green the trunks of these gigantic trees, forming a strange contrast with the naked soil underneath. There is, in fact, no space for v the growth of herbaceous plants. The excessive moisture, with a perpetual djurnal twilight, are circumstances perhaps opposed to their development. They would be suffocated by the luxuriant vegetation of the forest. A few plants only of *Vijao*, (*Heliconia Bijao*) spring from the

humid surface, and to the benighted traveller are of the most essential service, as forming a useful material to cover his temporary "rancho," the construction of which would be otherwise a matter of difficulty.

Nothing can be more impressive than the silence that reigns throughout these vast primeval forests. I have, on several occasions, traversed a space of thirty miles, in four successive days, without meeting with a single animated being—not even a bird. The traveller's progress is indeed remarkably slow; not so much owing to the miry state of the ground, as to the vast number of fallen trees he is compelled to climb over. At the same time he must be careful not to lose the path, the slightest deviation from which might be attended with serious consequences, in a country where it is hardly possible to procure a glimpse of the sun or stars. At night, he is frequently startled by the crash of falling trees, which may, perhaps, have existed for centuries, but are finally prostrated by the hand of time.

The coast of the Pacific can be reached by a path traced over the northern flank of Pichincha, impassable for mules, excepting the *Camino Real*, which may be performed *on foot* in *twelve* *hours* *by* *the* *way* *of* *the* *ham* *of* *the* *UwM* *ID.* *The* *lbUovtaf* *pUIK»fi«*, *IHM* *rndir* *t* *thm* *math* *will* *show* *the* *riri«fi4»t*, *d* *«U* *lag* *-l* *r»wi* *«ii»«* *U* *<* approximate distance expressed in miles.

	K^.	Miles.
Pichin	17,986	.
La Sierra	8,909	20
Saraloma	8,154	9
Patacocha	5,111	9
Mindo	MM	3
Bolanigas	3,020	7
Cachaponga	2,500	9
Palagrande	1,208	7
Canique	604	3

The rest of the *jmwwy* *b* performed by water. At Canique

we embark on the Rio Etmentdii in * light eutoc, formed of a single trunk, wto* glidr rapidly ilown (he a4ream> «o shallow for the list few miW*, u varrcU- to float tb« tiny craft* The depth of water U, bowmr, won imraud by tbt influx o(levm) tributary brand**, and with wcandj wiy pro\w\mnt; effort W« tffich th« mochl oi thr rivrr in ltt* thsn a Magic (kj^Hi dutknetf of About tivtf win, Th« ooont of the itriii •• invrnably dowiwvrd, and under the mott favourable circumstances it requires ten days to accomplish thr Mernt- lu WiA* art? rK>hr<d iritlt fnr«at lrct*_t jiLfikm- ally rmricd with jcv«nnafi« **i luxuriant truittc* %T**A* From the rapid itY of the fvyage 1 tu\ not vnjor the ofporlumty of n«su ning this extremely fertile country.

{to be etmiinttit.)

Character 'f #* Wwr >«P *^-rif» *V Open i PR* / ^ ^ ^'r.

Gar Jm*r'* fir* Urge* Mamtdm Ctlkcti—. H, Jonff

Ph. D., F.R.S., &c.

Dear Sir WiUknv-Dr. LMby U* jmt nrtunieil my Organ M. Orchid rie,whk*> he Lindly undertook to drter* mine *ljf th« enumeration of mjr rol]*ctiwn; but, nut having leisure at present to co rtfenn it, 1 «cod you for pu!4io»iipit the characters of fuur new »|j*riri, vliich J nml he ha* established. To thew I \$M ihc dui inactive Clur>cter of ft new Cattleys from the interior*

GEORGE GARDNER.

Hammermith, Sept. 30, 1843.

EVRELYNA BRASILIENSIS, Lindl. MSS.

Caulis bvs ad Bpcevov foli. UK foliis ovalibus acuminatis, capitulis
ibus.

HAB.—On sides of streams,

n. 642.

This is possibly the *Bletia capitata* of Brown. *Lindl.*

ONCIDIUM GARDNERI, Lindl. MSS.

Floribus paniculatis, sepalis oblongis obtusis lateralibus semi-connatis petalis duplo majoribus unguiculatis subrotundis undulatis, labello transverso emarginato basi auriculato, cristæ tuberculis duobus a fronte maximis intermedio minore duobus a latere linearibus binis alteris basilaribus circularibus verrucisque quibusdam in medio, columnæ alis natis rotundatis.

HAB.—On trees in forests. n. 642.

This fine species, allied to *Forbesii*, is distinctly so by the **I mnuti 1 >> tW ptooliar iwcm and M*** berculation of the wings of the column. The leaves and pseudo-bulbs are unknown. *Lindl.*

MICROSTYLES PUBESCENS, Lindl. MSS.

CAI IW <JijiliyJU>, fubu ovato-oblongis scapo nudo sequilibus, floribus dense corymbosis, labello subrotundo pubescente, petalis setaceis.

HAM.—On Uw watrt *I*»» 04 trees, in dense forests by the sides

IKMXAMIA SARTOR, Lindl. MSS.

Folia oblonga canaliculata acuta, racemo multifloro, bracteis foliaceis ovario brevioribus, petalis bipartitis, laciniâ dorsali lineari rectâ anteriori setacea deflexâ longiore, LUIU triflrti laciniâ setaceis intermediâ brevior, calcare pendub clavato-compresso ovario multo longiore, sepalis lateralibus reflexis.

II. n.—In marshes. n. 676.

N. macroceras, but witi a longer spur, a narrower and longer fore-arm of the petals, and longer and narrower stigmatic processes. *Lindl.*

CA rruITA W* L K m,, NA, Gard.

Folia oblongo-ellipticis coriaceis marginatis obtusis micro-

statis caule cylindrico longioribus, atpfti oblongo-lanceo-
latis acutiusculis calloso-apiculatis i fx-tali* ovato-lanceo-
latis anitit (lupin litiodlw*, Ub«lli trilobo cictilUti lobia
lateralibus apu* raid* tt oMujur irnmntta ha*i rotundatis,
intermedio lair rutuinUto nrntymato edenticuJato plano
b*ii fcnia cteratla rtijj r is.

Ca Ulvya WaJkcriana, *Ctrrd**. *Hrrh*, *FT*, /*W**. ». *S9fM*.

HAB.—On the »t«i of * twe ovrrhanjring a amall »tream
whoh falU into tK« Kto 8bn FrancMX», beyond the Dia-
mond district, final.

The Aowtrv of tiiU rery tine tp««ic« moMttf* about four
inches in (Jauntier. It is no afft nelainl to <*, *superba*,
(Schomb. iff tindl. Hert, Un didl. t. 21) fait it rr*!ily dis-
tingu Lalml by iu irnirli thortrr p»ndo-buiU_t and •mail**
leivra# by the Urgtr and more MCunJ uiwKlt* lob* o/ tN*»
libciltim, but n*rti(ulariy by tu> oVilquely tmncalrd lateral
l*be*, which enve ^>fm only the U*rr half of 'he broadly
wif& eolmuip and act tlw vhofo <f it, a* in *C. superba*.

The ipeeiAe namn will atrre tv eouu4«monl» Uie services
of Mr. E. I*aril YVaiLcTi irbo •rroniittriHKI OK* HJ* ati assistant
during Ux last ttro yemn of my travvKi in Brail, ami by
whose activi •j un] iutclUftnoe 1 **i «n*b1«I to make many
addi(MTO» to »y COJlection*• whkh mifclit otberwiae 4i»vc
escaped my oobce_t of which the pre«fnt pknt i* an example.

*Corrections and HrmnrU upon DRUMMOND'S First (Arctic
Mosses, by
BRUCH and SCHIMPER.*

These corrections, Ac-, to the fin* collection (if Drum-
mtprd^{1*} M.rnrt rin tf **TUU**. 4to.) **wrrc fomrdavl** Jto me by
Schimper a **anr w*ck» bark**, •• **CW** nwuU of his «ui Bruch's
examination collection of Drummond's Mosses, with
the permiwim to send them to you for **rtim**rtion in the "Jour-
na!" if I thou^hl it advisable; **atitl M** it will serve as a
"Concordance" between English and continental (German)

nomenclature, I h*Y* no * W* that it will W acceptable to all who poataa lHumn ond's collection* I have translated in Aluunt rrery ewe UK «erma n ir*t UianUf, lo avoid making th« author* ta> in Et >*i»H what l»»ey way art have inteadad lo «y t» Q^rmvt.

ft J. SHUTTLEWORTH.

Berne, August 5, 1843.

N.B.—The nurobrm rrfirr |g the id in my possession. [H. J. XkmtOtwirkl).

10. *Phascum serratum* var. *stolon. valde remotis*, is a young Mate of l*, cmpuin, bMrii^ the first fruit: tb* c>j* sules ait lvmUTf. tt m rttmndy AwbtJal whether the •crotnpptiyirtg lHwwtwWyiwtwwi n»llf Uk*f to this species.

t ii />AMurmja rruvMM< Th# adflBkaaB natkad)l .v >: .
THE PHASCUM SERRATUM (X IN A DIFFERENT FORM), WITH THE SAME form u No. 7.

ii. (VjFiiaiifdaii pk**toid*t. i* * UfmctwrtotBiiajlf differing from IL m>cTx>ao«iini w. cmptuU ni»flabo», only in tu iIMwi^r iUMUft, sad |m tL« |i>ntfhianial kayay *buh ex-cwt'U* Wftftb lite fnut^lallu. It may, therefore, be merely a variety of Uw bat n»aoai.

13, 14, 15. *Gymnostomum Heinali* var. 1, 2, 3,—are forms which aliD ofcvf in lCw^ic

16. *tychomitrium acuminatum* u Hfr-jJ. tiwup.'—Th* laara* ar* only slightly br^kf. and more

22. *G.* differs in no character of importance the plants being smaller, and the capaaka fiiWr •hortrf th»n usual.

23. *Gymnostomum tortile*, is *Gymn. rupestre* var. *tenellum*. A patfatlv «ii>iW fani (nnrt on the walls built of "Molupe," near Berne, and on the "Nagelfluh," near Munich.

30. *Anictangium imberbe* Hook., is *Hedwigia ciliata* var. *gracilis*.

S3, 33. <plncfimum nrArwm <9 /N/*IM, ire certainly distinct species u H» »jK*inlen» are intermixed with S[d.*jracile Schwagr.

37- Sfdurhn*** hftrophyllitn, Mt ritrvim'ty interesting new ijiffiri l*he pemumir rrwMr* ilit of S I^- mt»ioides, thrlc-ve fl^mntorr, tutd cajwulr lho*c of Spl. •plisfieuin.

SO. Spt&AmiM Mermatimm, doc* not differ from S. sphaerum, >*. vi*.*

... sufficient important of (o distinguish it from S pi. itiu>>dc%ll which bat species ipjKtan under Ui»h*rcia form*, according to tgo m d, locality.

44. SpJMPkmmm FrQiu'htftitHH^ in Sy«tylium apWhnoilc« Ho m«ch. *MJ larger than ordtimry.

M = 44.

45. £pit>ckn*m FrttJi^tntmtm car, <-to*p+tum, ii K.rmondon splashnoides.

47. Tayloria splashnoides, & beautiful *Arict> «Uh narrower leaves.

48. Ememlypia streptocarpa. H Etm. proevfa* Brrul. Europ.

»7. Grimmia atrata, ffurnnrA. wr. Miaor, » (I. uicolor Hook.

OD. frVjiiwin nfrtnt*, nmrh alHwl to O. letioophwa, l»H • w«H flivtuix

KL (lrit*m* Htmbrt, it I^ychomitnuni patii lum, Bryol. E. trap, (Weuaia inrtura SthwK^r.)

64. Wc. «ni (*rbuutta, U oertajjily tlu* iime as Eremodon splashnoides.

... be only a variety of W. re nmultt "foliis latamvidr, pedicello subarcuato."

68. W ritmtitnmt, is W. Schisti Jim!

70. Wci+imkt\$&m; the specimens contain also the var. pilife

74. Wcistia macrocarpa, is a Miclichofera, but the cap- su In are top oKJ la allow th« «j*ci*» to W determined.

75. Prr+jmmm imkrimhm llrdtt. is Pt. subcapillatum H«|v.» and balcHigi lo tl* ftnm J>pt hymenium.

76. *Pterogonium imbricatum* var. *larum*, differs in no essential point from No. 75.

77. *Pterogonium filiforme* Hedw. A is the true plant, B is *Pt. repens*.

80. *Dicranum scoparium*. A is *Dicr. majus* var. *minor*, foliis brevioribus : B is *Dicr. Schraderi* var. *foliis angustioribus subrugosis*.

87. *Dicranum* ~~affinis~~ ~~affinis~~ ~~affinis~~ ~~affinis~~ ~~affinis~~.

84. *Dicranum Starkii* var. *majus*, (No. I), longirostre Schwagr.

86. *Dicranum undulatum* var., is without any doubt a peculiar and distinct species: the capsules are, however, not in a sufficiently good state to permit of any decision with certainty.

92. *Dicranum elongatum* var. *minus*, (No. II), *strictum* Schwagr.

97. *Dicranum Schreberianum*, is *D. Grevilleanum* Hook.

100. *Dicranum julaceum*, is a remarkable and beautiful species, belonging, however, to the genus *Weissia*.

102. *Dicranum Scottianum*, is *D. montanum* Hedw.

104. *Dicranum Richardsi*, is the same variety of *D. virens*, which Bridel calls *D. Oorwipbonn* Wahlenbergii.

105. *Dicranum microcarpum*, (No. III), *gracilescens*, foliis angustioribus, capsulis minoribus, and strongly resembles Funk's *D. virens* var. *compactum*.

109. *Dicranum latifolium*, is *Desmatodon latifolius* var. *A. glacialis*.

114. *Didymodon oblongifolius*, is *Desmatodon flavicans* Bryol. Europ., and the same broad-leaved form which Schwagr. has described and figured (fttppl. I. i) as *Barbula obtusifolia*. In the Alps this species is smaller.

115. *Didymodon latifolius*, is *Desmatodon cernuus* Bryol. Europ.

127. *Didymodon fragile* nov. sp., (No. IV) a *Trichostomum*; the specimens are, however, too imperfect to enable us to determine either genus or species.

132. *Trichostomum fusciculare*, is a very different plant

from the true- *Raeoroitrium fasciculate*, Brid._f and belongs perhaps to *Racom. Canadense*, Brid.

17. *Tortttia kumftM*, it *Desmatodon flavieans*, and the same form a which is distributed under No. 114, as *Didymodon oblongifolius*.

H2. *Tyrvivla tortmoaa rat. tncitmata {Bttrbule inclinata Sc Aatwyr.}*, is *H. tortuoia Tar* compact* ctsspitdba, folijs et capiuli> breviunbui*,

144. *Tyrtula wubuiaia, ii Iurbula tnurrunifulia Bry.,!* Europ.

15. *Tnrulti tubrrecta nOP. #/»*, ii *Dejpiatodon obliquus Bryol. I urop.* An extremely rare plant, for which only i wo Eurypcan localities are recorded.

150. (*Mhutruhum mffhu rar.pt/mtJtiw*, is *U. strangulatum Schwaegr.*

149, 151. *O. rthufrtrhum affime tor, capnJis eM*fii**, is mor e nearly related to *O. jiatens*: liut differs, however, from thii apeoai rcsnarkably in its smaller capsules, »hich are longri pednnooUted, and in th« nuty rad-oolound tc:th of the peristome r—it n without doubt a new spcciea, for w*_k ii we propose the name *O. Canad«ti«e*. No. 1 ill differs from 151 niily in having lunger items*

154. *O. sti iului* U.Jir. ap)cjir%* to be *O. tattigiatutn*. The capsule* arr. however, partly too old, jwrtly too imma- ture, for determination.

155. *O. pfay—i*, differs in no reijject from (). *speciosum Nees.*

157. *O. M*nfolittm.* belongs partly (and principally* th fruited spatfitaTw) to *O. Kogeri rar. folijs acutiuculis, calyp- tra subpiloaa.*

159. *Xttkcrm mtitm Fn>L_t*, is *Anomodon (Ptcngoi iium) rrpens.*

160. *Nec Ans* Hadorkuatu.* A is righdy determined* B belongs, however, to *N. aducthx (Atiomooxjn).*

162. *NarUrm .Vflbvm.* A remarkable spuniw, but the specimens are si erile.

163. *Neckera viticulosa.* The same variety which* Hedw.

has figured as *N. viticula* *minor*: it is, however, a distinct species, to which I refer as *Anomodon obtusifolius*.

164. *Immitta denticulata* is *I. JVIMA*. Swartz, — a common species in *N. irw*.

168. *HffAmttm S&mamamt* is *II_t polcWilum*.

174. *fif/mwm Imirstms*, *t* If*, *ptumtwum* var. *salebrosum*, pedicello *Krrvjciit*, cap *tninu*.

176. *I. ... umosum* Brtd.

183. *Hyprnm ifrijomm*. the *umr* form *tluit* Hedwig has described and *palehellum*.

184. *I. Hyrm* m ttiUntmm, itiX** from the *tror* *H. stellatum* in its ... being so rigidly patent, and *<Mdy in tli* miwwiuii inform** t it &ft* appears ... good species.

188. *Hypnum serpens* var. *compactum*. Without *duabt ft* Leskea.

189. *Hypnum radicale*. ... nt to be *H. riparium*, var. *trichopodium* **IWK.**

190. *Hypnum confervoides*, is *Leskea subtilis*.

192. *Hypnum illecebrum*, *1* II. |V. < II* Schwagr.

196. *Hypnum ummum*, *pratense* Koch.

199. *Hypnum robustum*, is an entirely different plant from that which Hook. and Schwagr. have figured as *H. robustum*; but the specimens are too imperfect for determination.

201. *Hypnum aduncum*, is *H. commutatum* var. *alpinum*.

203. *H. PMM fultans*, belongs to *H. aduncum* var. *tenuis*.

204. = 203.

206. *Hypnum cupressiforme* **MT< dlfVri** from *tit M* species, but the specimens are very imperfect.

207. *Hypnum cupressiforme* var., is *H. fastigiatum* Brid.

211. *Hypnum trifarium*, does not appear to be this species.

217. *Hypnum abietinum* var. *minor*, is *H. gracile* nob. — also a native of Abyssinia.

219. *H&mmm catenulatum*, is entirely distinct from the European plant.

993. *Jlypmom potftUkmm*, belongs to BridePa gene* l'y-Inimra, and is a new <j>ccies, which we call l*y-l. licierumalla.

224. *HtftpMum rrrttum* sur. *p*, differ* in no respect from *Leskea ruptncola* lledw.

232. *Fo ifitwJu amtipyrttkca** The sterile specimen belongs to *F. squamoaa*.

236. *Funarin MnAkmUrjii*, is *F. Iliucnuea*.

247. *Btyum inthodr* mr.. i«* *Meesia Aibertmn* BryoL Europ.

253. *lirtfnm pmmctatmm*. This plant resemble! certainly smeI14eared form* of *Mniutu punctatum*; it differs, however, essentially from that species in its more delicate leaves, which are not terminated by a short mucro, and which are bordered with a loose cellular margin; the male flowers are also different. We, therefore, not regard this elegant moss U a diattnrt ipecics, which may be called *Mnium pseudopunctum*,

257* *ftffum tpimonm*. Very different from *Mnium ajinosmtn*. The leaves are more deHoltS, with a less pronounced margin, which ia pale fallow* The marginal teeth of the leaves are longer, sharper, not in pairs nor sptanlar, but soft; and the pendulous capsule ia smaller. It differs also in the male flowers. We have named this species after its discoverer» *Mnium Drumnoi* di.

t59. *Bryttm mmrpinthtm,* i\ *Mnium urthorhynchuni*, var. teneJlum. canaslia obiocuns aAmaMsntis.

260. *Aywt tn*m_f k nV<* *Wahlattbetgii,asUalsofio*. ft!l.

S69. *Bry*m mmfatu* rar. The specimen marked A ia *Bry. (Pohba) acuminatum* rar. p«kbeUum: and B ia *Bry. (Oadodium) anbeum* % the tame form as occur* in Swttierland, the Tyrol, and Norwsy.

266. *Bryum Urt*n*t*m,* u Br. (Clad.) *mrhiatum*, rar. *fetti angustioribus longius aristatis*.

267. *Bryum tmrbitvtmm rar.patient*, is Mr (Clad.) *tthgii* osum.

276. *Poiftrvkmm rommtute rar, Jwnmomm*, is the oomioon Form of *P. commune*.

279. *Polytrichum pallidisetum*, is the common form of *P. formosum*.

280. *Polytrichum pallidisetum*, var., is *P. gracile* Menz.

284. *Polytrichum urnigerum*, is the var. β . CRANF.

BRUCH AND SCHIMPER.

Contributions towards a FLORA of SOUTH AMERICA.
Enumeration of Plants collected **if Miu** SCHOMBURGK,
in British Guiana.—By GEORGE ENGELMANN, Esq.

(Continued from p. 17*)

OIORBAttUb

(Determined and described by DR. LINDLEY.)

7§1. **PbvotluUl*** *emarginata*, Lindl. Gen. w V. Orch. p. 110.—**Bhtkh** Guiana, Schomburgk.

782. *Stelis ophioglossoides*, Swartz.—Lindl. C. n. et Sp. Orch. p. 12.—**Roraimi KxptHiition**, Schomburgk, n. 1025.

783. **8. mrptntlm. UmU. Bet. Reg. 1842. Vi-c. / . «***—British Guiana, Schomburgk, n. 427.

784. *Bolbophyllum quadrinectum*, Lindl. (sp. n.), folio oblongo-lanceolato acuto basi angustato, spica pedunculata rectiuscula, pedunculo 2-3-vaginato aequali, rachis tenui, bracteis ovatis floribus subaequalibus, sepalis acutissimis, petalis linearibus acuminatis verrucatis, labello oblongo marginato bilamellato, columna biseta.—Flores coriacei resupinati. Perianthium simile. Antherae callo cristatae. British Guiana, Schomburgk.

7*5. **Kpkfeatom Am, /.<W/. i. /Ail. y ^ ^ > Mat. 3.** ft tj^-**BrkWi Ghriw***, Schomburgk.

786. *E. rigidum*, Jacq.—Lindl. Gen. et Sp. Orch. p. 110.—**Bfilisb OttiiM^ iMwivyj**, n. 688.

787. *E. clavatum*, Lindl. Bot. Reg. t. 1870.—British Guiana, Schomburgk.

78i. **E. ^V^ft> £i>lfi** Bot. Reg. 1838, Misc. p. 49.—British Guiana, Schomburgk.

789. *E. viviparum*, Lindl. Bot. Reg. 1840, Misc. p. 10.—British Guiana, Schomburgk.

790. *E. vfrv*, *UmtL Gen. H fy Orth.p.* HW.—British
Gitaiit, >fr* iuw Urg*, <. 4*4*

791. *E. f. ' ** */* » » » * . ftc*rU.*—*Limdl, Cm. ti Sp. Orch. p. 1*
—I-British Guiana, *Sekomlmryk.*

792. *E. fragrans, Swartz.*—*Lindl. Gen. et Sp. Orch. p.*
—P. *Guiana, Schomburgk.*

793. *E.*
Guiana, Schomburgk, n. 426.

794. *E. Schomburgkii* *P. H. B. N. 1000* & *79*
Congkon in *Guiana, Schomburgk, n. 834.*

795. *E. Schomburgkii*, *L. v»r?*—*IJ*ET<* ttiouca WIUI*
pitit IVtklji mud x'l'mi* a b<<utfftiJ riolet colour, luWllum*
violtt, with & iwilL jrlkiw dUk.—*AtUrypon mountains,*
Schomburgk, n. 581.

796. *E. sp. E. ellij tin • flinis, Oonbtu luteis.*—*Sandy*
*savannah, Brttith Citii-r.u, JV4f l»rp>, *» 5CM*. Kptametr*
t»o iwprrfvft to drier *Guiana.*

797. *E. chloranthum, Lindl I Bet. Itr?< 1838, Misc. p. J5,*—
British GukJM, yJk\$ m\ Jm'f.*

798. *E. fr*mitirmm, IMamX j* f/Mfl, 70*TH. ft*/. 3. f. SX*—
At Suivtii't tXinM) un the I Corantyn, Schomburgk, n. 195.

799. *11 *cAyti*lkitm, UttJt. Sot. It?/, 1H*H .V**.* *p. 31.*
—*Ilrituh (iuUw*, ArAttftivyi.*

*KK>. K. Mi^mWvi, //rji**.* *Bui. Mn<f. f. 3332.*—*British*
Ouiini Si'Avmbmrj/);, ft. 429.*

800. *J. K. mkr»ithytt*m, Urndt. in ftool. Jour*. B*ti S. f. B5.*
—*I-British Guiana, Stktmbuy*.*

—*Monntniitt tA the Hofmiwfe clmu at rhr heighth of 5000*
to 6000 feet, Scha

h 31. Schomburgk & l fTimfm\ Li* <* *Sert. Orchid. t. 10.*—*On*
the Lo nrntjn, aiui on th« Bet! *Guiana, Schomburgk, n. 193.*

804. *S.* *Sert. Orchid. t. 13.*—*British*
Guiana, Schomburgk.

805. *Brassavola, sp., perhaps B. angustata, Lindl.; but the*
specim. ->» too iufwrfret tt> if termine.*—*British Guiana,*
Schomburgk, n. 428.

806. *Schomb.* — *Umdl Sert. Orchid. t. 22.*
 — On *tm** along *U**» *K*« *equilho*, north **»* *pt* *Rupanoony*,
Schomburgk, ». 4 *M*_f in «*o*»* *wftt.*

807. *Ajpani rwic y*«/«, *IM AW* H*y. t. 1907.* — British
 Guiana, *Schomburgk*, *. 4*5.

808. *Ornithocephalus ciliatus*, *Lindl.* — British Guiana,
Schomburgk.

809. *Maxillaria alba*, *Lindl. ? Gen. et. Sp. Orch. p. 143.* —
 British Guiana, *Schomburgk.*

810. *M. cburnea*, *Lindl. Sert. Orchid. t. 40. n. 2.* — On
 rocks and trees near *M<M>t* *Maravaca*, *Schomburgk.*

811. *Promenata graminea*, *Lindl. Bot. Reg. 1843, Misc. p.*
13. — On trees, *British Guiana*, *Schomburgk*, n. 503.

812. *Urostleya scutiflora*, *Batem. — Lindl. Bot. Reg. sub t.*
1991. — *British Guiana*, *Schomburgk.*

813. *violacea*, *Lindl. Sert. Orchid. t. 26.* — On the
East, *Schomburgk.*

814. *Catctftnm poriferum*, *Lindl. Bot. Reg. 1838, Misc. p.*
89. — *British Uikiut* *Schomburgk.*

815. *C. UmtifiAmm, LtmdL \$trt. Orchid. t. 31.* — On *Eta*
Palm trees, *Schomburgk.*

816. *Houletia vi* *Hmtm. U*tL OW. A**, 1841. *I. C* —
Acaray Mountains, *Schomburgk.*

817. *Galeandra Dromiana*, *Schomb. in Lindl. Sert. Orchid.*
t. 37. — *Barcellos on the Rio Negro*, *Schomburgk.*

818. *G. juncea*, *Lindl. Sert. Orchid. sub t. 37.* — *Savan-*
nals, near the rt%tf BtfIMC, *Schomburgk*, ». 269.

819. *Zygopetalum rostratum*, *Hook. — Lindl. Gen. et Sp.*
Orch. p. 188. — On trees, *British Guiana*, *Schomburgk*, n. 502.

820. *Z. Mackaii*, *Hook? — Lindl. Gen. et Sp. Orch. p. 187.*
 — *Roraima*, *Schomburgk.*

821. *Cyrtopodium Andersonii*, *Br. Lindl. Gen. et Sp.*
Orch. p. 188. — On *Schomburgk*.

IB. C, *cristatum*, *Lindl. JIM. Ay. 1841 sub t. 8.* — On
 rocks and trees, *British Guiana* *Schomburgk*; n. 628.

822. *C. parviflorum*, *Lindl. (sp. n.), sepalis petalisque un-*
dulatis, labelli lobis lateralibus falcatis obtusis intermediis
euncato dilatato basi tuberculato aequalibus. — *Flores C.*

*trittmi** similes, ted dujikt minores, a *Ubdhttn tn* *diversum*.—On antf, Urimli (fohuit, *Mikwmkmyk*, n. »\7.

824. *Masdevallia Guyanensis*, Lindl. lanceolato coriaceo oUoleic trifwrvio tpice obtuae ttutariatot scapo UrfTiorec uniHiir,, Hrtctn Ut* ubttia pediedlo breviori seu pedunculus •l-pottiotrMu—Ronfatt expedition, .SrAgm^vryi, «. JOM.

§9\$* *Rodrignona* «mt«£B, Z/naA. r/ K*+tK.~LmtiL *Gen. et Sp. Orrk*, p. !1M.—Rritiftli (juittiu, *Schombtrffk*, m. 450.

826. *Oncidium* rUHfulktm, tttmh, ft Kmntk, — *Lindl. Gen. et Sp. Orch.* j». 20*. -Britwh rtuiwi*, ScAowtMrryi.

827, *Kenwridrtin* W-r^nu, ijtdH.—Lmdi, *Gtm. et jSp. Orch.* p. 20'7.—British (Juinu, *SfKemttrffk*.

828. *IHchott* t/ru*tt>iaitir*, *SJmdL* (int. rt ,>• f/rrA. /k. 909. —On tf*M, Urihth (imtti., *Schomburgk*, n. 508.

R9& *Angraecum Fasciola*, Lindl. *Bot. Reg.* 1840, sub t. 68.—British Guiana, *Schomburgk*.

830. *Habenaria seticauda*, Lindl. (sp. n.), foliis 5-6 oblongo-lanceolatis, racemo denso multifloro, bracteis foliaceis ovario subaequalibus, sepalis obtusis lateralibus majoribus reflexis, petalis oblongis unceatis indivisis, labello lineari pendulo apice incurvo, calcare longissimo recto pendulo acuminato.—*H. obtusa* affinis, 2-3-pedalis, spica foliosa et calcare setaceo acuminato longissimo bene distinguenda.—Pirara, *Schomburgk*.

831. *H. Schomburgkii*, Lindl. (sp. n.), foliis 4-5 lineari-lanceolatis erectis, racemo laxo paucifloro, bracteis acuminatis ovario brevioribus, petalis bipartitis liberis, laciniis anterioribus erectis falcatis galea obtusa longioribus, labelli tripartiti laciniis lateralibus setaceis intermedia lineari obtusa longioribus, calcare recto pendulo ovarii longitudine.—*H. gracili* proxima. Flores duplo majores.—In swamps on the Rio Branco, *Schomburgk*, n. 814.

832. *Bouatea pauciflora*, Lindl. *Gen. et Sp. Orch.* p. 329. —Dry savannahs, *Hrifi«h* (tuu?i«. *Schomburgk*, n. 757.

833. *B. macilenta*, Lindl. (sp. n.), foliis lanceolatis ovato-patulo, vagina foliacea adjecta, caule gracili bivaginato, racemo laxo trifloro, bracteis foliaceis cucullatis ovario longepe-

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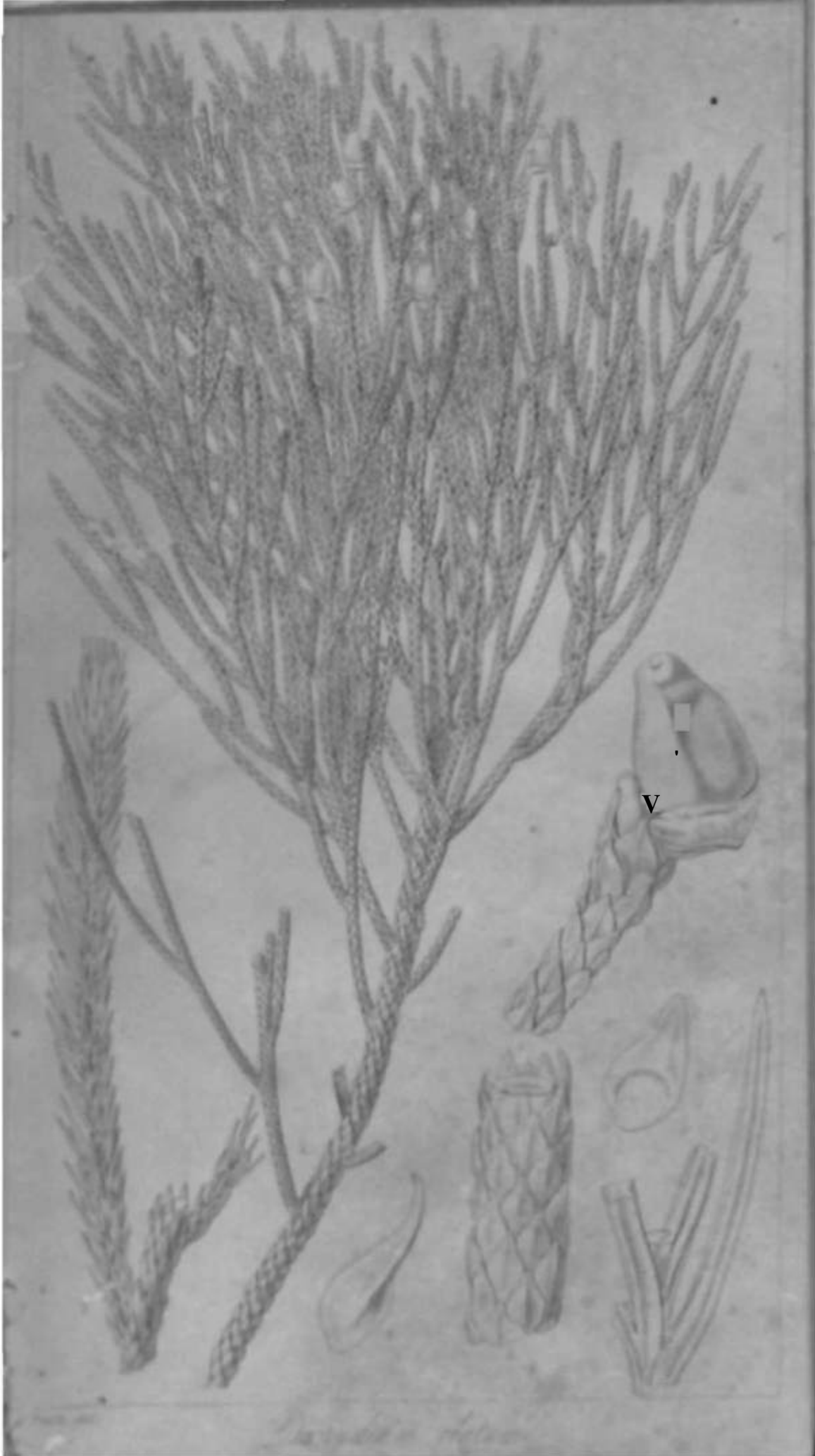
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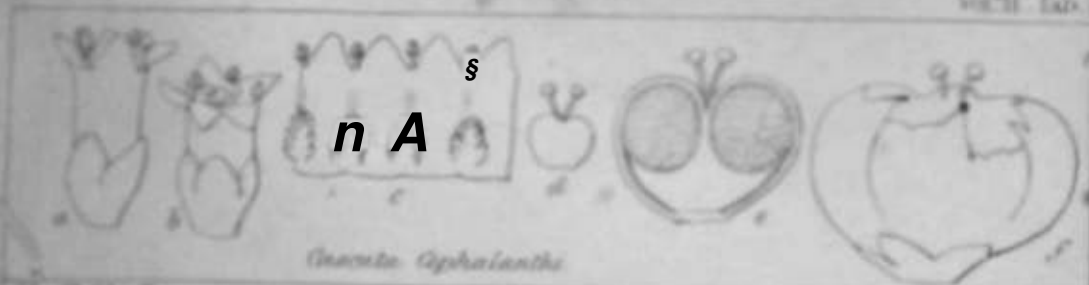
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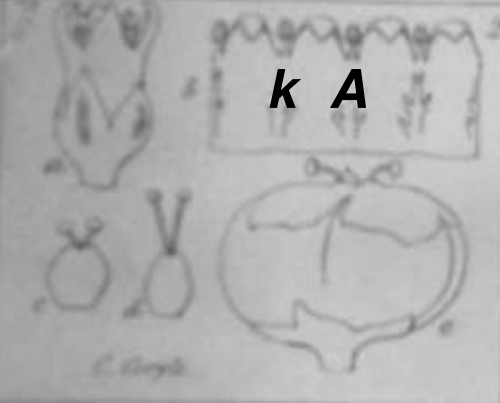
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Gnaphalium Ophalanthi



C. Gayi



C. vulgare



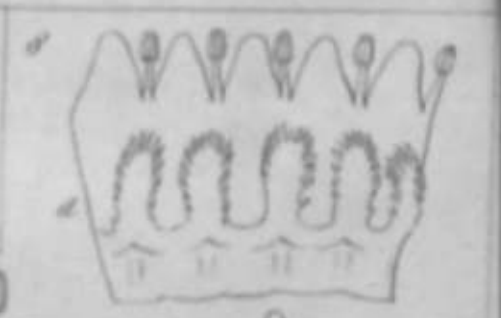
C. Scavro



C. pentagona



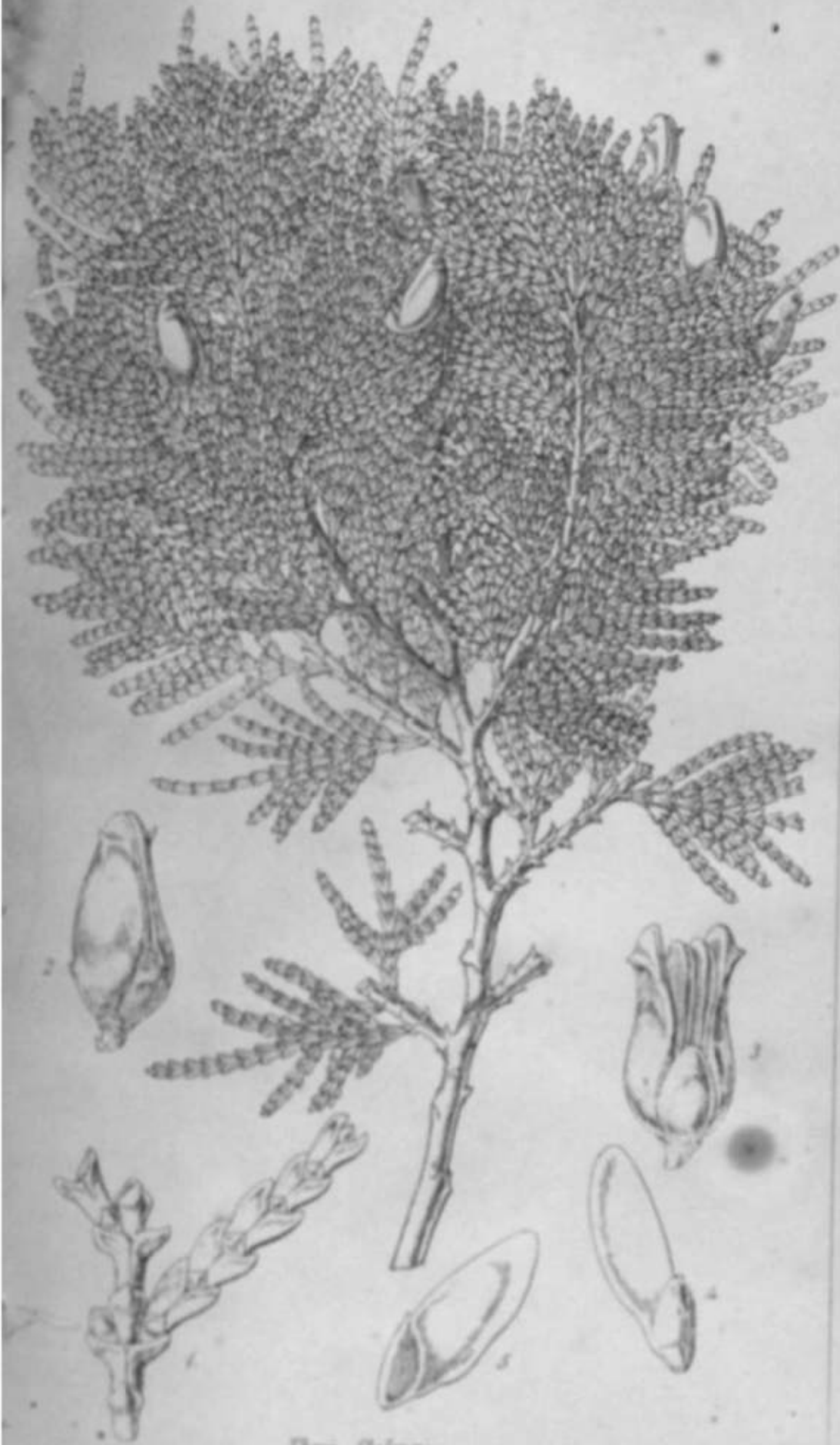
C. verrucosa



C. biflorum

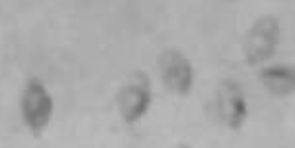


Lepidantha Compositorum



Thuja Occidentalis

Botanic Garden, J. Millington, D. Deane







L. Sabaria Anomala N. J. Rolin





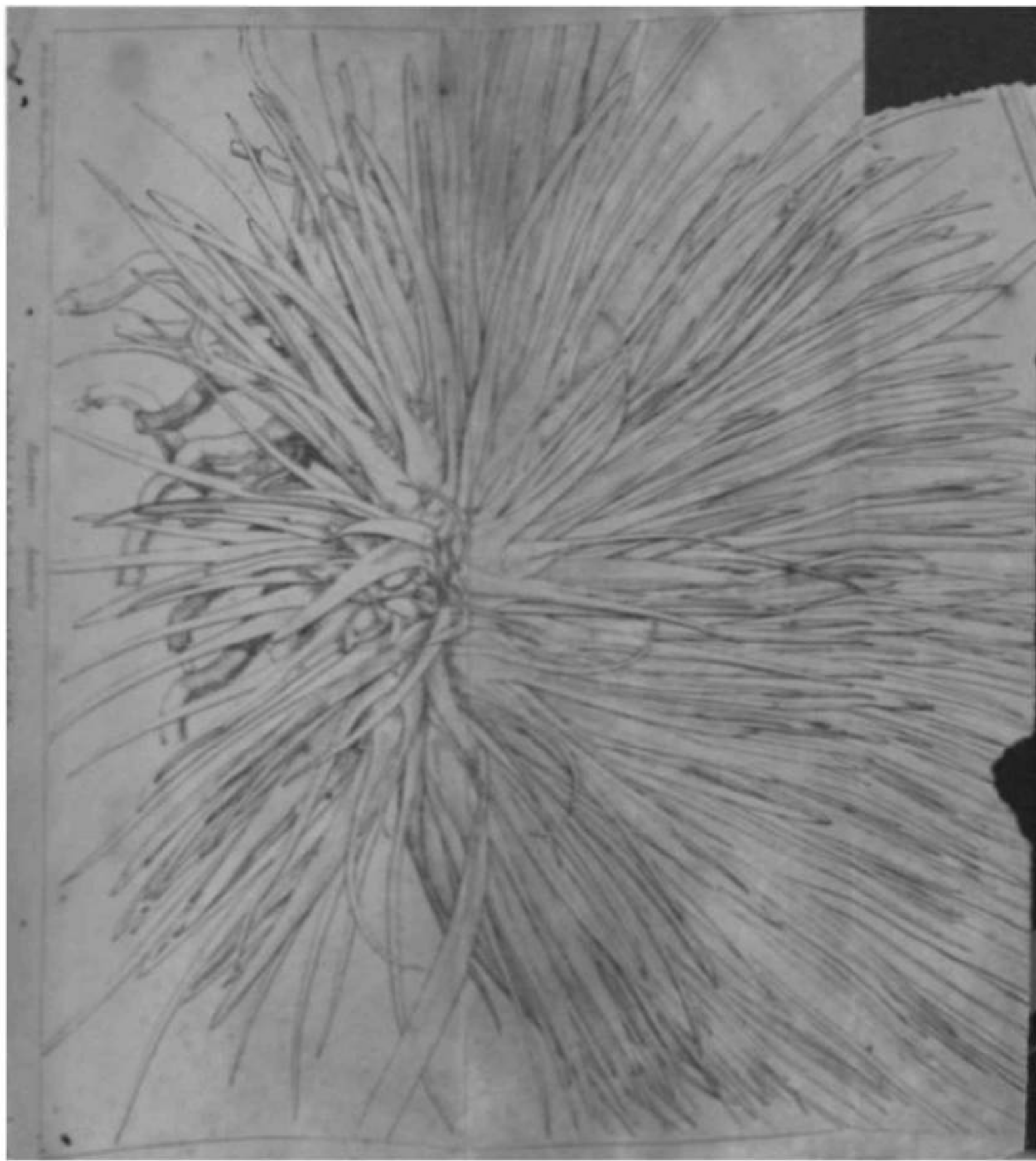
Penaeus carolinensis



1

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2







Collegio, Nippon Filices

Castanea chryseophylla

London Published by R. Baillière, Esq. 17, Ave. 1843





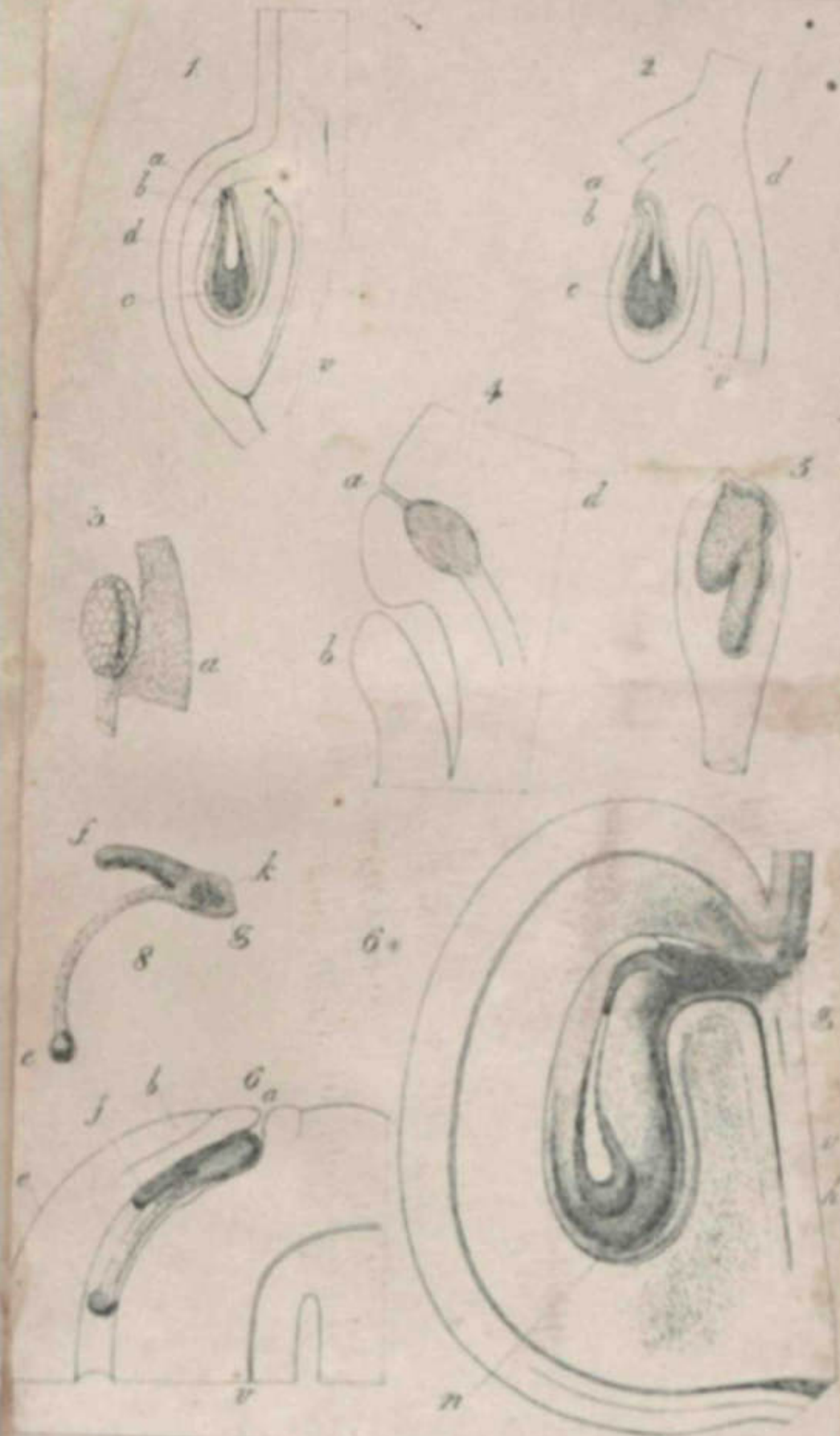


Profr. del.

Senecioia cylindrocarpa.

Illustrata Philippo Blumeo.

London, Publicata a E. Doolittle, Decem. 20. 1843.



W. P. Fish, del.

Tropaeolum majus
Development of Embryo &c.



Trigonotoma marginata
 Description of Embryo &c.
 London, Published by J. Wallis, Surgeon Street 1753.



Batarrua phalloidea Pers.



Mycenastrum coccinum Desv.



Sclerocarpus lenis Berk.



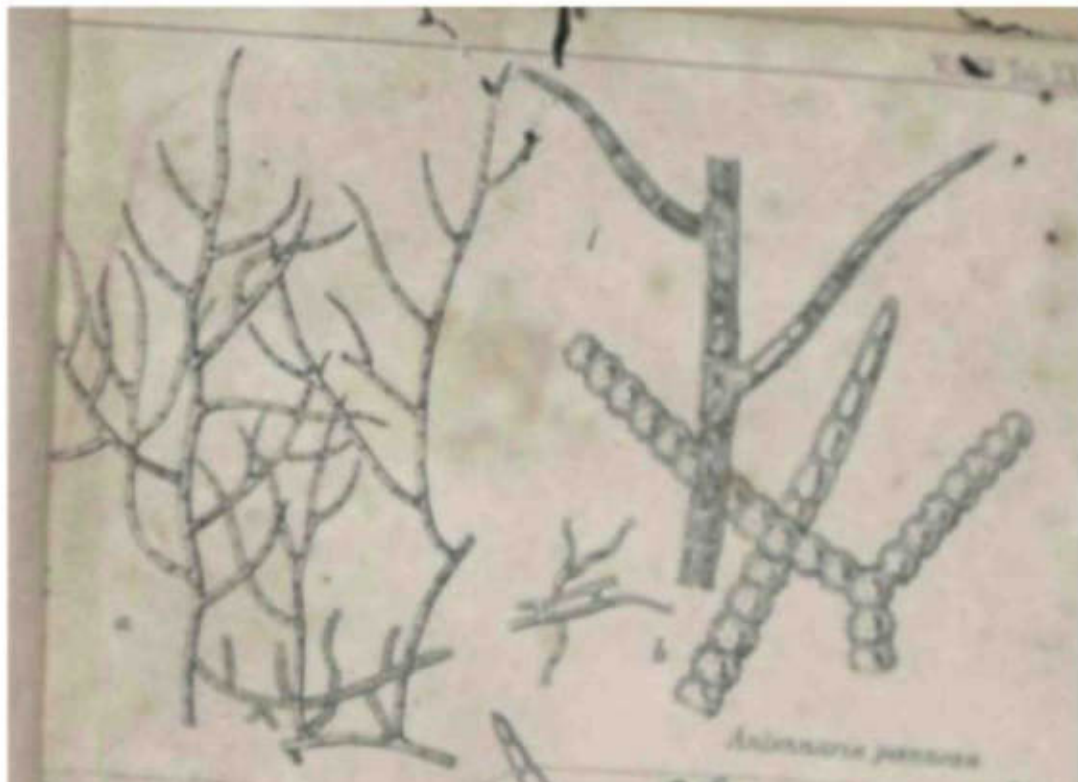
Phellorista inquilina Berk.



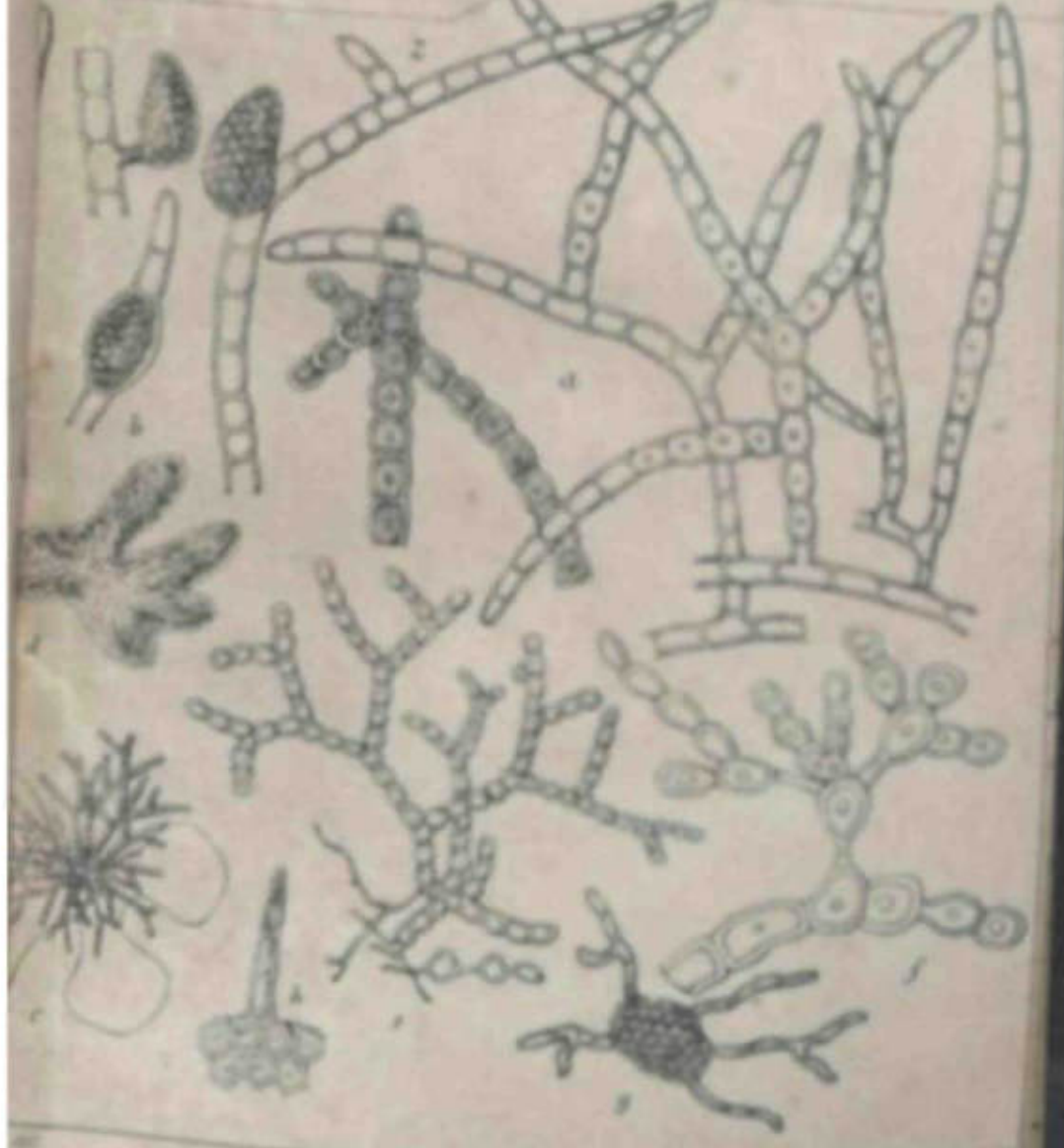
Eridium australe Berk.



Poda pulchra Berk.



Antennaria pennata



Antennaria Lehmannii

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