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Tentamen Floral nepalensis

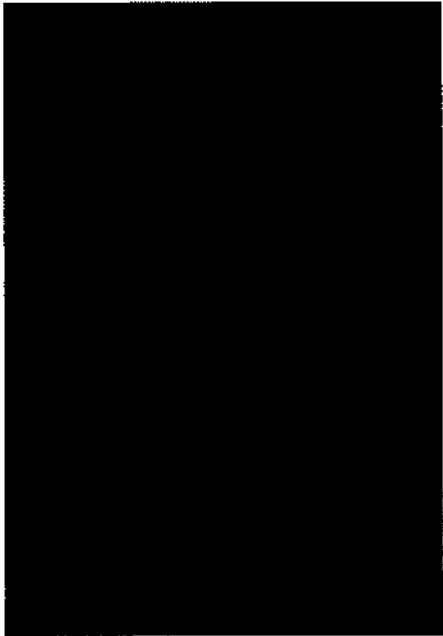
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\* CALCUTTA \*

## MAGNOLIA, MICHELIE ET KADSURFFI NAPALENSES.<

Next after the stately *Rhododendrum arborenm*, the members of the family of *Mag\* noliacea* claim the most conspicuous rank among the vegetable productions of Nipal, whether we consider the magnificence and fragrance of their flowers, the beauty of their foliage, or the general elegance of their growth. They are without exception large deciduous forest trees, yielding excellent wood for the purposes of carpentry and joinery, and not only admitting of being introduced into Bengal (three of the five growing with great luxuriance in the Honourable Company's botanic garden at Calcutta), but holding out fair prospects of standing the winter even of Europe. They blossom during the summer and ripen their fruits about the close of the rains; during winter, that is to say, from the beginning of November to the end of February, they shed their leaves in common with the majority of the trees of that Europe-like country; and in March they are agfaiifeull of buds, which soon are succeeded by those of the blossoms. These buds are of a nature which is, I believe, peculiar to this family, and unite, at once, their own proper function, of protection to the tender shoots, to that, belonging more properly to the office of stipules. They consist of two, at first fleshy, afterwards membranous scales, which are always more or less downy, cohering in the shape of a cylindric tube, whose base is inserted circularly round the branch and obliquely along a protuberance on the upper side of the petiol, which latter scarcely extends beyond this said insertion and is at first totally destitute of any leaf-like appearance. As soon as the bud has come to its full size it splits into two equal lobes, beginning from the base and ascending along that side, which is opposite to its insertions on the petiol and soon drops off in the form of two large stipules.—The flower buds are large, solitary, erect, of an oval form, mostly clothed with wool or down, lifted up on a short, stout, columnar peduncle, and in *Michelia* always axillary; they are enveloped in two entire, membranous, rounded spathes, the outer one much sooner caducous than that within, which is contracted at the base into a cylinder, closely embracing the upper part of the peduncle. When it is considered, that these noble trees are natives of a country, where the heat is never intense, and where they are exposed, during four months of the year, to a rather severe winter, sometimes even to falls of snow; that they are *deciduous*, and lastly, that they are extremely well furnished with protection for the tender leaves and blossoms; reasonable hopes may be entertained of their standing the winter even of England, equally well with many other plants from those regions, which I have already had the happiness of introducing, and which I believe, have answered every expectation.—To the practical botanist such details as these are neither uninteresting nor unimportant; I shall therefore resume them in treating of each particular species.

My two Magnoliae are entirely new, and they certainly yield to none of North America in splendour and magnificence; one of them furnishes a very useful sort of wood, called *Chaump*, which is highly prized for furniture.—Two of the Michelire have been noticed by professor De Candolle, in his invaluable *Systema Naturale*; but his descriptions are rather short and deficient, owing to their having been made from dried specimens, which were collected above twenty years ago, by my friend and pre-

\* The following account of these genera was presented to the Medical and Physical Society of Calcutta in May 1823, and it is with the consent of that highly meritorious body, that I am permitted to introduce it here in its original form, with very few additions or alterations.

decessor Dr. Hamilton; and a superficial acquaintance with the plants of this tribe is sufficient to convince any one, how very difficult it is to fix on decisive and discriminating characters for them, even under every advantage of observing them in their wild and most luxuriant state. I have little doubt, however, that the descriptions were intended for the very species, with which I have identified them. I am further corroborated in this assertion by a consideration of the *habitat*, which the learned author, on the authority of the discoverer, has assigned to the trees in question, namely at Narayoon Huttee, where my two *Magnolias* do certainly not grow. That his *Michelia Doltsopa* cannot possibly be my *Magnolia exceha* is likewise obvious from the fact, that this tree is limited to one single station in that part of Nipal, which Dr. Hamilton and myself were allowed to visit, namely the great valley and its vicinity, and considerably elevated above the latter.

I have purposely avoided referring to the venerable Rumpkuis, because there cannot be any question of his *Sampaccas* being distinct from mine, and quoting them as doubtful synonymes, would only be adding to the existing difficulties of the genus. I may, however, observe, in this place, that *Michelia parviflora* De Cand. which has been described and figured in the fine *Icônes Selectae* of the Baron De Lessert, the munificent patron of Botany in France, vol. 1. p. 22. f. 85, as the Ternate or small variety of Bonga Sjangpacca of Herbar. Amb. 2. p. 200, appears to me as not by any means belonging to the genus.

The genera *Kathura* and *Mayna* have hitherto been involved in considerable doubt. The first of these was discovered about a century ago in Japan by Engelbert Kaempfer, and has been accurately described by him in his *Amoenitates exoticæ*. Thunberg afterwards gave an account of the plant in his *Flora japonica*, with the addition of a description of the flower, omitted by his predecessor, under the Linnean name of *Uvaria japonica*\* which was retained by all succeeding writers, until Jussieu suggested the idea of establishing it as a distinct genus in the family of *Annonaceæ* (*Annal. du museum d'histoire naturelle*, 16. p. 340, which both Dunal and De Candolle have subsequently adopted. Roxburgh, who received it from Sylhet, calls it *Uvaria heterodita* in his manuscript *Flora indica*. The other genus, *Mayna*, was first described by Ffifsef Aulilet, who found it at Cayenne, but had no opportunity of seeing the female flowers or the fruit. It is on this authority alone, and aided by very scanty materials indeed, that Jussieu and De Candolle have referred *Mayna* to the family of *Magnoliacete*. That these two illustrious botanists should have ultimately failed in deciding the proper station of the above-mentioned shrubs, in the natural system, is not surprizing, when it is recollected, that their conclusions could only be founded on data, which were not calculated to afford much insight into natural affinities; on the contrary, it will be seen from the following descriptions, how closely their sagacity made them approach the mark and how impossible it would have been to proceed a single step farther, without being aided by a knowledge of the internal structure of the seed, these two genera ought, I think, to be united into one, which has a very strong affinity to *Siuamlra*: so strong, indeed, as to render it extremely doubtful if they ought to be separated from each other. In this case the last mentioned name would be far preferable to the barbarous *Kadsura* or *Mayna*, and I should accordingly have adopted it, if it were not derived from a character, which is inapplicable to the species with distinct stamina. They all belong to the family of *fenispermeæ*, connecting it with *Magnoliaceæ* and *Annonaceæ*, and perhaps constituting a new intermediate order, as has already been hinted by Professor De Candolle (*Syst. Nat.* 1. p. 544.)

Since this was written, I have been put in possession, through the kindness of my most excellent friend Dr. Abel, of all the splendid botanical works of Baron Humboldt, whose *Wintera granatensis*, *Plantæ æquinoctial.* 1. p. 205. t. 58, (*Drymis*, now gen. 5. p. 53,) bears a strong generic resemblance to our plants\* This circumstance leads me to suspect that they must be referred, together with that genus, to Mr. Brown's new

order of *Wijfferei*B, alluded to by De Candolle, loc. cit. p. 548. It will be seen, hereafter, thft Dr. Hamilton actually considered one of the *Kadsurae* as a species of *Drymis*.

It is not a little remarkable that "Nipal should produce two distinct shrubs, resembling a plant of French Guiane, another of North America and a third of Japan to such a degree, as to be difficultly separable from the former, and scarcely at all to be recognized as different from the last: and that they should serve to connect them all under the standard of one genus only.

None of the preceding plants possess to my knowledge any particular medicinal properties, nor are they admitted into the materia medica of India. The fruit of both my *Kadsur*& are eaten by the hill-people. They have all more or less of an aromatic pungency diffused in their leaves and seeds, especially in the pulpy arillus of the latter, and their flowers are in most instances delightfully fragrant. The wood of the arborescent species is very useful, and not inferior to that of our *Champa* of Hindoost'han (*Michelia Champaca*\* Linn.); that of my *Magnolia e&celsa* is, as I have already mentioned, highly valued for furniture.

MAGNOLIA INSIGNIS, Wall. TAB. 1.

Arborea, foliis oblongis acuminatis subtus glaucis, gemmis ferrugineo-tomentosis; floribus terminalibus solitariis novein-petalis; petalis tribus exterioribus calyciformibus reflexis; alabastris laevibus; strobilo ovato densé imbricato, capsulis verticalibus tetraspermis.

Noraen Newarrensse, *Scete Soah*.

Crescit praecipue in collibus propé *Sankoo* convallis Napaliae; etiam observavi ad cacumen montis *Sheopore* adque latns ejus septentrionale, altitudine sex usque ad decem Ouille pedum,—Floret Aprili, Majo; fructus inaturescunt Octobre.

Arbor vasta, ramosa, trunco recto, saspe quatuor vel quinque pedes diametro emetente, comâ densé frondosâ expans&et umbrosâ. *Kami* glabri, striati, cinerei, calloso-punctati. *Ramuli* virides, glaucescentes, crassi, cylindrici, laeves, nolati vestigiis annularibus, horizontalibus vel obliquis, a lapsis stipulis manentibus, approximatis, villosulis, demuni glabris et distantioribus. *Folia* versus summitates valde approximata, patentia, undique sparsa, oblonga, in luxuriantibus ramis magnis elong&ata et s<^> in retustioribus ad formain elliptibam tendentia, acuminata, integerrima, deorsum parum angustiora, basi acuta, coriacea, finna, uncias sex ad decem longa, plana, laevissima, atroviridia, lucida, subtus glauca et opaca, pube adpressâ baud copiosâ solubili etevanidd conspersa, costâ gracili elevet&, nervis copiosis parallelis numerosis approximatis tenuibus ad marginem anastomo-antibus, siccilate utrinque, imprimis subtus, eleganter reticulato-venosa.—*Petiqlvs* gracilis, teres, sesqui-aut bipollicaris, glaber, basi subtus parum intulescens, snprd notatus plagâ elevatd planA lineari unguem longâ extrorsum obtusd et ptundata, primum villosula, olim stipulas vel gemmam adfigente. *Stipule* (fig. 15, 16.) duse, opposite, oblongae, acutte vel acuminatae, plagae istae petiolari et lineolse annulari rameae inserlse, ramum ipsum omnino amplectentes, valde deciduae, initio connatse in gemmam oblongam, densissime cinnamomeo-tomentosam intus laevem, jtfxta latus ramum spectans demum fissam citoqne delabentem. — *JFlores* (fig. 1.) speciosissimi, fitigrantes, ex albo rosei, campanulato-patentes, terminales, solitarii, erecti, tres quatuorve pollices long], laeves, suffulti *peduncufa* laevi columnari crasso medio cicatricem orbicularem gerente, superne pallido sub albicante. *Alabastra* erecta, ovato-oblonga, obtusa, basi rotundata, bipollicaria, involuta *spathd* (fig. 8.) Jato-ovatâ subrotundatâ membranacea laevi, basi contractâ in collum breve, cylindricum, dimidise superiori pedunculi partieté adpressum, medio ejus insertâ, caducâ.—*Xldlyx* petaloideus, triphyllus, erubescens, demum fuscenscens: *sepala* oblonga, obtus^t, deorsum^ parum angu<tata, reflexa



et directé dependentia, coriacea, parallelé et viridiusculé nervosa, parum reticulata, Iri-pollicaria. *Petala* octo vel novem, valde crassa et coriacea, alba, demum flavicantia, sursum rosea, figura et magnitudine satis ab invicem discrepantia, scilicet obovata, cuneata vel oblonga, obtusa, vel acutiuscula, parallelé et graciliter vasculosa, seriebus tribus apici pedunculi, circum basin tori, alveolis majusculis inserta; interiora sensim breviora usque angustiora, una cum sepalis staminibusque subito delabentia. *Callicina fructificationis* ovato-conica, sesquiunciam longa, basi integrum fere pollicem crassa. *Torus* (fig. 2.) sub-lignosus, crassus, sanguinei coloris, columnaris, dimidif, inferiore parte punctis eleganter decussantibus a staminum insertione inscriptus; superne cum ipsis ovariorum basibus conferruiniatus.—*Stamina* (fig. 3, 4.) plurima imbricata, adpressa, tinea octo longa, interiora sensim elevatiora, apicibus oblique truncatis rhomboidibus regulariter decussantia. *Filamenta* brevissima, crassiuscula, carnosae, rufa; *anthera?* lineari-oblongae, apiculatae, utrinque loculiferae, loculis albicantibus introrsum (fig. 4.) dehiscentibus, polline albo et particulis cylindricis conflato.—*Ovaria* (fig. 5, 6.) plurima, cuneata, sub-quadrangularia, e viridi glabrescentia, minutim punctulata, glabra, arete imbricata, vertice truncata rhomboides sulco perpendiculari intermedio exsculpta; inferiora magis latitudine verticali, superiora plus longitudine extensa, fabrica fibroso-lignosa; unilocularia, (fig. 7.) loculo ad basin locato laevi lucido angusto, 4-6-spora: *ovula* grandiuscula, angulo interiori loculi per paria adfixa. *Stylus* ex angulo superiore verticis ovarii surgens, erectus, subulatus, tres lineas longus, deciduus, dorso sulco notatus, apice parum patulus. *Stigma* latus externum styli occupans, scabriusculum, constans papillis numerosis minutis.—*Capsulae* valde numerosae, dense imbricatae, verticales, magnitudine et figurae variantes, unguem digiti medii haud superantes, compressae, laeves, purpureae, dispositae in *strobilum* (fig. 9.) ovato-oblongum, quinque-pollicarem, obtusum, erectum, suffultum pedunculo lignoso columnari bipollicari nudo, vestigiis insertionis spathae partiumque floris inscripto; vertice rhomboides verticaliter juxta sulcum perpendicularem dehiscens in valvas (fig. 10.) duas plano-concavas ligneas, intus tegumento chartaceo laevissimo nitente munitas.—*Semina* (fig. 11.) tria vel quatuor, ovata, dorso convexa, hinc angulata, sibi invicem adpressa, magnitudinis pisi majoris, coccinea, laevia, angulo loculi interiori, bases valvularum connectenti, adfixa ope funiculorum brevium sericeorum niveorum, horumque elongatione fere semi-pollicari demum cavitate dependentia. *Ovula* aliquot minuta, sterilia s. abortiva, emarcida observanda sunt ad basin seu angulum interiorem loculi, inter funiculos. *Arillus* (fig. 12.) carnosus, lineam dimidiam fere crassus, ruberrimus, odore et sapore parum aromatico, ad basin seminis, axi strobili obversam, insculptus foveam umbilicali parvam. *Integumentum* exterius durum, fere osseum, leviter scrobiculatum, atrum, nitidum, compressum, lenticulare, crassiusculum, extremitate superiore perforatum umbilico intus, illo exteriori diametrico opposito. *Integumentum interius* constans pellicula tenuissima *perispermum* involvente carnosum acqueo-pallidum, cavitatem exacte replens. *Embryo* (fig. 13.) minutus, in parte superiore perispermi prope umbilicum internum pendulus, rectus, niveus; *cotyledones* ovatae, obtusae; *radicula* subturbinata, obtusa, impera!

## OBSERVATION.

It is scarcely possible to contemplate a more magnificent object than this noble tree exhibits, both when it is covered with flowers and in fruit. Nothing can exceed the former in elegance; they are very large, of a white or yellowish-white colour, tipped with pink, while the reflected calyx or rather calycine petals are of a brownish red tint, elegantly reticulated with greenish nerves and veins; their smell is agreeable, somewhat resembling that of *Magnolia glauca*, and though not very strong, yet the accumulated fragrance of the innumerable blossoms, with which this tree is covered at one and the same time, extends to a great distance. They are of no long duration, as

the leaves of the corolla and calyx soon drop off together with the stamina, leaving the ovaria quite naked ; these in the course of five or six months become ripe capsules, disposed in large purple erect cones, which contrast elegantly with the scarlet seeds suspended on white, capillary, longish threads and hanging down loosely in all directions. The dark, elegant and thick foliage contributes to render the sight extremely agreeable. It is only during the winter months, from November to February, that the tree is altogether naked. The stipulation or gemmation is remarkable and belongs, as has already been noticed, to all the members of the family. The buds are axillary and terminal, long, subcylindric, inserted round the branch and on the protuberance which occupies the half of the petiol; at first there is no leaf at all, but gradually a small elevation becomes observable on the back of the bud, just above its base, which quickly grows out, becoming the upper part of the petiol and at length expanding into a leaf; the bud itself in the mean time rapidly increases in length and width, together with the tender branch which it encloses, and at length it splits along the outside and drops off in the form of two stipules, leaving behind it a circular, either horizontal or more or less oblique vestige of its insertion on the branch, and a flat lengthened prominence on the petiol, reaching from its base to above the middle.

I have only seen this tree in abundance at Sankoo in the valley of Nipal; on Sheopore it grows very sparingly. Its wood is of a pale yellow colour, close-grained, and probably very applicable for carpenters use ; it is however not employed by the hill people, who, I am sorry to say, care little about cutting down the most glorious trees of their country, such as the Rhododendrons, even for the most trivial purpose of fuel and rafters.

The present species unites the two sections of the genus as doubtfully proposed by De Candolle, loc. cit. p. 450. The fruit is densely imbricated, strobiliform, with pendulous seeds, and the spathe is one-leaved as in the American species; but the dehiscence of the anthers is decidedly interior like those of Asia. For reasons, which I shall explain in treating of *M. excelsa*, I think, that all the spike-fruited species might conveniently be removed to *Michelia*; of their number is *M. fuscata*, which I have had an opportunity of examining in October 1818, when it ripened its fruit for the first time in the Honourable Company's botanic garden and of which I take this opportunity of giving a carpological account.

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*Capsula*\* ovate, lateribus gibboso-convexis, obliqué acutse, punctis parvis colosis asperse, magnitudinis baccae Grossularie minoris, cinerascens, sessiles, patentes, decem vel plures, haud paucis abortivis parvulis intermixtoe, disposing in spicam oblongam hinc inde curvam, tripollicarem, fructum *Micheliae* planae referentem pedunculatam. *Valvulae* divaricatae, plano-concavae, intus rugosae, nitidae. *Semen* unicum, coccineum, ovatum, parum obliquum, loculo exacté correspondens, basi umbilicatuni, mox post dehiscentiara extra suam cavitatem funiculo sericeo laxo dependens.—*Nucula*, embryoque inversus exacté ut in *Magnolia insigni*.

It is not a little surprizing that, according to the accurate Gaertner, the embryo of *M. grandiflora*, Linn, is erect, *Carpol.* 1. p. 343. t. 70; whereas it is unquestionably *inverse* with a *superior radicle* in the three species which I have examined.

Before concluding I may remark, that I have found a few individuals in the forests of Nipal, of a tree, which I hesitate not pronouncing to be Roxburgh's *Zariodendron grandiflora* notwithstanding I have only observed them in foliage. This noble tree blossoms annually at the botanic garden, but has not as yet ripened its fruit; the stipulation of the family is peculiarly beautifully illustrated by this species.

MAGNOLIA EXCELSA, Wall TAB. 2.

Arborca, folds oblongo-ellipticis, acuminatis, subtus valde glaucis ; alabqslris gemmis-

quo ferrugineo-barbatis; floribus solitariis, axillaribus; petalis duodecim, calycinis nullis; capsulis globosis, remotis, spicatis, monospermis.

Nomen Parbutteanum *Chempa* s. *Chctump*.

Observavi tantummodo in raonte Sheopore Napaliae, ad elevationem ab oceano septem circiter mille pedum, florens Martio, fructibus maturis Octobre.

Arbor 50-ad 80-pedalis, admodum ramosa, trunco valde crasso, cortice variè soso et rimoso. *Rctmuli* crassi, teretes, fuscescentes, juniores grysei, punctis callosis majusculis conspersi, vestigiis stipularum delapsarum annularibus, horizontalibus vel obliquis, notati.—*Folia* sparsa, patentia approximata, pollicem et dimidium circiter distantia, coriacea et firma, oblongo-elliptica, in acumen lineare acutissimum semiunciale abeuntia, integerrima, margine subinaequalia obsolete que repanda, basi acuta, spithamea ad dodrantalia, supra iacta, lucida, saturate viridia, leviter plicata; subtus valde glauca, fere pruinosa conspersaque pilis brevibus ferrugineis adpressis, aetate glabra, costis prominula gracili, nervis alternantibus ad marginem anastomosantibus, more generis, praerhous duni sicca, pulchre reticulato venosa. *Petiolus* pollicaris et parum ultra, teres, gracilis, leviter sulcatus, basi parum intumescens, supra vestigio lineari piano eloagato notatus.—*Stipulae*? duae oppositae, membranaceae, oblongae, acuminatae, sesqui- ad bipollicares, tomento densissimo sericeo cinnamomeo vestitae, intus laeves, more generis supra descripta, initio in gemmam sub-cylindricam dense barbata connata, mox solutae citoque caducae, vestigiis istis annularibus ramorum linearibusque petiolorum manentibus.—*Flores* axillares, solitarii, magni, erecti albi, fragrantissimi, campanulato-patentes, pedunculo elevati valde crasso brevi columnari, vix dimidii pollicem metiente, cinnamomeo-tonioso, ad medium notato vestigiis duobus annularibus paullo distantibus. *Alabastra* oblonga, acuta, cinnamomeo-tomentosa, mollissima, bipollicaria, *spathis* in involutamento: exteriore fugacissima, interiore tomentosa, intus laevi argentea diutius manente. *Petala* (fig. 1.) 12 vel 13 coriacea, crassa, glaberrima, oblongo-ovata, obtusa, deorsum angustiora, fere bipollicaria, interiora sensim angustiora et breviora, basi debilissima viridescencia, coeterum alba, triplici disposita serie quadripetala, intima nunc quinquepetala.—*Columna genitalium* (fig. 1,3) sesquipollicaris, erecta, basi crassior. *Stamina* (fig. 2.) plurima, laxè imbricata, inaequalia, tertiam petalorum partem longitudine aequantia; *filamenta* brevissima, carnosissima, crassiuscula; *antherae* adnatae, marginales, paullo introrsum dehiscentes.—*Ovaria* (fig. 4.) parva, fusco-puberula, tetraspora; *ovula* angulo interiori loculi ope funiculorum brevissimorum decurrentiam adfiva. *Stylus* ovario longior, subulatus, recurvus, supra papilloso-asperulus. *Baccae* (fig. 5,6., par use, globosae, callosae-verrucosae, glaberrimae, cinerascens, magnitudine nucis avellanae, basi lata sessiles, pluribus effloetis interperse, in spicam quadripollicarem curvam digestae, hiatus semicirculari supra dehiscentes in valvas duas divaricatas concavas. *Semen* (fig. 7.) unicum, grandiusculum, ovatum, subreniforme, coccineum, baccatum, plene maturitate extra loculum suum dependens, ventre exsculptum umbilico minutissimo.—*Arillus* carnosus, molliis, ruber.—*Integumentum exterius* atrum, crustaceum; *interius* tenuissimum. *Perispermum* carnosum, hyalinum. *Embryo* ut in priore specie.

#### OBSERVATION,

This is at all times a very beautiful, large tree, especially when in blossom. I have only met with it on mount Sheopore, where it is confined to one single spot: a limitation which is not of very rare occurrence among the plants of Nipal; thus *Orchis* (*Habena*\*) *gigantica*, Exot. Bot. is solely to be met with in a particular place of Nag-Arjoon, *Lyellia crispa*, Brown and *Daphne Gardneri*, Wall, are confined to one particular place on Sheopore. The wood is greatly prized by the inhabitants of Nipal as also at Patua, where it is employed for various objects of joinery and carpentry and

is commonly sold under the name of *Champ*. Its texture is very fine, the colour at first greenish, but soon changing into pale yellow.

I am doubtful whether to consider this fine tree as a *Magnolia* or a *Michelia*; it has entirely the structure of the flower and spicate rounded capsules of the latter genus, while the colour and smell of the flower and the solitary pendulous seed is that of the former. Perhaps a salutary reform might be effected by removing all the species of *Magnolia*, as it stands at present, which are furnished with rounded spicate, not imbricate, capsules to *Michelia*, which arrangement would, in all probability, comprize most, if not all *Guillimiae*, De Candolle 1. c. p. 450 et p. 455; a suggestion which has indeed been hinted at by himself in p. 447.

### MICHELIA DOLTSOPA, *De Candolle*. TAB. 3.

Foliis elliptico-ovatis, valde acuminatis, subtus puberulis, longè petiolatis; alabastris gemmisque ferrugineo-tomentosis; petalis quindecim, interioribus angustissimis.

*Michelia Doltsopa*, De Cand. syst, nat. 1. p. 448.

Incolit varias sylvas Napaliae, tam vallis ipsius quam montium minorum huic vicinis, florens Aprili et Mayo; fructifera sub-pluviis.

Arbor magna umbrosa, altitudine GO-pedali, trunco satis regulari crasso. \_\_\_*Ramiili* teretes, cicatricibus plus minusve obliquis annulati, densè vestiti villositate sericeâ fusca; ©tate provectiones glabri, cinerei, calloso punctati.—*Folia* magis forsàn quam in reliquis remota, patentissima, integerrima, ad marginem leviter undulata, ovata, in acumen gracile, longum attenuata, basi acuta, nunc rotundato-acuta, palmaria ad 10. pollicaria, coriacea, suprâ laevissima, lucida; subtus parum glaucescentia puberula, siccitate utrinque venuloso-reticulata.—*Petiolus* valde gracilis, pollicaris et sesquipollicaris, teres, ferrugineo-villosus, ultra medium notatus vestigio insertionis stipularum graevili elongato.—*Stipulæ* aureo-v. fusco-villosae, connate in gemmam cylindricam acuminatam elongatam. *Flos* (fig. 1.) axillaris, solitarius, illo *Champacæ* vulgaris fere dimidio major, petiolo parum longior, flavus, valde fragrans. *Alabastrum* cylindrico-oblongum, densè vestitum tomento fusco velutino, bipillicae, spatha (fig. 2.); duplici caducis im& indutam. *Peduncululus* brevis, velutinus, cicatricibus duabus annularibus notatus.—*Petala* quindecim valde patula, ternario ordine disposita, quinque scilicet in singulo ordine, oblongo-spathulata, acuta, »! basin anfractifam mtiiico pubu furairaced punctis minutissimis impressis interspersâ; coeterum glabra; interiora valde angusta, fere linearia. *Antheræ* subsessiles dorso latiore in apiculam subcarnosam desinente; loculamenta lateraliter dehiscentia. *Torus* ovariorum velutinorum cylindricus supra antheras sessilis. *Stylus* (fig. 3.) brevissimus, recurvatus, valde papillosus.

#### OBSERVATION.

As far as it is possible to judge from the short description of professor De Candolle, made from dried specimens of trees, which even in their natural and growing state are difficult of discrimination, I conclude that this is the species described by him under the name given above. *Latifolia* or *macrophylla* would have been an appropriate name, and one at once indicative of the chief specific distinction of the tree; it would at any rate be far preferable to a vague native name, which my most valued friend Dr. Hamilton, though in general inclined to employ such on the spur of the moment, in the hurry and inconvenience of travelling, for the purposes of easier reference, probably did not intend as a permanent one. No nation on earth is more fertile in the production of names of plants than those of India, who appear to have coined appellations in the hope of multiplying real or supposed virtues ad infinitum. This evil is greatly aug-

mented by the people often inventing names on the spot. If a specific or generic appellation is to be derived from any native language, which can never be necessary, and but rarely prove expedient, the Arabic or Sanscrit ought to be the only sources from whence they are to be derived.

MICHELIA KISOPA, *De Cand.* TAB. 4.

*Foliis* lanceolatis, acuminatis, glaberrimis, brevè petiolatis; *alabastris* gemmisque cinereo-villoculis; petalis duodecim, oblongis, subaequalibus.

*Michelia Kisopa*, De Cand. *syst. nat.* 1. p. 448.

Reperi in pluribus sylvis Napaliae, eodemque anni tempore cum priore specie florentem et fructiferam.

Arbor excelsa, ramosissima. *Rami* glabri, teretes, cinerici, callosopunctati, cicatricibus stipularum solitis notati. *Folia* sparsa, approximata, patentia, valde coriacea, rigida, oblonga vel lanceolato-oblonga, acuminata, basi mine rotundata, nunc acuta, supra valde lucida atroviridia, subtus pallida atque opaca, pube parca adpressa aetate evanida conspersa/utrinque dum sicca eleganter reticulato-venosa; 5-7 pollicaria.—*Petiolus* gracilis, teres, pollicaris, e basi ultra medium supra notatus plagâ elevata planâ lineari elongate. *Gemma stipulacea* oblonga, acuta, petiolum juniorem fere aequans, argenteo-ve^cinereo-villosa.—*Jlabastrum axiWare*, solitarium, erectum, ovatum, brevè pedunculatum, semipollicare, cinereo-villosum; *spatha* (fig. 4.) cito deciduae, ovato-subrotunda obtusissimaj. *Flos* (fig. 1.) parvus, dilute flavus, odore valde debili, pedunculo sui fultus crasso, ahnulado, villosulo.—*Petala* duodecim acuta, lineari-cuneata, pollicaria. *Antherte* fere sessiles, numerosae, laxè imbricatae, lineares, apiculâ nudâ cuspidatae; locula marginalia, introrsum parum dehiscentia.—*Ovaria* (fig. 3.) ovata, sericeo-villosa, coarctata in columnam cylindricam, supra torum (fig. 2.) antherarum pedicello angulato semiunguiculari elevatam. *Styli* recurvati, pubescentes, papilloso. *Cajjnlcc* (fig. 5, 6.) subglobosae, basi nunc latâ subadnatae nunc subcuneatâ quasi pedicellatae, rineresB, punctatae, majores quam in antecedente specie, dispositae in spicani tortam quadricurva, pluribus abortivis intermixtae. *Semina* tria vel quatuor, ovata, coccinea.

OBSERTATION.

This species comes very near to *M. Champaca*, but besides being a larger forest tree, its leaves are, generally speaking, narrower and the flowers much smaller. I have scarcely any doubt of its being the same as that noticed by De Candolle, although his specific character does not well apply to it, the leaves being almost always more or less acute or attenuate at the base. The fleshy part of the seeds is aromatic, and that more so than in the other species.

MICHELIA LANUGINOSA, *Wall.* TAB. 5.

*Foliis* oblongis, acutis, subtus ramis gemmis alabastrisque cinereo-lanuginosis.

Eadeiu fere ac praecedens incolit loca, eodemque tempore florens; sed rarior est arbor/

Arbor magna et procera, ramosissima. *Rami* obtecti cortice cinereo callosopunctato; juniores uti foliorum pagina inferior, petiolus, alabastra, gemmucque vestiti lanuginosi. *Folia* alba, apice acuta, basi parum rotundata, apice cuspidata, 5 ad 10

follicaria, valde coriacea, supra lucida, mine paruni glaucescentia, subtus densissime tomentosa, vix relate glabrora, nervis parallelis, numerosis, ad marginem integerrimum arcuatim anastomosantibus, venis reticulatis tomento recomlitis. *Petiohis* pollicaris, aetate parum glabrior, supra notatus vestigio stipularum elongate *Stipulce* valde deciduae, oblongae, densissime tomentosa<sup>3</sup>, gemmas formantes oblongas, petiolum subaequant. *Ala*-\* *bastra* axillaria, solitaria, oblonga, sesquipollicaria, lanuginoso-barbata. *Spat hop* (fig. 2, 3.) duee, oblonga, cito evanidce, *Flos* (fig. 1.) pallide Havens, odoratissimus, brevissime pedunculatus; *pctala* numero variantia, decem ad quatuordecim, cuneata, acutiuscula, disco parum saturatius colorata, interiora parum angustiora. *JPeduncukis* vix iluas lineas longus, lanuginosus, crassus. *Columna genitalium* (fig. 4.) oblonga, petalis plus dimidio brevior. *AntJierae* (fig. 5, 6.) valde caducae, introrsum dehiscentes: *Jilamnta* brevissima, pnrprascientia. *Ovaria* (fig. 7, 8, 9.) ovata, villosa. *Styli* erecti, columna subadpressi. *Baccae* (fig. 10, 11.) magnae, cerasos inediocres aquantes, obovatae, deorsum paullo angustiores et fere pedicellatae, *pedicello* admodum lato; cinerea?, callosopunctatae, coeterum glabrre, maturitate fuscescentes, tri-quadrispermae, aggregatae in spicam brevem, ova laevia, longius pedunculata. *Semina* (fig. 12.) magna, coccinea, urillo aromatica.

## OBSERVATION,

It is impossible to confound this tree with any of the preceding kinds; the dense, soft tomentum, which covers all its parts, readily distinguishes it from them all. The fragrance of the flowers is less powerful and therefore more agreeable than in the other species.

## ADSTTRA:

Juss\* in Annal. du Museum d'hist. natur. 16. p. 340. Dunal Anonao. p. 25, 55 et 57. De Cand. syst. nat. 1. p. 465.

*Mayna*, Aubl.? *Schisandra*, Michaux. *Uvaria*?, spec. Thunb. et Linn.

*Floras* unisexuales, pentandri-polyandri, polygyni, apetalae. Sepala novem, nitide duodecim, ternatim triseriale, alternantia. *Stamina* completa, *Jilamentis* carnis; vel incompleta, *antheris* sessilibus, rpnAptn^nl! fnt^^lie adnatis. *Omirici* conferta super receptaculum carnosum, dispersa. *Styli* nulli. *Stigmata* solitaria, carnosae, emarcescentia, oblongo-clavata, medio adfixa, utrinque libera. *Saccw* distinctae, reniformi-ovatae, mono-vel dispennje, capitatae, aut spicatae. *Perispermum* homogenum, carnosum. *JSmbryo* dicotyledoneus. *Radicula* infera; vel centrifuga?

Classis Linneana: *Monoecia* vel *Dioecia*, *pentandria* |e| *polyandria*.

Ordo naturalis; *Menispermea*\*. *Wintered*, Brown?

*Habitus*. Frutices volubiles, glabrac. *Folia* alterna, subcarnosa, denticulata, exsti\* pulata. *Flores* axillares, subsolitarii, fragrantae. *Baccae* carnosae, rubric^ edules.

## OBSERVATION.

I have already hinted (p. 2.) at the supposed identity of *JMayna* with this genus. As far as can be gathered from the imperfect description and figure, given by that author, in the *Histoire des plantes de la Guiane* 2. p. 922. t. 352, the general form of the flowers agrees; but there exists a remarkable difference in the monophyllous calyx and in the stipulated leaves of Aublet's plant. Until, therefore, we are better acquainted with that plant, it can only be admitted as a doubtful species. It agrees best with my *K. grandiflora*, both of them being furnished with distinct filaments; but the four-aided anthers,

recorded by A'ublet, *tore* wanting here.—Michaux's *Schisandra* seems to differ from the genus, solely in having a one-seeded berry, and in the shape of the seed, which is attributable, together with the slight modification in the posture of the embryo, to the first mentioned structure.

KADSURA GRANDIFLORA, Wall TAB. 14

Bioica, polyandra *ijloribus* nutantibus, solitariis; *pedunculis* petiolo duplo longioribus, medio ebracteatis; *staminibus* com|>|e|!|\$, *Jilamentis* subulatis; *baccis* dispermis, spicatis, *rachi* crassa, clavata-

Observav: frequenter in monte Sheopore Napaliae, nee alibi; florentem Aprili, Majo, fructigeram Octobre.

Frutex late volubilis et scandens, omnibus partibus glaberrima. *Rami* numerosi, elongati, graciles, vix penmi anserina crassiores, fusci, calloso-punctati, epidermide setate demum solut&; *tenelli* glaucescentes, rubicundi. *Gemmce* parvae, axillares, subcylindricae, acutae, *squamis* oblongis, ciliatis, bifarie imbricantibus, quibusdarn persistentibus, basesque ramulorum juniorum laxe ambientibus. *Folia* valde copiosa, approximata, patentia, alterna, lanceolato-oblonga, 4-6-pollicaria, subcarnosa, ad lucem visa minutim pellucideque punctulata, acuminata, basi cuneata et per petiolum leviter decurrentia, remote denticulata, dentibus subulatis, incrassato-subglandulosis, laete viridia, supra lucida, novella rufescentia, aetate opaciora, subtus pallida, penninervia, costA. gracili, nervis obliquis, alternis, venis reticulatis. *Petiulus* teres, gracilis, supra sulcatus, pollicaris, basi inarticulata, simplici. *Stipulce* hullae, nee ullum earum vestigium. *Flores* imigni, admodum fragrantis, nutantes, axillares, solitarii, vel sparsi circum basin ramorum novomm, globoso-campanulati, pollicem transversum emetientes, ex albo flavicantes, extus versus basin saepe purpurascens. *Sepala* novem, ternario ordine disposita, ovato-rotundata, obtusa, crassa et subcarnosa, integerrima, interiora sensim minora. *Aestivatio* Jaxe imbricata, ^lobosa- *I'edanculus* teres, laxis, gracilis, bipollicaris, fequalis, basi sepias squainula gemmacea una alterave munitus. *Mascidorum* (fig. 6, 7.) *stamina* (fig. 8.) circiter quadraginta, calyce paruin breviora, clavata, aggregata in acervum avatum super, receptaculum\* carnosum, leviter elevatum (filamentorum bases connatse?). *Filamenta* brevia, erecta, subulata, alba, carnosum. *Anthero\** ovatae, compressiusculee, obtuse, disco *camoscc*, utrinque dehiscentes loculo angusto, longitudinali, extrorsum verso; pollen albidum. Nullam pistillorum rudineatim. *Foeminei* (fig. 1,2,3.) masculis parvum majores, sepalaque exteriora saturatus colorata. *Ovaria* (fig. 4, 5.) admodum minuta, numerosa, lenticularia, extrorsum oblique acuta, subtus gibboso-convexa, sursura notata marginula rectilinea, sessilia, spiraliter et densissime aggregata super receptaculum carnosum, oblongum, sepala majora subacquans. *Ovula* duo ininitissiuia, lateri loculi marginulise istae obverso adfixa, oblique pendula. *Stylus* nullus. *Stigma* sessile, carnosum, hyalinum, scabruscilum, [ierpendiculare, utrinque liberum, apice obtusum leviterque recurvum, basi ovario adpressum, medio apiculse hujus insertum. *Bacca\** (fig. 9, 10.) ovato-subreniformes, sessiles, coccineae, laeves, nitidae, magnitudinis Kibesiae majoris, valde numerosae, supernae apicula lineolaque brevi, fusca, decurrente notatae, biloculares, dispermae, dispositae in *spicam* laxae pendulam, digidum crassam, clavatam, sex ad novem jiollices longam, insidentem pedunculo gracili, apice leviter incrassato. coeterum vero inmutato. *Ilachis* carnosum et crassa, punctulata, flavicang. *Caro* pallide rubra, mollis, lineam crassa. *Semina* (fig. 11, 12, 13, 14.) dua, fusca, horizontaliter unum super alterum posita, *septo* pulposo separata, reniformia, leviter complanata, lateri bus convexis, obtusa, hilo sursum, i. e. versus apiculam verticis baccoc spectante, *Integumentum* exterius crustaceum, laeve, sub lente minutim punctulatum; *interius* *temxi* ^*ivciixin* ^ perispermum arete involvens. *Perinpermum* album, carnosum, teres, in figuram semilunarem curvatum, extremitatibus obtusis approximate dorso convexo notatum fascia vascu-

lorum tenui fuscâ; alterd, extremitate exsculptum cavitate minut&, embryoniferS, superficiei apicis proximâ. Embryo minutissimus, subglobosus, alb us. *Radicula* centrifnga?

## OBSERTATION.

This is a very handsome, fragrant plant. The natives eat the fruit. The embryo is so minute, that I have not been able as yet to dissect it properly; but I trust, that the plants, which I brought with me from Nipal to the Hon. Company's botanic garden and which are at present thriving very well, will enable me to determine its structure at soxn© future period.

## KADSURA PROPINQUA, Wall TAB. 15.

Dioica, polyandra; *floribu\** subfasciculatis, erectiusculis; *pedunculis* petiolum vht sequantibus, medió bracteatis; *antheris* sessilibus, immersis; *baccis* dispermis, spicatis; *rachi* tuberculosâ.

Observavi in monte Sheopore, rariusque in collibus ad Sankoo, Napaliae. Floret Majo et Junio; fructus znaturescunt Octobre.

*Frutex* ramosissima, valubilis, glaberrima, ramis, gemmisque ut in priore specie. *Folia* interstitiis duplo vel triplo longiora. ovato-lanceolata, in acumen desinentia longum et gracile, remoté denticulata, interque dentes obsoleté sinuata, nunc fere integerrima, basi rotundatâvel acutiusculâ, carnosa, firraa et fragilia, 5-G-pollicaria, lucida, snbtus pallida, liervis capillaceis versus marginem anastoinasantibus, siccitate reticulata, ad lucem visa minutim punctulata; in plantis novelli« luxuriantibus maculis pallidé viridibus subalbicanibus variegata.—*Petiolus* crassiusculus, brevis, semipollicaris, coeterum ut in antecedente. *Stipulce* nullse.—*Flores* axillares, solitarii vel geminati, illis dimidió minores, fere inodori, leviter nutantes, patentissimi, initio pallidé flavi, dein aurantiaci, dioici, aestivatione in globulum pisi magnitudinis imbricati. *Pedunculus* teres, petiolum subaequans, nunc tertia parte brevior, basi squamulis duabus lanceolatis, emarcidis, deciduis, versusque medium instructus *bracteold* carnos&, semiamplectente, ovatd, obtusA patulâ, dorso convexâ, persistente. *Masculorwn* (fig. 1,2.) *sepala* novem, ternario ordine alternatim disposita, patentia; *exteriora tria* valde parva, ovata-inseqnaUa; reliqua snbrotunda, crassa et coriacea, membranaceo-marginulata, sub lente punctulata, prioris speciei dimidio minora.—*Anther*® (fig. 3, 4, 5.) parvae, lanceolatse, sessiles, cluodocim ad quindecim, tessellatim immerse receptaculo carnosio, subgloboso, deinum valvularum tricuiangularium adinstar hiantes leviterque reflexoe, biloculares, dorso carnosâ?, apice libevse, loculis, parallelis, distinctis lateraliter dehiscentibus. — *Foeminri* (fig. G, 7.) quoad sepala masculis simillima.—*Ovaria* (fig. 8.) minima, valde numerosa, carnosa, ovata, suprá et intus marginul^ parum elevatâ iiotata, imbricata in acerviilum subglobosum. *Stylus* nullus. *Stigma* prioris.—*Bacca\** (fig. 9, 10.) globosse, carnosa?, numerosoe, laeves, coccinese, parum minores quam in antecedente, fabricâ vero internâ oniiiiio similes, dispositae in spicam brevé peduuculatam, sexpollicarem, cylindricam, raclii parum incrassatâ, valde aspera propter tubercula numerosa baccas adfigentibus.

## OBSERVATION.

This is altogether a smaller species than *K. grandiflora*; particularly the flowers. It approaches to *Schisandra coccinea*, Mich. Flor. boreal, amer. 2. p. 219. t. 47. and Curt, bot mag. 34. n. 1413. The flowers are at first pale yellow, but become afterwards deep orange-colored, especially the inner leaflets. The male receptacle is globular,,fleshy,



sessile, not larger than a pepper-corn before expansion, marked with from twelve to fifteen superficial pores, which are arranged in a quincunx or decussated manner from the basis to the top; in these rific anthers are completely sunk, their two-lobed apices being only visible above the surface. Immediately after expansion these pores open, their lower sides turning gently downwards and resembling so many small, triangular, acute, valves, each having a distinct, two-lobed, two-celled anther attached to its inner or upper surface, its apex being free and somewhat shorter than that. When the anthers burst, each cell appears to be too-lobed. It may perhaps be advantageous to consider the receptacle as the connate filaments; and the above-mentioned anthiferous valves, as the free apices of these latter.

. &ADSURA JAFOMCA, *Dvna*

Dioica, polyandra; *floribus* subsolitariis erectiusculis; *jjedunculis* petiolo longioribus; *antheris* sessilibus, immersis; baccis dispermis, capitatis.

*Kadstira*, Jussieu, in Anna] du Mus. 10. p. 340.

*Kadstrajajonica*, Dunal Anonac. 57.—De Cand. syst. nat. 1. 466.

*TJvariajaponica*, Linn. spec. plant. 756.—Thunb. jap. 237.

*Uvaria hcfcroclita*, Roxb. Mss. et Icon.

*Drymigy* F. Hamilton, Icon. pict. in hort. bot. Calcutta asservata.

*Fit.tó Kádsura*, sive *Sáne Kádsufa*, aliis *Orenj Kádsura*; *Kenkoo*; Kaempfer. amoen. |>. 470 et 78-3. tab. 477.

Crescit in montosis prope Sylhet, ubi detexit beatus M. R. Smith—Specimina tam venientia quam sicca misit collector horti hujus F. De Silva.—Floret sub initio pluviarum; fructus nigrum profert Octobri, Novembre.—In horto botanico Calcutta) floruit primo & vice Junio, 1823.

OBSERVATION.

This interesting shrub does not grow in Nipal; it has hitherto only been found in Japan and at Sylhet, on the eastern frontiers of Bengal; probably also at Gualpara, where I conjecture that my worthy friend Dr. Hamilton met with it. I have had opportunities of examining it both in its cultivated and dried states. It is extremely like the preceding species (for which reason I have called the latter *AT. y,TOj)inqua*); nor can I distinguish it except by the capitate berries, and by the other, less prominent marks, which I have introduced in the specific character.—Kaempfer's figure is excellent.

COLQUHOUNIA, *Wall.*

*Calyx* cylindricus, fauce aequali, 5-dentatâ; fructifer clausus. *Corolla* bilabiata; labium superius fornicatum, bidentatum; inferius trilobum, lobis lateralibus fauci ampliatæ utrinque insertis, intermedio minore, integro. *Stamina* adscendentia. *antheris* *trium* *lobi* divaricati, nudi. *Stigma* bilobum, lobo superiore brevior. *Ovula* solitaria, pendula! • Achenia maxima, alata. *Perispermum* copiosum. *Embryo* erectus.

*Habitus*. Frutex latè volubilis, supernè tomento stellato, ferrugineo: rami juniores alternatim compressi, subarticulati. *Folia* ovalia, serrata, scabrinscula, odore debili aromatico. *Floras* pulchri, coccinei, fasciculati, axillares, subverticillati, nuac subracemosi.

Syst. Linn. *Didynamia Gymnogpermia*.

Ordo. natural. *Labiata*.

Dixi in honorem amici aestumatissimi Roberti Colquhoun, Scotiae Baroneti, historiae naturalis fautoris indefessi, qui hortum botanicum Calcuttae ditavit plurimis plantis viventibus, seminibus, speciminibus, nee non observationibus, phytographiam regionis Kumaon spectantibus.

COLQUHOUNIA COCCINEA, Wall. TAB. 6.

Legi in variis montibus Nepaliae: Chesapanee, Chandaghiry, Sheopore; etiam in sylvis minus elevatis Suembonath, Gokurna, &c. Floret sub fine pluviarum et tempore frigoris, ab Octobre usque ad Februarium. Fructus maturescunt Martio.

Nomen Parbutteum *Aesinallae*; Newarrensse *Goontomah*.

*Frutex* am pi a super alias frutices arboresque minores volubilis. *Rami* longissimi, orgyales, obsoleté tetragoni, pennam cygneam ad digitum crassi, a punctis minutis, copiosis scabriusculi, tomento parco hinc inde conspersi, diluté ferruginei; *juniores* gracillimi, obsoleté 4-angulares, sulcis duobus oppositis notati, ad insertionem foliorum alternatim dilatato-complanati lineâque elevatâ annulari subarticulati, tomento vestiti denso, ferrugineo, lepidoso, stellato, ciliato, friabili. *Folia* opposita, ovata, acuminata, 3-5-pollicaria, vetusta duplo majora, patentia, obtusé crenulata, basi acuta integriora, utrinque a tomento parco asperula, supra atro-viridia, rugosa, opaca, subtus pallida, costâ nervisque suboppositis, arcuatis, prominentibus, tomentosus, venis transversim reticulatis; novella densissimé tomentosa, incana. *Petioles* unguiculares, semiteretes, tomentosi, suprà plani. *Flares* (fig. 1.) triagyni, inodori, fasciculati, plerumque ternati, axillares, subverticillati; verticilli nunc brevissimé pedunculati, saepius fere sessiles, in ramulis junioribus approximate subracemosi. *Pedunculi* teretes, patentes, petiolo triplo breviores, tomentosi, basi, nunc quoque medio, *bracteolis* duabus oppositis, linearibus, persistentibus muniti. *Calyx* (fig. 2.) basi subcylindricus, sursum ampliatus et subcampanulatus, membranaceus, scariosus, persistens, semuncialis, tomentosus, intus laevis, nitidus, obsolete 5-nerviis, reticulatus, leviter incurvus, dorso parum convexior, limbo 5-dentato, patentiusculo; dentibus triangulari-ovatis, acutis, uni-nerviis, post florescentiam clausis et subvalvatis. *Corolla* (fig. 4.) coccinea, calyce duplo longior, villis c<sup>o</sup>inis, mollibus, brevibus, hyalinis, articulatis extus obsita; tubus brevis, cylindricus, inclusus, mox ampliatus in faucem ventricosam, lateribus leviter compressam, subtus foveolatam, periviam, nudam. *Ambu*\* bilabiatus, *infundibulum*\* *ujjertus* adscendens, ovatum, fornicatum, apice bidentatum, dentibus lanceolatis, obtusiusculis, basi dorsi leviter contracta; *inferius* majus, patens, tripartitum, lobis integerrimis obtusis, lateralibus obliqué ovatis, leviter recurvis, fauci utrinque insertis et quasi interlabialibus: intermedio duplo fere illis brevior, descendente, concaviusculo, linguaeformi, citius emarcescente. *Stamina* (fig. 5.) quatuor, absque rudimento quinti, intra galeam adscendentia, baud plane ab illa recondita, sinus (more familiae, ut dudum monuit eel. R. Brown in Prodr. Fl. Nov. Holl. 1. p. 500.) interlabialibus, primariisque labii inferioris, intra faucem inserta. *Filamenta* crassiuscula, linearia, villosula, colorata, apice parum dilatata et incurva; superiora duo breviora. *Antherae* parvae, oblongae, nutantes, purpurascens: lobi divaricati (sursum et deorsum), nudi, obtusi, rimâ continuâ longitudinali et quasi communi dehiscentibus, *polline* flavo majusculo. *Ovaria* quatuor, oblonga, planiuscula, apice parum obliqua et erenulata, imposita disco hypogyno annulari, angusto, obsoleté quadri-loba, flavicanti, centro parum elevatione subconico; unilocularia, monospora: *ovulum* teres, ex apice placentulae erectae, fungosae pendulum! *Stylus* filiformis, laevis, purpurascens, longitudine staminum, unicum illis adscendens. *Stigma* bilobum, lobis subulatis acutis, patulis, superiore dimidio brevior. *Achenia* (fig. 7.) quatuor (rarius unum duove cassâ), grandia, calyce (fig. 6.) persistente, baud aucto, dentibus conniventibus subvalvatis clauso parum breviora, ejus fundo, supra discum hypogynum fere immuta-

turn inserta, erecta, glabra, exsucca, basi obalata, conniventia, convexiuscula, intus obtusè carinata subtrigona, apice tenuinata alà membranacà, parum recurvâ; oblongâ, extremitate subtruncatâ hinc convexi, inde acutâ, levissimè crenulâ, margine altero rectilineo, subsuleato, crassiorè, altero (exteriore) convexo scindente; epidermide obducta tenuissimâ, fuscescente; l-locularia 1-sperma, indehiscentia. *Semen* (fig. 8, 9.) obovatum, compressiusculum, obtusum, basi acutiusculum, album, laeve, infra apicem *anspersum funiculo* longiusculo, descendente, supra basin placentae fungosae, erectae, liberae inserto. *Integumentum* simplex, tenuissimum. *Perispermum* crassiusculum, carnosum, album, embryonem aretè involvens, conforme. *Embryo* (fig. 10.; ovatus, planus, erectus. *Colyledones* maximae, ovatae, obtusae, basi subcordatae. *Plumula* inconspicua. *radix* conica, acuta, brevis, infera.

## OBSERVATIO.

Genus pulcherrimum, *Jalisco*, Burm. (R. Brown 1. cit. 504.) et *Dracocephalo* quodammodo affine, utroque et a tota fere familia diversum fructus magnitudine et forma, positione ovuli ponduli seuinisque suspensi, et perispermio copioso. Odor foetorum partiumque nobilium citrinus, debilis. *Wall. loc. cit.*

Since the preceding account was sent home to the Linnean Society, from whose Transactions I have almost literally copied it, I have found a second species growing on the summit of Sbeoporo, blossoming during the height of the rainy season, which has also been brought to me from the far more elevated regions towards Gosain-ghan, from Kuiran and Sirinagar. This shrub is exactly like the preceding in habit and structure. All its upper parts are very densely clad in stellate, soft, separate tomentum: becoming somewhat smoother by age. The leaves are alternate, opposite, obtusely and unequally dentate, entire and roundish at the base, four or five inches long, pubescent above, covered underneath with white tomentum. Petioles hoary.—Flowers resembling those of the former, disposed in small spikes. This plant may be called *Cleistanthus vestita*.

## BEAUMONTIA, Wall.

*juv. fulva* species, *Roxb.*

*Calyx* quinquepartitus, foliaceus, coloratus. *Corolla* campanulata, tubo hinc faucibus esquamatis, hinc subtrigona. *Stamina* filiformia laxa, antheris subsertis, sagittatis, nec nisi stigmate adhaerentibus, lobis posticis polline vacuis. *Ovarium* biloculare, suffultum *in funiculo* trifido, quinquelobo. *Stigma* oblongum, apiculâ bifidâ. *Folliculi* duo maximi, cohaerentes. *Semina* ad umbilicum sericeo-comosa.

Classis Diandria : *Endandria monogynia*.

Ordo naturalis, *Apocynaceae* verter.

*Habitus*. Frutex mucosus volubilis, lacte copioso ferax. *Folia* opposita, perennantia magna, oblongo-obovata, juniora, uti rami novelli, ferrugineo, ciliis albidis et inferpetiolaribus subulatis, sphacelatis. *Cymae* terminales. bracteatae petiolaribus articulis parum ramosis, dichotomis. *Flora* nuda, istos. Porro laudat aciculis, nivei, speciosi, fragrantis. *Sejuncta* magna, bracteifera, rubicunda, vasculosa; videtur cylindricus, pendulus, ciliatus, giganteus; deinuni in duos secedens folliculos. *Coma* ampla, sericea.

Geims hinc *Parsonia* illinc *Lyomia* affine, ab illa diversum figurâ corollae, ab hac

corollâ fructnque. Nominavi in honorem Dominae Dianae Beaumont, scientiæ botanices et horticultural in Anglia devotissimæ earundumque faulrici munificæ, cujus benignitati hortus Calcuttensis plurimas debet plantas exoticas præcipue Europæas.

## BEAUMONTIA GRANDIFLORA, Wall TAB. 7.

*Echites grandiflora*, Roxb. hort. beng. p. 20.

Incolit sylvas depressas montanasque Bengali orientales, Chittagong, Sylhet, coet. Etiam habui e Noakote, Napaliam. Floret a mense Februario usque ad finem Aprilis. Ft'utut maturescunt post integram annum.

JXomen bengalense : *Dhootura Luta*, propter formam florum, istos Eaturse, quodammodo referendum; nomcn quod etiam convenit Biittneriaj aspera Colebr. (vid. Roxb. 3or.ind,2. p. 3&3.)

*Fruix* ramosissimus, prævalte super arbores volubilis, mine juxta terram longé latè- que extensus, valde frondosus, trunco crasso, cortice citierasceute, spongioso. *Ilami* longissimi, nutantes, robusti, valde lactescentes, cylindrici, cinerascentes, dum juniores tomento ferrugineo, copioso, brevi, molJissimo ohfecfi, supernè obsoletè quadrangulares. *Folia* opposita, interstitiis lon^iora, patentia, subdependentia, oblongo-obovata, apice rotundata cum acuiine brevi, angusto; basi ));iruin a:igustata et acutiuscula; undulata, integerrima, suprâ lucida, atro-viridia, lacvia, subtus pallidiora, opaca, costa crassa, nervisque elevatis, suboppositis, obliquis, ad n.avgines anastomosantibus, albicaatibus, puberulis, coeterum glabra, venis inagnis, inter nervos trausversalibus, paralle!^ approx\* imatis; chartacea, sex- ad octopollicaria, quin, in luxuriantibus nempe ramis, pedali?i? jin&iora suhtus, juxta vassorum tractus ferruginea: *Petioliterctes*, crassi, semipollicares ad pollicares, suprâ leviter sulcati, eequales, pubesrentes, mine terruginei *Stipidcr* mil- lise, nisi corpuscula quaedam glandulosa, subulata, sphacelata, in omnibus axillis recondita, quandoque serie simplici trans ramum migrantia. *Cymn* magna terminal is, ovata, octo- ad duodecimflora, rarius subaxillaris ioliorum paris supicu-i, ad basin sa^pe aucia folioiis aliquot parvis floralibus lanceolatis, fere sessiis. *k edimLta* breves, crassi, articulati, bis terve dichotoaii; *pedicelli* pollicares, subcomj>lanati, hi- triilori. *BratHk* magnte, membranaceae, sparse, plerumque solitariu3 a<i etiUoura's rAisj^hiLricatic, >iliosa}3 deci- du^, ovatce, acutse, *unduUu\**, Mn>ipolJ^M.^, o ;>.wii — ^u^, veni« reticuJatis, fer- ruo-incis. *Litres* plerumque ienn, i.vt?i, nin.o |M||W| viride-bctiis, Ucuuiui {iuvicantes? adu:odr;iu fragrahtcs, quinquepollicares. *Vuiyx* (fig. 1.) nisiguus, quinquepbyllus. *Se- mda* ovato-lanceolala, cuspidalo-acuta, undulata, viliosa, pallidé viridia vel albicantia, ferrugineo-retioulata, crectiuscula, subimbricantia, bracteis figura et colore similia. *Glan- duke* subulate, mihutas intra sin^ulum sepahim serie regular! ordiatre, basi corollae ad- presse. *Corolla* coriticea, crassa, campanulata, extus puLescens, intus laevis, nitida, longU tudualiterque nervoso-su.cata, quatuor pollices lougu, *limbo* patente, quinquefido, tres poliices cinctleiiite, fauceainplú, nUi.â, pen .â; deorsiiiui sensim attenuatabasiquecontracta iiii *tuium* viridescentein, semipollicvrein, inlus a Llaiiientoruijn Lasibusdecunentibus costa- tarn, cal^ ce parim\* breviorcm. £\*adnia^ ovaht, acula?, pluna?, patentes, lateribus subaequa- libus, basi parum contracta?, aestlvatione iuibricatae in coiiuii ventricosum. , *Stamina* (fig. 2.) parallels, extra faucem parum prominula, flaccida. *Filamenta* filiformia> carnosâ, laevia, alba, leviter compressa, basi tubo intus adnnta, shlo parumper breviora, ideoquè parum curva, apiceleviter incrassata. -^iZ/^r^ovaio-sagitiativ, acuminatae, dorsogibbosoe etcaniosrc, stigma occultautes, liuicque medio a<lnata^, corpus formantes ovatum, leviter peutan'onuin, acutum; utrinque longitudinaliler locuio an^usto dehiscentes: lobis pos- ficis lon^is, subulatis, coiiniventi-incurvatis, liberis, [>ollivæ vacuis. *Pollen* pallidé (laves- cens. *Ovarium* parvuin, ovatum, pilosulum, bHoculare, polysporum, *ovnlis* numeroMS, insertis placeutaj interiori, carnossc, septo adnata^i iiiimeum et fere occultum *annulo*

*hypogyno* carnosus, convexus, subquinquelobus, flavescens. *Stylus* (fig. 3.) filiformis, laxus, apice clavatus dilatatusque in *stigma* oblongum carnosum, glutinosum, medio antheras adfigens, apiculâ bilobâ terminali. *Folliculus* (fig. 4.) maximus, oblongus, subcylindricus, obtusus, viridis, demum lutescens, glaber, nunc parum tuberculatus, basi re-tusus, pedunculo lignoso crasso brevi insidens, pendulus, pedalis, diametro tripollicari, lignoso-coriaceus, plenâ maturitate longitudinaliter dehiscens in duos lobos (fig. 5.) re-quales, extus convexos, intus planos et parallelos, parum distantes. *Caro* valde cras-sus, coriaceo-spongiosus, longitudinaliter lignoso-fibrosus, initio rufescens, demum fus-cus. *Dissepimentum* urni nil nisi latera interiora utriusque lobi incurva, plana, parallela, eras-sa, coriacea, e basi usque ad apicem rimâ longitudinali intus placentiferâ fissa. *Lo-culumentum* in angulo lobo uniuersum, oblongum, tunicâ valde nitida, laevi, albâ vesti-tum. *Receptaculum* (fig. 6.) tenue, membranaceum, sublineare, foraminibus pluribus lon-giusculis pertusum, reiforme, apicibus affixum *placenta?* gracili, longae, dehiscentiâ demum liberum.—*Sernina* (fig. 7, 8.) valde numerosa, densè imbricata, pendula, cunei-formia, pollicaria, angulata, papilloso-rugosa, fusca, *rephi* longitudinali ventrem, percur-rente umbilico parum contracto et excavato, comosa. *Membrana* exterior fusca; sub-pongiosa; interior tenuissima, albumini arete applicata. *Coma* densa, longa, sericeo-splendens, setulâ minutâ, ex umbilico ortâ, quasi stipitata, semine ipso duplo longior.—*Albumen* conforme, carnosum, lacteum. *Embryo* (fig. 9, 10.) niveus, carnosus, lactes-cens. *Cotyledones* proximae, crassae, oblongae, obtusae, dorso convexiusculo venulosae. *Madicula* supra, cylindrica, brevis.

## OBSERVATIONES.

This truly magnificent plant was introduced into the Hon. Company's botanic garden by the late Mr. John Roxburgh from Chittagong in the year 1810, and has since grown to an enormous size, some of the individuals overtopping the largest trees, with stems measuring at the base from 11 to 13 inches in circumference. It is at all times extremely ornamental; chiefly, however, when covered to excess by its ample bunches of superb, snow-white, most delightfully fragrant blossoms, when it is also clothed with a profuse-ness of dark green, shining, large leaves. The fruit is probably the largest of the whole tribe, being twelve inches long, sometimes even longer, and proportionally thick, hang-ing down perpendicularly, not unlike like a large green cucumber. It is produced in great plenty; its internal structure is extremely elegant, the seeds being very numerous, and beautifully arranged, each furnished with a long, silky, extremely soft and delicate coma. The shrub is easily propagated both by seeds and layers; in short, I know of no vegetable production, more noble, more desirable, more ornamental in all its stages than the one I have now described, and which, I hope I have been so fortunate as to succeed in introducing into the gardens of Great Britain.

HEMIPHRAJMA, Wall. in *A. Linn.* 13. p. 611.

*Calyx* 5-partitus. *Corolla* infundibuliformis: limbo patente 5-fido subaequali. *Stamina* 4, aequalia, antheris nudis, liberis. *Stigma* simplex, acutum. *Bacca* globosa, exsucca, incompletè 2-ocularis, polysperma, *dissepimento* placentifero sursum fissis.

Syst. Linn. *Tetrandria Monogynia*, floribus monopetalis, monocarpis, iuferis. An potius *Didynamia Angiospermia*?

Ord. Natural. *Scrophularinae*, Brown.

*Habitus*. Herba gracilis, repens pilosula. *Folia* duplicis indolis; caulium et rami orbiculato-reniformia, opposita, sessilia, deutata; alia acerosa, gracillima, comae orbiculatae.

in fasciculos petiolatos. *Flores* solitarii, parvi, rosei, brevè pedicellati, ebraoleati, alterni vel oppositi in axillis foliorum majorum, vel terminales fasciculorumn. *Baccae* globosae, ruberrimae, nitidae.

HEMIPHragMA HETEROphyLLUM, *Wall, loc.cit.* 612.—TAB. 8.

Planta sat communis in montibus Napaliae, saxatilis, florens et fructifera toto fere anno, praecipue ab Octobre ad Februarium.

*Caulis* gracillimus, pedalis bipedalisque, prostratus, per distantiam pollicum triiim vel quatuor radicans, radiculis simplicibus, pallidis, fibrillosis; obsolete quad rangularis, epidermide fuscescente, secedente. *Kami* pauci versus extremitatem caulis, tenerrimi, breves, indivisi, oppositi, acutanguli, asperuli a pilis brevibus, articulatis, patentibus, hyalinis. *Folia* biformia. *Caulina* ovato-cordata, subreniformia, plana, patentia, membranacea, citius emarcescentia, opposita et fere amplexicaulia, brevissime petiolata, unguicularia ad pollicaria, remota, interduni pollices plures distantia, obtusa, acutiuscule-tolato-dentata, lobisbaseos integris, rotundatis; utrinque pilosula, subtustrinerviale-iterque reticulato-venosa, siccitate ferruginea; superiora et ramea ovata, vel suborbiculata, pauca, bracteiformia, illis ter quaterve minora. *Folia alia* subulato-acerosa, bi-vel tri-linearia, semiteretia, supra sulcata, pilosula, acuta, laete viridia, nitida, sessilia, undique patentia, 23-30-circiter conferta in fasciculos (fig. 1.) ovatos, unguiculares, brevè, petiolatos, patentes, axillares et oppositos foliorum caulinarum, vel terminales. *Petioles* foliorum majorum vix bi-lineares, supra sulcati, pilosuli, lineola elevata tenerrima caulem, vel ramum ambientes. *Stijmlae* nuliae. *Flores* (fig. 2, 3.) parvi, solitarii, axillares foliorum, vel terminales fasciculorum, *pedicello* insidentes brevissimo, villosa, eb-ac-teato. *Calyx* (fig. 4.) subovatus, persistens, dense villosus, profunde quinque-partitus, *laciniis* patentiusculis, linearibus, purpureo-acutis. *Corolla* (fig. 5.) rosea, calyce duplo major, infundibuliformis, glabra; *tubus* obsolete tetragonus, medio ventricosus, flavescens; *limbus* patens, quinque- raro sexfidus, ad mod am obscure bilabiatus, aestivatione imbricatus, *laciniis* ovalibus, obtusis, nunc subretusis, duabus superioribus parum latioribus *faux* pervia, nuda. *Stamina* quatuor, aequalia, parum supra faucem elevata, medio tubi inserta; *antheris* ovatis, erectis, parum conniventibus, utrinque longitudinaliter dehiscentibus, nudis. *Pistillum* staminibus parum brevius; *ovarium* (fig. 6, 7.) subrotundum, laeve, *disco hypogynae* exiguo, omilari, *Havfante* suffultum, biloculare, polysporum, *placentae* insertis placetae, dissepimento apice minutim perforato utrinque adnatae; *stylus* teres, brevis; *stigma* leviter incrassatum, simplex, acutum. *Sacca* (fig. 8, 9, 10.) ovato-globosa, magnitudine pisi, stylo persistente coronata, suffulta calyce patentissimo, baud aucto, coccinea, laevis, nitida, inscripta lineis gracillimis impressis quatuor, e vertice cruciatim decurrentibus, commissuras. valvarum mentientibus, cultro difficilius in totidem valvulas partibilis, nunquam sponte dehiscens; *membrana exterior* tenuissima, chartacea; *caro* spongiosa, pallida, basi copiosior, vertice tenuior. *Dissepimentum* incompletum, membranaceum, tenuissimum vertice perforatum hiatu inverse triangulari, aetate ultra medium baccae deorsum extenso. *Placentae* duae, semilunato-bicornes, spongiosae, convexae, biatui dissepimentum utrinque adnatae, ibique confluentes, medio crassiores, sursum attenuatae, rugosulae. *Semina* numerosa, minuta, pallide ferruginea, ovata, sessilia, punctata, mox soiuta fundumque baccae utrinque occipantia. *Integumentum* simplex. *Perispermum* carnosum, aqueo-pallidum, tenue, semini conforme. *Embryo* dicotyledoneus. *JRadicle* centripeta.

OBSERVATIO.

Plantula elegantissima *Scrophularinis* potius; quam *Gentianeis* Juss. asocianda, ab illis discrepans corolla staminibusque, ab illis quae ad ammo do abluens structure fructus.

An *Sohneorum* civis ? Nomen imposui a septo incomplete, quasi dimidiato.—*Watt\**  
*I cit>*

To the preceding account, which is almost literally extracted from the 13th Vol. of the Linnean Transactions, I have nothing to add, except that I have hitherto found it impossible to make the plant live in Bengal.

SCHOEPFIA FRAGRANS, *Wall in Roxb. Flor. ind. %p. 188. TAB. 9.*

Foliis lanceolatis, acuminatis; racemis axillaribus, solitariis; ovario triloculari; drupa ovata, molli-sperua.

Nomen Parbutteanum: *Haloomaphe*.

Crescit in sylvis minus elevatis Napalire, a Bechiaco, usque ad convallem magnam, ubi satis frequens. Etiam incolit loca *magis* elevata, septentrionalia. Floret sub pluviis; fructus maturescunt Deceinbre-Martio.

Arbuscula, *trunco* irregulari, diametrum pollicum tres vel quatuor emetente, *corlice* crasso, spongioso, molli, rugoso, ex albido flavescente; *ligno* levi, cinereo. *Rami* teretes, albicantes, leviter flexuosi, uti reliquae partes glaberrimi; *gemmae* copiosae, parvae, squamis constantes numerosis. *Folia* sparsa, approximata, interstitiis pluries longiora, bi-tripollicaria, integerrima, lanceolata, acuminata, basi acuta, lateribus param inaequalia, subcarnosa, fragilia, avenia, supra atro-viridia, lucida, subtus pallida, nervis aliquot obsolete, obliquis, capillaribus, ad marginem reticulatis; setae flavicantia. *Petioluli* trilineares, teretes, supra sulcati, basi articulati, siccitate mox decidui. *Stipulae* nullae. *Flores* (fig. 1, 2.) flavi, fragrantissimi, dispositi in racemos simplices, axillares, subsessiles, tenuos, folio dimidio breviores. *Pedunculus*, uti *racfris*, gracilis, teres, uduus, basi circumdatus squamulis gemmaceis, mine parum ultra adscendentibus, bracteolas mentientibus crassas, ovatas, subpedicellatas, gibbasas. *Pedicelli* sex vel septem, filiformes, subclavati, unguiculares. *Calyx* (fig. 3.) parvus, duplex (judicio authorura) uterque monophyllus: alius inferior (*Iractca catyiformis*, mihi) pedicelli apici insertus ovariumque suffultiens, divisus in lobos duos tresve ovatos, acutos, inaequales, membranaeaeo-marginulatos, intermedio majori mine bi- vel tridentato; alter (*calyx verus*) superior, obsolete, margine angustissimo, integerrimo ovarium coronans. *Corolla* (fig. 4.) subcarnosa, infundibuliformis; *tubus* cylindricus, unguicularis, basi obscure pentagonus, apice leviter ampliatus in *limbinn* quinquefidum, laciniis lanceolatis, acutis, aestivatione valvatis, vix inaequalibus; *faux* pervia, ad basin sine lacinae munita fascicillo pilorum succulentorum minuto, erecto, filamentum occultante. *Filamenta* brevissima, erecta, subulata, laciniarum basi, infra acervulos istos pilorum inserta, iisdemque opposita, iude per tubum lineis capillaceis decurrentia. *Anikerae* ad faucem corollae erectae, biloculares. *Ovarium* (fig. 5, 6.) carnosum, oblongum, calycibus multo longius, laeas tres emetens, vertice gerens discum carnosum, latus, conicum, obtusum, intra corollae tubum proeminulum; triloculare, trisporum. *Ovula* cylindrica, loculis breviora, ex apice axis pendula. *Stylus* filiformis, tubi longitudine. *Stigma* clavatum, carnosum, parvum, trilobum. *Drupa* (fig. 7, 8.) baccata, oblonga, obtusa, lac vis, ex albo flavescentis, magnitudine fere fructus Oleae sativae, calyce sic dicto inferiore, persistenti suffulta, vertice inscripta vestigiis insertionis corollae et calycis superioris fere oblitteratis. *Caronellus*, fineam crassus. *Putamen* (fig. 9.) tenue, chartaceum, oblongum, album, lineis numerosis, parallelis, longitudinalibus, elevatis, anastomosantibus notatum, uniloculare, monospermum, vertice umbilicata carni arctius adhaerens. *Perispermum* (fig. 10.) amygdalinum, album, putaminum conforme, parum rugosum. *Integumentum* simplex, tenue, ferrugineum, spongiosum, ad verticem seminis notatum vestigiis linearibus ovariorum duorum abortivorum et axis ovarii. *Embryo* (fig. 11, 12.) minutus, lacteus, cylindricus, rectus, ad verticem perispermii locatus, inversus. *Cotyledones* parallelae, ovalu-

SPHAEROCARYA EDULIS.

obtuse, dorso convexe, dimidium ipsius embryonis emetientes. *Radicula* supera, sub-  
tubinata, lineam demidiam e superfice perispermi remota. *Pktmula* inconspicua.

OBSERVATION.

Mans, de Jussieu has justly observed in an excellent memoire chiefly on the families of *Caprifoliaceae* and *Ijorantheae* inserted in *Annal. du museú m d' histoire natnrelle, VA.* p. 300, that this genus is the connecting link between those families, belonging, however more properly to *Loranthece*. I would add that it is nearly allied to *Santalaceae* of Mr. ferown. The account which the first mentioned immortal botanist has given of the fruit, taken from the manuscript of the accurate Richard, as far as it goes, agrees exactly with the present species. The difference between the structure of the ovarium and that of the fruit has, however, not been noticed; and as Schreber describes the genus, as having a three-celled berry with several seeds, the number of the abortive ovula may perhaps vary. In my tree there are invariably found three ovula, one of which only conies to maturity; the other two are abortive, remaining attached to the upper end of the cavity of the putamen, as does also the axis of the ovarium, in the shape of withered, flattened threads.—*Haenkea*, Ruiz et Pavon flor. peruv. (not of the prodromus) belongs probably to this genus, as has been remarked by Schultes, in *syst. veg.* 5. p. viii.—The fruit bears some resemblance to *Rhysospermum*, Gaert. carp. suppl. p. 232, t. 224, which is the same as *Notelaea*, Vent, according to Mr. Brown, (*prodr. nov. hoi I. 1. p. 523*).—The perfume of the flowers is of a most delightful kind, and may be perceived on steeping them in warm Avater even long after they have been dried.—*Wall. loc. cit.*

SPHAEROCARYA, *Wall in Roxh.jlor. ind. 2. 371.*

*Calyx* quinquepartitus. *Petala* quinque, minuta, staminibus totidem alternantia. *Squamulæ* quinque, fimbriatae, inter stamina laciniatae calycis. *Ovarium* absque ullo disco. *Stylus* indivisus. *Drupa* infera. *Nvx* glabra, suturis destituta.

Systema Linneanum: *Pentandria monogynia*, sectione floribus superis, pentapetalis, fructu drupaceo.

Ordo naturalis: *RTiamnearum* sectio dubia, fructu infero, insuper abluens embryone inverso.

SPHAEROCARYA EDULIS, *Wall TAB. 10.*

Haud rara in syhis vallis Napalia montiumque vicinis. *Floret* Aprili, Majo. *Fruct.* Octobre.

Nomen Nev/arrense *Lushpoo* ; etiam *Eal-Jtfurisee*.

Nomen Parbutteuni *Bun-Amb*.

Arbor frondosa et umbrosa, cortice cinereo. *Itamuli teretes* ; juniores, foliaque tenella obtecta villis longis, sericeis, nitidis, copiosis. *Gemma* (fig. 12.) majusculae, ovatae, sericeo-pilosae, squainis imbricatis rotundatis. *Folia* alterna, patentia, ovato-oblonga, acuminata, integerrima, basi acuta, marginibus subrecurvatis, supra laevia, lucida, juxta nervos sulcata, sublus pallidiora, costâ nervisque paucis alternis, obliquis, villosis, elevatis, venis reticulatis ; subcarnosa, tri- ad sexpollicaria, in luxuriantibus ramis usque ad novem-pollicaria, decidua, tempore florescentite germinantia. *Peliolus* vix semi-ungularis, convexus, supra sulcatus. *Stipulae*; nullae. *ludcemi* solitarii, subsessiles, tenninales vel axillares foliorum supremorum, densè villosi, bi- tripollicares. *Mores*



(fig. 1,2.) pauci, alterni, virides, inodori, parvi et inconspicui, insidentes brevibus, clavatis carnosus, nudis. *Calyx* superus, quinquepartitus, una cum corolla emarcescens, persistens; *lacinae* (fig. 3,4) triangulares, acutae, apice villosae, intus glabrae, patentee, vix semilineam longae, aestivatione valvatae. *Petala* quinque, minuta, ovata, obtusa, laciniis calycinis multo minora, infra fissuras calycis inserta. *Filamenta* quinque, breviter, erecta, glabra, petalis alternantia, basi laciniarum calycis inserta iisdemque opposita. *Antherae* erectae, biloculares, albae. *Spermata* quinque minutissima, pilis fasciculatis succulentis barbatae, inter filamenta et lacinias inserta. *Ovarium* (fig. 5, 6.) inferum, clavatum, junctusculum, nitidum, pubescens, vertice, intra florem, concaviusculum, uniloculare, monosporum. *Ovulum* succulentum, oblongum, erectum, elevatum chorda spirali, carnosum, subdiaphanum, fundo ovarii insertum, perque canal em proprium angustum in cellulam oblongam, propriam ovuli conductam. *Stylus* brevis, cylindricus. *Stigma* convexum, obsolete bilobum. *Drupa* fig. (7, 8, 9.) pyriformis, pollices duas et demidium longa, sesquipollicem crassa, epidermide obtecta luteo-viridi, tenaci; extremitate superiore rotundata et excavata foveola centrali profundam lacinias calycinas incrassatas, petala filamenta stylumque emarcescens occultante; basin versus attenuata, cuneiformis; unilocularis. *Caro* pallide fuscus, mollis, subglutinosus, tertiam pollicis partem crassus, fibroso-vascularis. *Nux* (fig. 10, 11) solitaria, magna, globosa, glabra, sine ulla sutura, cavitatem omnino replens eaque firmius adherens, hinc inde notata foveolis parvis carni arctius adhaerentibus, vertice obsolete apiculata, basinanum scabra perforata foraminulo exiguo. *Putamen* cinereum, vix lineam crassum, uniloculare, monospermum. *Perispermum* amygdalinum, album, nuci conforme, usque ad medium perforatum canaliculum obsolete e fundo seminis, prope foraminulum istud putaminis surgente, sursum obliterate, vestigium chordae ovuli includente. *Integumentum* simplex, ferrugineum tenue. *Embryo* albus, oblongus, breviter, intra verticem perispermii oblique locatus. *Cotyledones* oblongae parallelae. *Hidicula* supera, conica.

## OBSERVATION.

The inhabitants of Nepal are very fond of the fruit of this tree, which however, to a European palate holds out but little temptation. The wood is nearly white, of a firm texture, and appears to me suited to the work of the cabinet maker; it is used, only, for firewood and posts. The direction of the ovulum and that of the embryo are directly contrary, the former being decidedly erect, while the latter is pendulous.— *Wall. loc. cit.*

## PASSIFLORA NAPALENSIS, Wall. TAB. 11.

Tenuis, scandens, laevis; foliis indivisis, integerrimis, ovato-cordatis, acutis, glaucis, basi subtus petiolisque medio glandulosis; pedunculis axillaribus, bi-trifloris, bracteolis sparsis, subulatis; foliolis oblongis, alternis quinque angustioribus.

Crescit rarius in sylvis convallis Nepalise ad Pusputnath, Nagarjhoon, etiam montis Chhandag'hiry. Floret Junio, Augusto, Fructus maturescunt versus finem pluviarum.

Frutex tenuis, ramosa, glaberrima, scandens et volubilis. Cortex gracillimus, cortice tectus gryseo. *Jiami* longi, gracillimi, filis emporetico crassiores/pallidi, glauci; tenelli pubescentes. *Folia* petiolata, alterna, palentia, interstitiis paulo longiora, ovato-cordata, cuspidulato-acuta, integerrima, nunc obsolete crenulata, sinu basos parvo, lobisque rotundatis, nunc (basi folii rotundata) fere obsolete, bi-tripollicaria, raembranae, lacvissima, valde glauca et opaca; pagina superiore interdum variegata maculis amplis albicantibus, inferiore tri-vel quadrilobis, nervis gracilibus, in junioribus foliis puberulis, exterioribus brevissimis, parum reticulata, ad basin costae, utrinque, glandula orbiculata, sessili, plano-convexa, viridi, lucida, nunc geminata, quandoque pluribus

inter nervos vagis. IV/W#steres, gracilis, filiformis, supra sulcatus medioque, vel paullo infra, glandulis duabus, parvis, cylindricis, brevibus, alternantibus, approximatis. *Stipulae* nullae, nisi ciliae axillares, subulatae, minutae, carnosae, fasciculatae, emarcescentes. *Cirrhii* axillares, solitarii, filiformes, spiraliter torti, indivisi, laeves, nudi, folio sesqui vel duplo longiores. *Pedunculi* axillares uniflori, nunc bi- vel triflori, filiformes, petiolo dimidio breviores, puberuli, *hracteolis* quibusdam sparsis, subulato-linearibus, emarcescentibus instructi. *Involucrum* nullum. *Flares* (fig. 1, 2.) inter minores, vix ultra pollicem transversum, emittentes, albi, externe dilute viridescentes, inodori. *Perianthium* decempartitum, patenti-recurvum, fundo convexo, parum prominulo; *lacinico* oblongo-lineares, obtuse, luembranchaeo-argenteae; alternae angustiores, petaloideae. *Corona* triplex, concolor: *exterior* setaceo-multiradiata, patentissima, perianthii foliolis plus dimidio brevior; *media* huic proxima, baud vero conligua, plicato-multifida, inflexa, basi urceolata, lobis (fig. 3.) lineari-lanceolatis, versus columnam conniventibus, acutis, propter margines sursum revolutos supra canaliculatis; *intima* constans annulo obsolete, angusto, integerrimo, puberulo, basin pedicelli ovarii purpurascens cingente. *Columna* perianthio brevior. *V-lamenta* subulata, recurvato-patentia. *Antifer*?, ovata?, leviter deflexa. *Ovarium* ovato-subglobosum. *Syli* devaricati, filamentis breviores. *Stigmata* clavata. -*Bacca* (fig. 4.) sphaerica, nuda, laevis, flava? diametri linearum trium.

## OBSERVATION.

This species comes near to *Passiflora pallida*. Linn., which Sir J. E. Smith has justly observed (Elces'g Cyclopaedia, in loco) consists of two different species, namely one described by Plumier and the other by Piso. Loureiro's *P. pallida* (Flor. cochinch. 2. p. 527) is no doubt a distinct plant, as pointed out by Willdenow, in his edition of that work (2. p. C45.); it seems to differ from ours in having opposite, ovate leaves, and much larger flowers. These two last mentioned species appear, therefore, to be the only ones which have hitherto been found in India; unless *P. coccinea* considered as a native of China, where Loureiro, in the above quoted work, says it grows wild; but this has been doubted by Sir J. E. Smith (loc. cit.) The present species is not without its elegance, although it is far behind most of the members of this beautiful genus. It is rather an uncommon plant in Nipal.

## LILIUM GIGANTEUM, Wall. TAB. 12.13.

*Caule* folioso, racemoso; foliis petiolatis, sparsis, cordatis, amplissimis; floribus indivisuliformi-canipulatis, intus glabris.

*Stipulae*, rectius *Spiraei* et *Osjiroi*. Kaempfer. Amoen. Exot. p. 870. Ejusd. Icon, selecta Banksii edit., p. 3. t. 47.

*Lilium candidum*, Thunberg. p. 133?

Crescit in monte Sheopore, versus medium ejus, ad loca humida, umbrata.

*Floret* sub pluvio, a mense Maii, usque ad finem Julii. Fructus maturitatem attingunt Octobri.

*Bulbi* ovato-globosi, aggregati, magnitudinis pomi mediocris, vetustuti maximi, constantes squamis pluribus crassis, carnosis, ovatis, truncatis, planiusculis, glabris, subpatis. *Caulis* strictus, cylindricus, uti tota planta glaberrimus, cylindricus, sulco laterali alternatim interrupto saepe notatus, e basi, diametrum pollicarem ad bipollicarem emittente, aequaliter attenuatus in apicem calicis scriptorium ad digitum minimum crassum, quatuor ad septem pedos ahus, fructifer adhuc elatior, cavus et inanis, nec septis interstinctus, parietibus duas tresve lineas crassis. *Folia* magna, sparsa, plana, mem-

branca, patula, petiolata, quaedam remotiora, alia approximatione, saepe interstitiis  
 cluplo longiora, lato-ovata, cordata, attenuato-acuminata, siliis profundo subdecurren-  
 tibus, rotundatis, distantibus, leviter repanda et undulata, membranaceo-marginulata,  
 vitida, supra furturata viriditer, subtus pallidiora, costa ampla, crassa, albicante, nervis  
 obliquis, distantibus, venis capillaceis, reticulatis, vena insuper indivisa, submarginata;  
 inferiora maxima, novempollicaria ad pedalia, longius petiolata, superiora sensim  
 minora, profundius cordata, summa tripollicaria, brevissime petiolata, gracilius et longius  
 acuminata basi subrotundata, subintegra. *Petioles* crassi, Sulco lato canaliculati, mar-  
 ginibus sessilibus, basi latissima tertiam caulis partem amplectente, infima folia tequan-  
 ta vel superantes, superiores iisdem his terve breviores, summi brevissimi, latissimi, polli-  
 cibus vix infra marginati. *Flores* maximae, infundibuliformi-campulatae, oblique nuan-  
 tes, octo ad decem dispositi in racemum amplissimum, terminalem, nudum, pedicelum vel  
 sesquipedalem; albi, exclusis dorsum viridescentes, intus nivescentes, fragrantibus; *tubus*  
 viridescens, digitum medium fere crassus, tricostatus, obtuse triangularis, basi retusum in-  
 equaliter subtrilobus, sensim dilatatus in limbo qualiter patularum subrevolutum, quadri-  
 ad quinque pollicare. *Pediculi* teretes, feraces, breves, semipollicares, recurvato-nutan-  
 tes. *Flores* ante anthesin virides, deflexi, bracteis obtecti magnis, foliaceis, ovatis, albica-  
 tibus, eaducissimis, insertionis vestigium infra singulum pedunculum linquentibus angus-  
 tuni, scissimilunare, utraque extremitate ascendens; praeterea bracteola interna, alba, linea-  
 ri-fimbriata, ascendens, pollicem longa, supra basin singuli pedunculi inserta.—*Petala*  
 (fig. 3.) oblongo-spathulata, inferiore dimidia parte adaequata crassa, vix lineas quatuor lata,  
 exteriore dilatata in laminam lanceolatam, acutiusculam, minutim striatam, intus ad mar-  
 gines a punctis minutis derisissimis rufescentem; basi subtus gibboso-convexa, supraque  
 fovea latiuscula, mellifera leviter excavata, pagina superiore sulco exarata longitudinali, ex-  
 frorsum oblitterata; marginibus nunc parum inaequalibus; *tria exteriora* parum latiora,  
 dorso convexo costato; *interiora tria* costa lata, elevata, utrinque sulco exsculpta pro-  
 fundo margines petalorum exteriorum recipientes. *Stamina* parallela, recta, conniventia,  
 supra faucem floris vix exserta, limbo parum breviora, longitudine parum inaequalia.  
*Filamenta* alba, carnosa, plana, petalorum basi inserta, sulcibus interiorum incumbentia,  
 cuius illis canaliculam formantia neotariferam, apice teretia. *Antherae* oblongae, ob-  
 tusae, pallide flavae, rectae, leviter versatiles. *Ovarium* (fig. 4.) oblongum, obtuse triangu-  
 lum, inaequaliter nitidum, sesquipollicare, trilobum, oculis orbiculato-planis, fere  
 aequo numero placentae, in singulo loculo bijugae, duplici serie parallelae insertis. *Stylus*  
 crassus, rectus, longitudine, infra stigma leviter incrassatus. *Stigma* pris-  
 matico-trilobum, obtusum, vertice triangulari, scabro, mucoso. *Capsula* (fig. 5.) ovato-  
 prismatica, angulis obtusis, retusa cum cuspidate, ferebatur concaviusculis, basi clavata,  
 pollices duos et dimidium longa, duos lata, fusca, glabra, coriacea; *relictae* margine in-  
 crassatae, introrsum pectinate serie simplici ciliarum longissimarum, angustissimarum.  
*Semina* (fig. 6.) innumera, levissima et tenuissima, triangularia, oblique obovata, mem-  
 brana lata, tenuissima marginata, basi angustata et retusum, semipollicaria. *Coetera* ut in  
 Lilio bulbifero; G. iert. carp. 2. p. 16. t. 83.

## OBSERVATION

This majestic Lily grows sometimes to a size which is quite astonishing; a fruit-bearing specimen of the whole plant, which is destined for the Museum of the Hon. East India Company, measures full ten feet from the basis of the stem to its apex; its general height, however, when in full blossom, is five or six feet, and in that state it is a truly superb object. The flowers are proportionally large and delightfully fragrant, not unlike those of the common white Lily. The outer three petals are closely united to those within by their acute margins insinuating themselves under the dorsal rib of the latter, each

side of which is deeply furrowed. The filaments are inserted with their flat broad base just above the little cavity at the base of each petal and continue closely applied for about half their length to the furrow which proceeds from thence, forming a nectariferous canal, which leads to the above mentioned cavity. *Kaempfer's* figure is a tolerable representation of my plant before its flowers expand; but it is impossible for me to say, if it is actually intended for the same species. My ever-to-be-lamented benefactor and patron, the late Sir Joseph Banks, observes in the above quotation, that Thunberg refers this figure to *L. candidum*; but this last is a widely different species. I have ventured to quote Thunberg's plant, because the extraordinary length, which he ascribes to its flower seems to indicate, at least, that it cannot be the same as Linnaeus's *L. candidum*. The root is at first very small, consisting almost of a solid mass; a number of leaves soon spring up from thence and it is the very thick and fleshy bases of these, which afterwards constitute the large bulbs. A number of these are often found surrounding the base of the stem, the whole forming a mass as large as an infant's head. Although I have repeatedly procured its roots I have never been able to succeed in making them shoot out any plant, or even survive one season in the Honorable Company's botanic garden.

### HOLBOELLIA, Wall

*Flares* monoici. *Perianthium* hexaphyllum; *foliis* duplici serie, ordino ternario alternatim dispositis. *Stamella*: *Stamina* sex parallela, distincta; *antheris* unilobatis, extrorsis. *Glandulae* sex ovatae, filamentorum basibus oppositae, inde adnatae. *Rudimenta* pistillorum centralia. *Foeminae*: *Ovaria* tria, distincta, oblonga, attenuata. *Stigmas* nulli. *Stigmata* simplicia, sulcata, evanida. *Stamina* sex sterilia, nana, completa, pistillorum bases ambientia. *Baccae* saepius tribus pauciores, divaricate, oblongae, carnosae, sessilis, corticatae, multiculares, intus longitudinaliter dehiscentes, uniloculares, polyspermae. *Seniina* nidulanta, oblongo-ovata v. reniformia; *perispermio* copioso; *embryone* minuto, *radicula* interna vel centrifuga.

**Classis Linneana: Monocotyledonae hexandria.**

Ordo naturalis: *Menispermaceae verae*; ab his tamen non nihil abluens directione radice, infera vel centrifuga. A generibus tribus, sectionem harum foliis compositis insignitam constituentibus, distinguitur sequentibus. A *Lardizabala* Ruiz et Pavon, floribus hexaphyllis, staminibus liberis, staminibus sulcatis, evanidis, baccis follicularibus, unilocularibus, pulpa polysperma. A *Stavniottia*, De Candolle, differt staminibus haud coalitis nee aristatis; a *Bursaia*, du Petit Thouars absentia corollae (perianthii nempe foliola in nostris partibus uniformia, petaloidea vel sepaloidea) filamentorum basibus distinctis, et fructus fabricae baud drupaceae nee inonospermae. Abludit praeterea floribus monocicis, qui in illis dioici vel polygami. Habitus generalis *Lardizabalae biternatae* (in Itinere Perousii, tab. 6, 7, et 8 optime delineatoe) niagis adhuc, quoad folia, *Stauntonice* accedens.

Habitus: *Frutices* magnae extense volubiles, gemmiferae, glaberrimae. *Folia* alternata, partim digitata, foliis integerrimis, coriaceis, trinerviis, partibus omnibus utraque extremitate intumescens et articulatis. *liacemi* fasciculati, subcorymbose, nudi, laxi, axillares vel ad basin ramulorum, pauciflori. *Flores* albi, extus parvis purpurescentes, fragrantibus. *Baccae* magnae, tumidae, purpureae, abortione saepius tribus pauciores, esculentae. Genus consecratum amico et preceptoris carissimo, Frederico Ludovico Holboell, Horti Botanici Regii Hafniensis hortulano dexterrimo, botanico peritissimo, operi Hornemannii *Flora Danica Oeconomica* nuncupato aliisque contributoribus, quibusque hortum Calcuttae ditavit thesauris seminum frequentibus, aniplissimis; omniumque fertilissimis

## HOLBOELLIA LATIFOLIA, Wall TAB, 16.

Foliolis temis vel quinis, ovatis; floribus racemosis; baceis ovatis.

Pai-biitt. *Gooplea*; *Baegul*.

Frequens in sylvis montanis Napalia?, Cheesapany, Cliandaghira, Sheopore, coet. Florens ?flartio-Majo. Fruct. Octobre.

*Frutex* ampla, ramosa, valde volubilis, omnibus partibus glaberrima, surgens e radice lignosii, ramosissimi. Caulis cylindricus, valde tortuosus, frequenter diametrum pollicem trium ad quatuordecim metiens, cor/re crasso, suberoso, molli, cinereo, vel flavicante, ligno cinerascite, radiato, paroso, levi. Jffam longissimi, toretes, cinerei; juniorcs flagdli fonnes, g-lauci, subcirrhali. *Gemma?* inagnao, ovat&SJgf/am&obtccliB coriaceis, lato-ovatis, cuspidato-acutis, diutius persistentibus et raraorum novelloram basin ambientibus. *Folia* patentia, petiolata, remotiuscula, peltatim digitata, ternata vel quinata, palmaria. *Petiolis* graciies, teretes, supra plani, basi apiceque articulati et oblongo-intumescens, tri-quadripollicares; *partialcs* illis siiniHimi, sed graciliores et breviores, pollicares ad bipollicares, internodiolongiore, dunique tribns phires laterals longitudine decrescentes, utriusque articulo-incrassati, verticillatim patentissimi. *Foliola* tria vel quinque, ovalia, acuta, rarius acui. unata, nunc rotundato-acutiuscula, >»i rotundaUi; infegerrima, leviter complicata, apicem versus parumper recurvata, fir in a et coriaccu, laevissima, siccitate flavicantia, tri- ad quinquepollicaria, quin majora, supra atro-viridia, lucida, ad vasorum tractus leviter snleata, basi, ad utrumque latus insertionis petioluli, notati tuberculo minuto, oblongo, jranduliformi; subtus opaca, pallida, subglaucescentia, trinervia, costa jracili elevata, nervis lateralibus in arcus anastomosantes, submu/ginales delitescens; prseterea nervi e costalateraliter progrediuntur subtransversales, breves, remotiusculi, alternantes; venae reticulate capillares. *StijruloB* nullae. *Flores* subcampanulati, nutantes, albi, semi pollicem longi, valde fragrantcs, dispositi in racemos simpl^ps, fasciculatos, subcorymbosos, lax?s, axillares, vel circum basin novellorum ramorum subsparcos, petiolis breviores. *Sicstivatio* valvata.—*Pedunculi* graciles, subcomplanati; *communis* pollicaris, bipollicarisve, basi saepius squamis gemmaceis aliquot circumdatus; *partiales* filiformes, subclavati, pollicares, basi articulate suffulti bracteola lineati^i, membranacei, patula, mox decidua. *MascuU* (fig. 1,2.) in distinctis racemis. *Foliolaperianthii* parum carnosae, oblonga, exteriora obtusiuscula, interiora paullo angustiora, introrsum harioso-acuta. *Stamina* (fig. 4,5.) distincta, parallela, recta, *contigun*, seqnalia, periautliio pnrum breviora, sabclavata^fomenta subulata, cavnosa, apicc ab anthera denudata, basi extus gidiidula carnosae, sessili, pi and, ovata, ad n at A; *aniherte* lineares, albje, oculis nngiistis, reinotis, filamentj dinudi& superior! parti longitudinaliter adnatis, extrorsum dchisceutibus. *Rudimenta* (fig. 3.) pistillorum tria, subulata, carnosae, inira stamina, hiscedimidio breviora. *Flores foeminei* (iiq. 6, 7.) mascuiis parum breviores, foliolis paullo latioribus. *Pistilla* (fig. 8, 9, 10.) tria in cculo floris, parallela, apicem versus le\iter divergenti-recurvata, *Ocaria* oblongo-cylindrica, attenuata, foliolis perianthii interioribus opposita; intus obsolete sulcatafacileque juxta longitudinem duas valvulas divisibilis, unilocularia, polyspora: ovulis parietibus undique, salvo sulculo isto, adnatis. *Styli* nulli, nisi apices ovarioruin. *Stigmata* simpli\*cia, parva, obliqua, obtusa, sulcata, evanida. *Stamina* (fig. 11.) sex sterilia, clavata, **pistillorum** bases circumpositae, hisce multo breviora, erecta, filamentis crassis, brevissimis; antlicris grandiusculis, polline vacuis. *Baccae* (fig. 12,13.) ^sepissime duae, nunctres, divaricate, raro solitariae, apici dilatataB pedunculi lignosi, parum elongati, penduli inserti, ovato-oblonga3, utrinque obtusis atque rotundatis, pollices tres longae, sesquipollicem crassa?, atropnrpureae, nitidal, tuinidu3 et torosse, superficie nempe insquali et undulata, nunc paruin senulosas, latere interno inscriptive suturalongitudinali, undulata, crassiuscula, juxtaque cam plena niaturitate, a basi usque ad apicem dchiscentes in valvas duas fcquales, folliculares, r-rassas; uniloculares, polysperaiiffi- \* *Cortex* carnosus, tres lineas crassus, intus obtec-

tus cuticulæ tenui, e granis crustaceis vel subosseis conflata, a carne facile separabili. *Caro* alba, mollissima, spongioso-reticulata, ab axi cylindrica, solidâ, carnosa, usque ad peripheriam divisa in cellulas concentricas, horizontales, alternas, seriebus sex ad octo sibi invicem irappositas, approximatas, septis tenuissimis, pulposis separata?, monospermas. *Semina* (fig. 14, 15, 16, 17.) valde copiosa, numero cellularum correspondent, horizontalia, centrifuga, oblonga vel rhomboidea, laevissima, atra, lucida, ungueni longa, ad basin latiusculiani, rotundatam inscripta *rimâ umbilicali* lineari; apice paullo ancrustiora, lateribus planiusculis, margine altero convexiore, altero angustiore. *Testa* coriacea, secus dorsum seminis paullo crassior. *Integumentum interim: pellicula* tenuis, fusca, ebumini arete applicata. *foimcwamygdalino-carnosum*, album, semini conforme, extremitate umbilicali, distantia minuta ab ipsa peripheria, exsculptum cavitate exigua, mucilaginosâ, embryoniferâ. *Embryo* brevissimus, vix 1 in eam longus, trochleari-oblongus, niveus. *Cotyledones* duae, ovatae, obtusae, contiguae. *Radicula*, cylindrica, dimidiam embryonis longitudinem efficiens, *infera*\*

### HOLBOELLIA ANGUSTIFOLIA, Wall. TAB. 17.

*Foliolis* senis nonisve, lineari-lanceolatis; *pedunculis* bi- trifloris, subfasciculatis; *baccis* oblongis.

Nomina vernacula, statio, tempus florendi, fructuumque maturatio eadem ac praecedentis.

Habitus omnino prioris, sed statura gracilior et minor. Tota glabra. *Rami* perquam longi, viminei, valde tortuosi et volubiles, nunc radicantes. *Folia* longius petiolata quam in illa specie; *petioli communes* foliolis saepe sesqui ad duplo longiores, triflori; *novella rubicunda* *Foliola* septem ad novem, in formam ovato-orbiculatam, peltatam, verticillatim patentia, lineari-lanceolata, attenuata et subacuminata, cuspidata, basi rotundata, parumper repanda, integerrima, laevissima, lucida, coriacea, sed minus firma quam in altera specie, tripollicaria ad sexpollicaria; intermedium longius, petiolo partim gracili, pollicari suffultum; lateralibus utrinque decrescentibus, breviusque petiolata; duo basales reliquis duplo breviora, petiolo brevissimo insidentibus; circumscriptio generalis folii hinc subovalis evadit; superficies inferior glauca, reticulata, ad basin obsolete trinervia, juxta tractum vero costae elevatae nervis brevibus, «subtransversalibus, intra marginem arcuatim anastomosantibus instructa. *Pedunculi* axillares, lateralesque, subfasciculati, bi- triflori, teretes, laeves, petiolis bis terve, quin pluries breviores; fructigeri valde elongati, laxi. *Flores* (fig. 1—6.) albi, extus parum purpurascens, suaveolentes, structura omnino prioris aemuli; *pedicelli* ad basin liracteola, lineari, patula, suffulti. *Baccae* (fig. 7.) saepissime duae, oblongo-cylindricae, pollicem crassae, tres longae, undulatae, nitidae, purpureae, latere interiore dehiscentes. *Semina* (fig. 8, 9.) ovato-reniformia, minorum quam in prioris specie; *embryo* (fig. 10.) in altera perispermii extremitate locatus, centrifugus.

#### OBSERVATION.

These two shrubs are easily distinguished from each other. The first species, is by far the strongest, growing sometimes to a gigantic size. I brought specimens down with me, for the Honourable East India Company's Museum, of a trunk, as thick as a good sized ash. Its leaves are broad, ovate, either ternate or quinate, about as long as the common petiol; the flowers quite white, collected in clusters; the berries large and ovate, the seeds oblong. The second species has long-petioled leaves; the leaflets from seven to nine, narrow- or linear-lanceolate, scarcely two-thirds of an inch broad; the peduncles few-flowered, and the flowers attaining soon after expansion a purplish colour;

the berries are not so thick, and of an oblong shape; the seeds reniform. The natives of Nipal eat the fruit of both plants, the pulp of which has a sweetish, but otherwise insipid taste.—Can Thunberg's two *Raianite*, *quinata* and *hexaphylh* (Flor. japon. p. 148 et 149) possibly belong to this genus?

ARUM NEPENTHOIDES, Wall. TAB. 18.

Caulescens, erectum, laeve, dioicum, vaginis petiolisque variegatis; *foliis* binis, peltatim quinatis, *foliolis* lanceolatis, acurainatis; *spathâ* terrâinali, pedunculatâ, *limbo* trilobo: *lobis* lateralibus reniformibus, horizontalibus, intermedio acuto, fornicato; *clavd* spadice obtusissima, nudâ, vix exserta, basi truncato-retusa; *staminibus pistilUsqve sterilibus* nullis.

Legi in sylvis Sheopore montis, florens et fructigerum tempore pluvioso.

*Tuber* depresso-orbiculatum, carnosum, fuscum, undulatum, laeve, intus rufescens,<sup>1</sup> vertice coraosum radice longis, crassis, teretibus, pallidè rubris, parum fibrillosis. *Caulis* erectus, carnosus, teres, bi- usque ad quadri-pedalis, laevis, nitidus, basi pollicem ad duos crassus, *vaginis* aliquot indutus remolis, alteraantibus, oblongis, arete adpressis, obtusissimis, hinc fissis, infimis brevissimis; medio diphyllus, superne gracilior, nudus, florifer, pennâ cygne\* vix crassior; totus variegatus maculis parum elevatis, scabriusculis, trans'versalibus et subannularibus, lateritiis, striisque hisce alternantibus, perpendicularibus, copiosis, parallelis, violaceis. *Folia* dua, subopposita, erecto-potentia, petiolata, peltatim-digitata, quinata, circumscriptione orbiculato-cordata. *Foliola* lanceolata, in acumen gracile attenuata, sessilia, deorsum angustata, basi subacuta, dorantalia ad spithamaea, inferiora duo hinc gibbosiore; membranacea, laevissima, suprâ atroviridia, nitida, subtus glauca, cost\* elevata, nervisque fracilibus, remotis, alternantibus. *Petiolus* teres, laevis, attenuatus, foliolis duplo longior, striis violaceis medio confluentibus annulatus, basi su\*, pennam cygneam crassâ, infra apicem vagina (fig. 2.) in liulam, brevissimam, obtusissimam product\* inserta. *Spatha* (fig. 1.) sohtana, terminalis, apice caulis spithamaea pedunculi in modum elevata, laevis, erecta, sex ad octo poillces longa, extus ex albo viridiuscula, pulcherrimè picta; intus emaculata, fuscescens; subnervia et subavenia; dimidia inferior pars convoluta in cylindrum pollicem crassum, ornatum striis brevibus, violaceis, numerosissimis, geminatis, longitudinaliter seriatis; *limbu\** patens, trilobus: *lobi* laterales orbiculato-reniformes, horizontaliter patentissimi, obtusissimi, sesquipollicares, suprâ convexi, fusciscentes, radiatim punctati, subtus concavi, albicantes, parallelè venulosi; *intermedius* triplo major, ectè adscendens, ovatus, fornicatus, apice leviter decurvus, subacuminatus, marginibus vix repandis, baseos parum contract® lateribus recurvatis, sensimque in lobos istos laterales auriculæformes abeuntibus, dorso convexo, inscriptus lineis quinque albicantibus, latiusculis, parallelis, minime elevatis. *Spadix* erecta, laevis, tubo spathæ parum longior, apiceque leviter supra, faucem elevata, dioica; mascula foeminea parum gracilior, et ina cum spatha brevior; pars dimidia inferior teres, e basi ultra medium densè staminifera vel pistillifera; coeterum nuda, absque genitalibus sterilibus, aliisve appendicibus, teres, sracilis, violaceo-punctata; pars dimidia superior, seucfam, cuneiformi-cylindrica, alba, punctuhta, laevis, obtusissima, intus spongioso-fibrosa, medió contracta, basi iterum parum dilatata, subtruncata etretusa. *Filamenta* valde numerosa, distincta, brevissima, subconica, seriebus quinque vel sex spiraliter ordinata, apice gerentia *antheras* tres vel quatuor verticillatas, nudas, globosas, uniloculares, vertice dehiscentes rim\* brevi trans'versa; illæ staminum superiorum sunt majores, violace®, subreniformes: inferiorum vero minores, citius emarcescentes, flavicantes, globosae: omnes tamen pollinifera?. *Ovaria* (fig. S, 4, 5, 6.) in distincta spadice, ovato-subrotunda, nuerosissima, seriebus circiter duodecim dense imbricata, uulooulaia, vertice purpurascencia, continent ovula

qvædam erecta.' *Stylus* brevissimus, columnaris, purpureus. *Stigma* orbiculato-reniforme, subpeltatum, cinerascens, pubescens. *Bacce* (fig. 7, 8, 9, 10, et Tab. 20, fig. 6.) obovatae, laeves, carnosae, coccineae, nitidae, vertice leviter retus& nolatae rudimento subulato, minuto, sphacelato styli, deorsum a pressura mutua parum angulares> uniloculares, di- ad tetraspermee, epidermide tenuissimâ obiectoe, lineas octo longee, super axin spongiosam, foveolatam, crassain, densé imbricatè in strobilum cylindrico-oblongum, obtusum, quinque ad sex pollices longum, duos fere crassum. *Caro* mollis, tenuis, pallida, excavata loculo amplo, laevi, aequali. *Semina* (fig. 1L) subglobosa, magnitudine grani piperis nigri, angulo uno alterove notata, dorso convexiora et subgibbosa, vertice mucrone exiguâ ab angulis confluentibus, basi que hilo crassiusculo munita, erecta, laevia, nitida, cinerea, *suffulta* *Junicuiis* brevibus, carnosis, e fundo loculi ortis, uno altero demum parietalibus. *Integumentum* coriaceum, crassiusculum, intus auctum membranâ purpurascente, mucoso-carnos<sup>i</sup>, tenuissim<sup>i</sup>, versus hilum parum incrassatd. *Perispermium* (fig. 12. et Tab. 20- fig<sup>s</sup>. 7, 8.) crassum, sub-carneum, album, figur& seminis; pars peripherica, semilineam crassa, fabric<sup>i</sup> molliori, et colore e viridi cyaneo distincta; basi leviter retisum, vertice *poro* minuto, convexiusculo perforatum. *Embryo* cylindricus, rectus, vel leviter arcuatus, lacteus, totam axin perisperm<sup>i</sup>, salv<sup>4</sup> iafimâ ejus parte, occupans; extremitas superior (radicalis?) paullo crassior, rotundata, porum istum perisperm<sup>i</sup> omnino occupans, ita ut, a substantia ejus denudata, immediate tegatur seminis integumento proprio (*epispermio*); extremitas inferior, (*cotyledonea*?) hilo opposita, ab bocce parum remota, obtusiuscula. *Interstitium* inter duas extremitates parum contractual, supra medietatem lateraliter fissum rimâ (Tab. 20. fig. 10.) brevi, longitudinali, introrsum et sursum in *cavitatem gemmiferam* embryonis parvulam, centralem, pervid. *Gemmula* (Tab. 20. fig. 11.) admodum minuta, conica, cavitate propriâ su& inclusa, pendula, basi nempe lat<sup>4</sup> substantiae ipsae ootyledonese sursum accretâ, apice libeM<sup>i</sup> directione obliquâ versus rimam externam descendente, centrifuge.

#### OBSERVATION.

This species of *Arum* is very remarkable on account of the singular form of the inflorescence, and the beautiful manner, in which the whole plant, with the exception of the leaflets, is variegated. It is difficult to express in a description, the beautiful manner of this variegation; but the figure of the plant in Tab. 18, will ffive a pretty correct idea of it. In general it consists of annular, radiated bands, alternately purple and red, the latter somewhat elevated. The fanciful form and decoration of the spathe represent somewhat the appearance of one of the pitchers of *Nepenthes Rafflesiana* of my late, mostdeeply lamented friend William Jack, excellently described by him in the 3d Appendix to the 2d Vol. of *Malayan Miscellanies*, of which superb plant I brought innumerable specimens back with me from Singapore, which were subsequently forwarded (in February 1823) to the Museum at the India House, on the Hon. Company's ship *General Hewett*.—This resemblance has suggested the specific name. The female inflorescence is larger than the male; especially the spadix. The sepsfration of the sexes in distinct plants, and the absence of barren stamens and pistils, as well as of all other appendages on the spadix, have afforded good characters for this and the two following species,—The difference in size and colour<sub>n</sub> of the anthers attached to the upper and lower half of the staminiferous portion of the spadix, seems to be unconnected with any sterility; they are all pollinifeiM<sup>ous</sup>, and appear to be equally perfect. The singular structure of the embryo, discovered by Mr. Brown in the family of *Aroideæ*, and by the late Mr. Richard in the whole class of *Endorrhizte* (*Monocotyledones*)<sup>^^</sup> fist promulgated by the former in his *Pro Jr. flor. nov. holland.* l. p. 334, and subsequently, by the latter, in his *A halysedu fruit\**; nor should

\* For the English version of this admirable little Work I am indebted to the translator John Lindley, Esquire, fit am wlom I received it, together with a copy of *hU* valuable monosrappy on *Kwes*, while I was in Nipal, and to whom I take this opporjianily of (reseatng mjr warmest thauta\*



I over have thought of looking for the minute fissure and gemmula, if they had not previously been pointed out by those immortal botanists. The gemmula is fixed with its broad basis to the vault of its cavity, just in the centre of the upper extremity of the embryo ; its free apex points obliquely downwards and outwards, so as to protrude towards the fissure, which commences a little above the middle of the embryo and extends towards its upper extremity.—By an oversight the perfectly mature seed has been represented on the plate exhibiting another species, namely *Arum speciosum*, Tab. 20. fig. 6, 7, 8, 9, 10, and 11. instead of Tab. 18; a circumstance, which the reader is requested to bear in mind\*

ARUM COSTATUM, Wall. TAB. 19.

Acaule, laeve, dioicum ; folio solitario, ternato, foliolis semicordato-ovatis, valde acuminatis, undulatis, sessilibus, subtus nervis numerosis, parallelis\* elevatis, approximatissimis, anastomosantibus; scapo petioli dimidium vix eequante ; spathe cylindraco-convolute, striatâ, intus carinatâ, faucein appendiculatâ, limbo integro, ovato, fornicato, acumine tereti, brevi, filiformi; clava spadiceis basi subtruncatâ, apice longissimâ, flagelliformi, descendente, spathe fere triplo longiori.

Habitat et floret cum priore.

Tuber mungnum, orbiculatum, parum depressum, carnosum, fuscescens, comosimjbris copiosis, ciliatis, crassis, ciliis rufescentibus, subnudis. Folium unicum, radicale, erectum, ternatum, triplicatum, uti omnes riantsepartes laeve, circumscriptione triobcordatum, claritrum sesquipedale emetiens, sinu baseos profundo, lobisque fere contiguis. P-2-iiufas crassus, carnosus, pallidus, striatilineis plurimis, parallelis, rotundis, basi unicum scapo, quem sulco satis profundo, subligulato amplectitur sesquipedale, vaginatus, superne nudus, hinc exsculptus sulco levi, niargiibus obtuseo, subtus attenuatus. Vagina duae vel tres, membranaceae, striatae, ex ulio rufescentes, altesse; infima brevis, adpressa, acutiuscula, reliquae laxae amplexantes, lanceolatae, attenuato-acuminatae, erectae, euisum liberae et leviter convolutae: summa et intima, longissima, scapum excedens. Foliola sessilia, purpureo-marginata, undulata, in acume linearè, fere bipollicare desinentia, coriacea, pedalia, supra atroviridia, luda, subtus praedita costae et basi crassissima extrorsum valde attenuate, nervisque innumeris, perquam approximatis, parallelis, obliquis, elevatis, parum ramosis et anastomosantibus, versus marginem arcuatis, venulaeque gracili connexis; intermedium ovato-ellipticum, basi attenuatum, costaeque robustae quasi petiolatum; lateralia patentissima, illo parum angustiora, semi-cordata, latere interno baseos valde obliquo, subexciso, externo producto in lobum magnum, rotundatum, quadripollicarem, lobo folioli oppositi fere contiguum. Scopus petiolo dimidio brevior, basi sexpollicari ab hujus parte inferiore amplexus, erectus vel obliquus, mine subrecurvus, teres, digitum minimum crassus, apicem incrassatam versus purpurascens. Inflorescentia terminalis, erecta, inodora, dioica, speciosa; mascula (fig. 1.; minor, gracilior. Spatha atropurpurea, extus ornata striis albis, parallelis, latis, versus apicem limbi anastomosi duplici, ab invicem parum distanti, connexis, intus costae carinis totidem angustis, attenuatis; tubus cylindraco-convolutus, tripollicaris; faux ampla, parum obliqua, nuda, margine leviter revoluta; limbus integer, ovatus, adscendens, fornicatus, apice nutans, acuta, terminata processu, vel acumine filiformi, tereti, descendente, pollicari, concolore; in mascula limbus, una cum processu isto oblique adscendit. Spadix gracilis, basi inclusa, bipollicaris, teres purpurea, et maxima parte obtecta organo fructificationis, superne nuda et absque organo sterilibus appendicibusve. Clava gracilis, teres, atropurpurea, basi cuneata, propter rugos longitudinales sublobata, infra fornicem leviter intricata, mox vero abiens in flagellum gracillimum, longissimum, undulatum, exsertum, oblique descendens, concolor, processum spathic

longe excedens, pedale et ultra; in spadice mascula (fig. 2. basi vix incrassata, flagello quadripollicari. Mascula.-JHamentaspaTsa, distanlia, teretia, brevia, carnosia, term in a ta verticillo antherarum quinque vel sex reniformium, lutearum.—Foeminea(Gg. 4) :ovaria (fig. 5, 6, 7.) densissimé imbricata, laevia, ovata, oligospora; stigmata subsessilia, subtruncata.

## OBSERVATION.

This handsome species is readily distinguished by its leaves, which are strongly marked with innumerable parallel, closely approximated nerves, proceeding in an oblique direction from the strong middle rib towards the margin, and here and there united by means of a few short ramifications. The spathe is beautifully striped on both sides and keeled within: the stripes unite under the apex of the limb by a double line.

## ARUM SPECIOSUM, Wall. TAB. 20-

Acaule, laeve, dioicum; radice repente; folio solitario, ternato, foliolis ovato-cordatis, repandis, acuminatis, petiolatis, distanter nervosis, petiolo variegato; scapo brevissima; spatha striata, ecostata, basi cylindraceo-convoluta, fauce nuda, limbo lato-ovato, integro, fornicato, in acumen lineare, longum attenuato; clava cuceata, apice trifloro, spatula dimidio longiore. \*

Habitat in monte Sheopore. Florens sub pluviis.

Radix crassa, carnosia, repens, quatuor ad sex pollices longa, diametro bipollicari squamis multis lanceolatis, membranaceis, aridis, ferrugineis oblecta, e lalere iuvriore demittens ftra longas, teretes, albicantes, ramulosas. Folium unicum, radicale, erectum, uti omnes partes laeve, circumscriptione trilobo-cordatum, lobis distantibus, pedale. Petioli crassus, teres, carnosus, bipedalis, zonis plurimis, prirallelis, radiiiti.i.'irpureis annulatus, basi tubulosâ scapum fere totum involvente, ostio obliquo, nuilo. Vagina dute, unilaterales, dimidiatoe, inembranoso, Aisooo, oiAntulce, lanctsalatds: inferior brevis, superior attenuato-acuminata, petioli dorso adpressa, scapum longitudine parum excedens.—Foliola ovato-cordata, decem-pollicaria, ad pedalia, acuminata, purpureo-marginata, repanda, vix undulata, coriacea, petiolis partialibus suffulta pollicaribus, crassi3, sulcatis, submarginatis; paging superiore lucida, inferiore pallidâ, costâ mediocri, nervis remotis, gracilibus, parallelis, versus marginem arcuatim anastomosantibus; tenuissimó et reticulatim venosa; lateralibus vix minora, semicordata, lobis rotundatis. Scopus teres, erectus, albus, petiolo quater brevior, ejusque basi vaginatus; apice tripollicari exsertus, purpurascens, superné vix dilatatus. Lillorescentia leviter nutans, dioica, inbdora, speciocissima, purpurea, basi intus albicans, absque costis vel carinis, striis ornata usque ad apiceiu fere parallelé decurrentibus; masculavix minor. Tubuspath& convo|ul|is, cylindricus, quatuor pollices longus, diametro sesquipollicari, intus albicans, extus striis rufescentibus notatus; /aw^pervia, nuda; limbus maximus, integer, adscendens, ovatus, subfornicatus, pedalis, palmam latus, basi intus pallidus, superné striatus, venulosus, apice nutante atenuatus in acumen gracillimum, linear^ tripollicare, versus tubum incurvum, atropurpureuni. Tota spadice (fig. I.) basis oblecta organis fructificationis, absque appendicibus; clava digitum fere crassa, cuneata, semi-inclusa, flava, attenuata in flagellum descendens, lores, gracile, decempollicare, purpureum, undulatum, limbo spathae dimidio circlu; lcmjiius. Mascula.Filamenta longiubcula, teretia, sj>arsa, approximala; anthers prscdeutiii bpecici—Foeminea (fig. 15 2, 3, 4.) prioris.

## OBSERVATION.

A very superb plant, belonging to the less frequent productions of Nipal. Like both the preceding species it inhabits dark and shady parts of the high mountain of Slicopore, and has hitherto resisted my endeavours to make it survive a hot season in Bengal. Fig. 0, 7, 8; and 9 belong to *Arum nepenthoides*.

## CINCHONA GRATISSIMA, Wall. TAB. 21.

*Foliis* ovalo-oblongis, acuminatis, subtus ad nervos *xi*Moësis; *paniculâ* terminali, iriul-tiflorâ; *calyce* villosa, *laciniis* longis, linearibus, deciduis; *corollâ* glabrâ, *tubo* longiusculo, cylindraceo, *lobis* subrotundis, concavis. Wall in Roxb. flor. ind. 2. p. 151.

Crescit copiosè in rupibus subnudis Nag-Urjoon, aliisque montibus minoribus Napalire; etiam ad Bechiako et Koolakan, florens toto fere anno. Etiam hinc e montibus *Tundooa*, Sylhet vicinis, ubi florèl Septembre.

Nomen Newarrensè et Parbutteum *Toongnusi*. Bengalensè *Usookooli*.

Arbuscula ramosa, gedccimipedalis, *truncò* \*quali, drâmetrum scxpollicarem attingente, oblecto *cortice* *tQimiy* fusco, scabro. *Lignum* compactum, pallidum, albidum. *Raimtli* optisili, cinerei, callosa-punctali; juniores rufescentes, pubcruli. *Folia* opposita, patcutia, approximata, acuminata, ovato-oblonga, basi acuta, marginibus subundulata, ciliaia, coriacea, quadri-adsexpollicaria, glaberrima, supra lucida, sublus pallida ctopaca, cost& elcvatâ, nervisque villosis, obliquis, parallelis, approximatis, ad axillis accrvulo pilortini munitis. *Petiolis* teretes, pubcscentes, pollicares vel sesquipollicares, mine rufi-scenl°s. *Stipncl* lanceolate canaliculaLo-acuininatse, lincas quinque longae, gJabrac, valdo dccidiuE. *Panicula* *\\$vm\rivX*s, sessilis, ovato-rotunda, folia supcriora longitudine subaeqiKui?; *rami* decussati? incano et densè villosi. *Bractea* infra divisuras adque basin prdiceilorum oppositae, lineares, longae, caducæ. *Flores* (fig. 1, 2.) magni, speciosi, rosei, ternali^ iVagrantes. *Calyx* villosus, *pedicello* brevi, subcarnoso insidens, divisus in *laciniis* (fig. 8.) quinque\*. lineares, ereclas, aculas, subinaequales, mine ina:quilatcras, coloratas, basi leviter angustafas et subarticulatas, caducas, villosas, intus glabras, sex- ad duodecim lineas longas. *Corolla* (fig. 4.) glabra, calyce duplo longior, subcarnosa; *tubus* cylindricus, gracilis, sursum parum ampliatus *\\$faux* pervia, nuda; *limbus* patens, tubo dimidio brevior, *laciniis* subrotundis, concavis, oblusis, crenulatis, basi subcordato-retusis. *Filamenta* brevissima, infra fiiuccm; *anthera* lanceolaUe, vix exsertae. *Ovarium* (fig. 5, 6.) oblongo-cuneatum, carnosum, villoswm, biloculare; *ovula* super *placentam* septalem, cardosam dense imbricata; *stylus* filiformis; *stigma* clavatum, carnosum, divisum in lobos duosjanceolatos, margino revolutos. *Capsula* (fig. 7, 8.) oblongo-clavata, parum villosa fusca, lineas octo longa, leviter compressa, apice truncata notata vestigio inserlionis calycis, bilocularis, inscripta sulcis oppositis duobus, juxtaque hos usque ad basin acutam dehiscens in locula duo; *membrana exterior* carnosâ, demum coriacea; *interior* chartacea. *Dissepimentum* parallelum, planum, constans membrane in tern a utriusquoclocu\* lorum inflex^, maturilate ab apice usque ad basin in duas partes divisum, apice ostiorotundato excisum. *Placenta* lineari-oblonga, foveolala, demum libera; *lorula* (fig. 9, 10.) iissura^ interna ab ostio dissepimenti ad basin usque longitudinaliter dehiscencia, ideoque quasi bivalvia. *Semina* (fig. 11, T2.) copiosa, minuta, cuneata, adscendentia, dense imbricata, ferruginea, rugosaet scabra, apicem obtusamverus inembranuld venosa, **angustâ**, crenulat^, inuequali cincta.

## OBSERVATION.

It is impossible to conceive any thing more beautiful than this tree, when covered with its numerous round panicles of pink-coloured, very fragrant and large blossoms. I have

hem told that it grows Sometimes to a rriucli gréater size than that,,mentioned above, which is the one I have observed it to attain. The ovary and halfripe capsule show a peculiar structure; they appear foiiir-celled, when divided horizontally, in consequence of the inner tough membrane continuing, after it has formed the dissepiment, to turn further inwards, penetrating almost through the fleshly placenta to the opposite or external side of the eell, which latter, in consequence, appears to be subdivided into two compartments. — *Wall loc.cit.*

HYMENODICTYON, *Wall.loc.cit. p. 148.*

*Calyx* adnallis, quinquedeiHatus. *Corolla* infundibuliformiis, limbo quinqut-fido. *Filament a* brevissima, glabra, infra faucem adfixa, *antherce* exsertae, limbo breviores. *Capsula* nuda, bilocularis, bivalvis, dissepimento ventrali conlrario, dcum bipartite. *Semina* plana, cincta inembran& reticulata (undenomen), imbricata super placentam, septi cominissurae adnatam, tlemum liberam.

Classis Linneana : *Pentandria monogynia*, sectio floribus monopctalis supcris, cap\* sulaque biloculari, bivalvi.

Ordo natural is : *Rubiacearum* subdivisio secunda, sectio tertia (Jussicu in Memoires du museum d'histoire naturelle, 6. p. 365 et seqii.)

*Habitus* Arbores excelsae, umbrosse, ramulis compressis, foliis oppositis, coriacris, stipulis gland uloso-ciliatis. *JFtores* inconspicui, pubescentes, virides, dtinsi, fasciculati, in paniculam digesti termiialém, vel in racemos cylindricos, pedunculatos, axiliares terminalesve, siniplices v(1 parcé ramosos. Pedunculus comunis apice gerens *Iractehvti* aridam venosam lanceolalam, longe pedunculatam convexam. Affinitatas praecipua *Macrocne*3 *Mussaendte*, *Cinchon*<& atque *Exostemmati*. Differt a primo hornm generum starrtinibus glabris seminibusque a! at is ; a secundo fructus structure etconsistentia ; utroque vero approximatur folio bracteaveilla singulari florali, in eo tamen abludente, quod ex apice pedunculi communis, nee ut in illis e basi ipsius calycis, prodeat. A posterioribus duobus generibus distinguitur capsula nuda haud bipartibili, dissepimentoque contrario, juxta axin in duas partes aequales dirumpente, valvnlis adnatas. Se-iii in a insuper majora et eorum *etlo*, baol Kifiria • figura tandem <?oro2EB magis *Cinchon*By aatheris exsertis *Exostemmati* cognatum. *Wall. Lcit.*

HYMEJNODICTYON FLACCIDUM, *Wall. I. dtp. 152. TAB. 22.*

Foliis elliptico-ovatis, suprá glabris, nitidis; stipulis oblongis, spathulatis ; racemis axillaribus, gracilibus, laxis ; capsulis oblongis.

Observavi ad descensum septentrionalem montis Sheopore, versus basin, in sylvis densissimis, floribus capsulisque prsecedentis anni vacuis onustum mense Junio, Etiam habui e Noakote, eadcin mense florentem.

Arbor mediocris, unibrosa, corticecinereo,glabriusculo. jRa/^'patiili; superioresbi-vel tricholomi, glabri ; tcnelli leviter compressi,basi circumdati squamulis aliquot gemniaceis, ovatis, concavis, brunneis. *Folia* valde copiosa, versus apices ramoruin approximata, patientia, ovato-elliptica, acurainata, basi gtenuato-acuta, coriacea, sex- ad dccempoHiariu, parum undulata, glabra, nitida, juxta nervos leviter sulcata, subtus pallida, opaca, costa nervisque obliquis, elcvatis, parallelis, pubescentibus, ad axillas favcolatis puberulisque; reticulalo-venulosa. *PetiolUs* teres, crassus, glaber vel pubcrulus, pollicaris, apice una cum basi costre rufescnte. *Stipula* oblongee, spathulatae, oblusae, glabra?, menibrancea?, subpetiolares, unguiculares ad pollicarc, emarcestentes, deciduse, basi parum coulralee, capillaceo-venulbsje, denticulis sphaclalis ciliatii?, inlra basin et in axillis petiolorum

glandulis subulatis, minulis, atris, seric simpliciter dispositis. *Racemi* flaccidi, penduli, axillares, solitarii, foliorum circiter longitudine, graciles, cylindrici, dense *obstijioribus* (fig. 1.) approximatis, fasciculatis, ternatis vel quinatis, vjridibus, pubescentibus, inodoris. *Pedunculus communis* pubescens, bipollicaris, apice instructus. *bractea* vel *foliolo florali* patentissimo, lanceolato-oblongo, membranaceo, acuto, integerrimo, pallide viridi, vel subalbicante, pubescenti, rugosulo, nervoso-venoso et reticulato, tripollicari supra convexo, subtus concavo, *petiolo* glabro, tertia parte brevior. *Pedicelli* brevissimi; singuli *bracteola* minuta, lineari. *Calycis lacinae* (fig. 2.) brevissimae, lineares. *Corolla tubus* (fig. 3.) calycis laciniis duplo longior, gracilis? villosa; *limbus* subplicatus, campanulatus: *laciniis* lanceolatis, acutis, basi membranula tenuissima unitis. *Stamina* infra faucem inserta, glabra: *filamenta* admodum brevia; *antherae* lineares, erectae, exsertae, limbo paullo breviores. *Ovarium* (fig. 4, 5.) ovalum, pubescens, biloculare; *ovula* numerosissima, lanceolata, plana, marginata, super placentam carnosam, septalem dense imbricata; *stylus* capillaceus, glaber; *corolla* bis longior: *stigma* ciliatum, obtusum, glabrum. *Capsula* (fig. 6, 7.) oblongo-ovata, fuscescens, decent lineas longa, glabra, callosopunctata, bilocularis, bivalvis, juxta ventrem valvarum septifera; *semina* baud vidi.

## OBSERVATION.

This species comes near to ray *Hymenopogon thyrsiflorum* (Cinchona, Roxb.) which differs, however, in having broader, ovate, subcordate, downy leaves, and much thicker, both terminal and axillary, subconipound racemes; its capsules, too, are broader and almost oval.—Wall. *l. cit.*

## SARCOPYRAMIS, Wall.

*Calyx* inre 6 poramidalis, ore truncato, quadridentato, dentibus compressis, ciliatis, persistentibus, interstitiis nudis. *Corolla* intrapatala. *Stamina* octo; *antherae* simplices, rectae, nude. *Ovarium* semiadnatum, vertice infundibuliformi-quadrilobum. *Capsula* quadrata, calyce basi cincla, apice quadrialata; quadrilocularis, quadrivalvis, polysperma; valvulae foliaceo-dilatatae.

Classis Linneana; *Octandria monogynia*.

Ordo naturalis: *Melastomaceae*, R. Brown; generibus *Rhearia* et *Osbeckia* intermedium. *Stomandrae*, beat. Guil. Jack, (Act. Soc. Linn. 14. p. 10.) affine.

Planla annua, carnosa, subsimplex, ramis paucis instructa. *Folia* opposita, serrulata, villosula. *Floras* terminatae, umbellatae, majusculi, roseae.—Nomen sumpsit e consistentia et figura ovarii.

## SARCOPYRAMIS NAPAENSIS, Wall. TAB. 23.

Legi in montibus vallis Nepalicae majoris Sheopore, Chandaghiri, aliisque ad loca umbrosa, humida, saxosa. Floret Julio-Septembre. Fructus maturescunt Octobre et Novembre.

Plantula subsimplex, herbacea, erecta, laevissima, nunc rubicunda, carnosa, subdiaphana, glabriuscula, si ad duodecim pollices alta. *Radix* gracilis, fibrosa; iniculum elongata, subrepens. *Caulis* laevis, acutus tetragonus, basi pennam anserinam crassus, sursam attenuatus, angulis bicordatis, per pedes approximatis, lateribus duo oppositis itaque lateribus. *liami* pauci, nunc ulli versus apicem caulis, erectiusculi, byeves; nunc sub-

utriti. *Folia* opposita, siibcTecussantia, pctiolata, interstitiis dupio lonjjiora, bi- ad quadri-  
 di'ipolUraria, wJipronia nihiic valdo approximaia; maguituditie iiequalia, allero nempe  
 cjusdem paris tertio vel dimidio bre;iore; fore liiciubraiaieca, CHUZ, acumiuata, basi  
 iiequali acuta, extrorsuin crenato-serrulata, scrraturis acutis, setula tenninatis, su-  
 pra utrovirdiij lucida, setis hyalinis, brevibus, rectis conspersa, trisulcata; su-  
 btus pallidiora, ^irpoque purpurasceniia, quinquenervia, nervis extimis gracillimis submar-  
 quibus; trauvergini venulosa, juxta tractus vasorum pilosula. *Petioles* caruosi, graei-  
 les, sulco angusto exarati, rcquales, folio dimidio vel triplò breviores, lacves. *Stijtulio*  
 lmlie, nisi series transversalis ciliarum subulatarum, succulentarum, caulem inter peti-  
 olorum inscrptioncs anibientiuin. *Flores* (fig. 2, 3. idem dissectus fig. 4.) tres ad quinque,  
 terminales, nmbellati, ratione niagnitudinis plants sat magni, rosei, inodori, glabri, suf-  
 fuli pari uno vel duobus foliolorum floralium lanceolatorum, siibsessiliuni7 scmpolKca-  
 riiun. *Prajloreitio* (fig. 1) conica, imbricata. *Peduncululi* carnosi, breuissimi, lacves, ru-  
 fescentes. *Calyx* (fig. 8. idem staminibus in/lexis fig. 7. idem ovario foecundato fig. 9.)  
 carnosus, laevis, obò atus, acutè tctragonus, persistens, ad latera convexiusculus, ore tru-  
 cato, quadrato, juxta margines scindentcs, nudos leviter exciso; angulis in dentes toti-  
 deni desinentibus porrectos, compressos, verticales, patentes, apice oblique truncates,  
 ciliatos setis simplicibus, hyalinis, utrinque patenssimis, duplici serie dispositis, juxta  
 angulos ipsius calycis quandoque decurrentibus. *Pelala* (fig. 4.) quatuor, ovala,  
 carnosa, cuspidato-acuta, integerrima, patentissima, rosea, laevis, nitida, lineas qua-  
 tuor eiiientia, calyce dupio longiora, basilatiuscula infra ostium calycis inserta, denti-  
 bus alternantiA. *Stamina* (fig. 5, 6.) octo, petalis parum breviora, erecta, parallela,  
 aequalia, serie simplici annulari equidistanter calyci inserta, dentibus calyciis pctulis-  
 que alternatim opposita. *Filamenta* alba, filiforniia, carnosa. *Antherae* conformes, sim-  
 plices, erectae, ilavt, oblongo-cuneata<sup>1</sup>, nudae et absque ullis appendicibus, basi acutius-  
 culatae, apice leviter dilatatae, subbiloba poris duobus, oblique hiantibus dehiscentes, scstiva\*  
 tionc una cum apicibus filamentorum rectò deflexae. *Ovarium* (fig. 4, 5.) ovatum, carno-  
 suum dimidia infcriore parte fundo calycis arcuè accretum, snperiore tetragono-pyramida-  
 tum, lateribus convexum, liberum, juxta margines opemembranulae angustissima, brevis-  
 sima, demuni evanidite, angulis internis summi calycis adhaerens, unde cellulae parietales  
 quatuor formantur, antheras, clauso ad huc flore deflexas, per pares recipientes; apice con-  
 tractum, truncatum, quadrilobum, lobis carnosissimis, brevissimis, latiusculis, obtusissimis,  
 ciliatis minutimque cr^natis, in hiatus infundibuliformem, quadrangularem eonventi-  
 bus, post fecundationem ampliatis; quadriloculare; *točila* rotunda, angulis exterioribus  
 opposita, *oculis* repleta sub-cylindricis, placeula axili, convexa, sessili, carnosieadlixis.  
*Stylus hrevis*, rectus, cylindricus, laevis, deciduus, vertice quadrilobus ovarii basi inclusus,  
 perque axin inde decurrens. *Stigma* parvum, convexum, puberulum. *Capsula* magiii-  
 tudinis pisi communiis, laevis, quadrata, excepta ipsa basilata libera, inferiore demidia  
 parte oblecta calyce paullo ampliata, desiccata, niembranacea, angulis quatuor sursum  
 valde proraintibus et porrectis notato, vertice coronata alis quatuor terminalibus, rotun-  
 dato-ovatis, obtusis, levissimè crenulatis, venulosis erectis, margine contiguis; quadri-  
 oocularis, vertice quadrivalvis: value triangularcs, dissepimentis opositis, alis istis seorsim  
 terminatse. *Dissepimenta* angusta, tenuissima. *Semina* crebra, parva, fusca, cuneato-  
 triangularia, basi acuta glabriora, verticem obtusam versus punctis minutis, elevatis pa-  
 pillosa, receptaculis axilibus inserta,

## OBSERVATION.

I cannot refer the plant, which has just been described, to any of the established genera of *Meiastomace\**, although I have every reason to suppose, from having commur Seated specimens to my inestimable friend Mr. A. B. Lambert, that it must be included among the descriptions of the new general of that most difficult and extensive

tribe, which were presented, two years ago, to the Wernerean Society of Edinburgh by the curator of his herbarium, that indefatigable and excellent botanist Mr. David Don. In general appearance it resembles an *Exacum*; but its flowers and fruit are those of a widely different family, and decidedly mark it as a member of the one, under which I have placed it. The structure of some parts of the flower and of the fruit is very peculiar and not easily explained. I will attempt to exhibit it in a clearer light, perhaps, than I have done above. The calyx forms a fleshy, inversed pyramid, with somewhat convex sides, and sharp, rather prominent and almost straight angles; its mouth is four-sided, open, with slightly concave, naked margins, and protruding corners, which form four vertically compressed, fleshy teeth, acutely truncated and flattish at the apex, and there ciliated by two rows (one along each margin) of short, pellucid, subulate, most spreading bristles, which sometimes continue from the point, whence the two rows diverge, a little way downwards on the sharp back of the teeth, towards the angles of the body of the calyx which, in every other respect, is perfectly free from hairiness. The ovary is considerably shorter than the calyx, to the bottom of which its lower half is uniformly attached; the remainder has a pyramidal figure, with convex sides, and curved, obtuse margins, which are connected with the internal angles of the calyx, by means of four very narrow, short, and thin membranes, whereby four lateral broadish cells are formed, corresponding to the sides of the calyx and the ovarium, in which the anthers are hidden by pairs, in their nodding state, during the estivation of the flower. Its vertex is suddenly contracted into a short, quadrangular, truncated cone, consisting of four very short, fleshy, rounded, slightly uneven and ciliated lobes, which are parallel to its sides, having their margins closely applied to each other, and leaving an inversely pyramidal opening between them, into which the base of the style descends before it enters the axis of the ovary. In proportion as this latter increases in size, it rises above the mouth of the calyx, the above mentioned connecting membranes disappear, and its rounded angles become prominent; in this state a double pyramid is represented, the lower apex of which is supported by the peduncle, and the middle (or the opposed bases) is surrounded by the very narrow mouth of the calyx and its protruding angles; the upper, contracted and truncated apex is perforated. The capsule is dry, four-sided, smooth, marked round the middle by the withered teeth of the calyx, and crowned with the four lobes of the ovary, which have now become as many membranous, rounded, small wings; bursting at the vertex into four short valves, each having a dissepiment along the middle of the base and terminating into a wing. The situation of the cells is contrary to the direction of the wings; the seeds are very minute and numerous.

MYRSINE SEMISERRATA, *Wall inltoxb.flor. ind. 2.p. 294.* TAB. 24.

Arborea, erecta; foliis extrorsum acutè semilatis, basi integerrimis; ?ori&ttsfascicu> latis, pedunculatis stylo brevi; stigmatè dimidiato, laciniato-fimbriato.

Nomen Parlatteuin et Newarrensè : *Bilsee* et *Bereseè*; etiam *Kalikath*.

Corninunis in omnibus fere quas visitavi Nepaliae sylvis, usque ad apices montium Chandaqniy et Sheopore, florens et fructifera tempore frigido, a Decembre ad Martium. Etiam habni e Kumaon et Sirinagur.

Arbor ramosa, trigiuta ad quadraginta pedes alta, frunco diametrum semipedalem attingente, vestito cortice glabro, pallido. Rami cinerei, terestres, callosopunctati; ramuli lacves, angulosi. Gemma terminates, graciles, conicae, punctis copiosis, resi.

pidato-serrulata; in luxuriantibus ramis quandoque rufescentia, integerrima; laevia, lucida, conspersa punctis copiosis, rebinosis, pellucidis, rufis, juxta marginem leviter revolutum lineolam huic approximata dispositis; costâ sublus pariyn elevataj nervis capillaceis, obliquis, intra marginem arcuatim et reticulatim anastomosantibus. *Petiolus* brevis, vix ultra duas lineas emittens, punctatus, supra plamusculus. *Stipulce* nullae. *Flores* (fig. 5.) parvi, inodori, tetrandri vel pentandri, omnes hermaphroditi vel masculis interspersi, sex ad duodecim conferti in fasciculos axillares, numerosos, rotundatos, basi amplexos *bracteolae* ovatis, deciduis fuscis. *Pedunculi* semipollicares, graciles, filiformes, obsolete angulati, subclavati, centrales fasciculorum interdum abortivi vel nulli, *Calyx* persistens, punctis notatus copiosis, elevatis resinosis; *denies* quinque, lanceolati, acuti, patentes, ciliales. *Cochlearia* (fig. 7.) rotata, erubescens, punctata, calyce duplo longior; *lacinae* lanceolatae, recurvae, dentibus calycinis alternantes; *tubus* brevissimus. *Filamenta* brevissima, laciniis opposita, earumque basi inserta; *antherae* magnae, ovales, erectae, aurantiacae, utrinque longitudinaliter dehiscentes. *Pistillum* (fig. 6, 8.) punctatum, stamina parum longitudine excedens. *Ovarium* (fig. 9, 10.) ovatum, uniloculare, tri- tetrasporum; *ovula* placentae fere rectae, carnosae, globosae, lined circulari semiimmersae; *stylus* brevis, columnaris; *stigma* carnosum, subinfundibuliforme, limbo amplo, unilateral!, trilobum, laciniato-fimbriatum. *Flores masculi* (fig. 1, 2, 3, 4.) minores quam hermaphroditi, antheris violaceis, cum rudimento centrali pistilli. *Drupa* globularis, leviter depressa, apiculata, monosperma, rubra, magnitudinis pisi minoris, calyce immutato suffulta, laevis, nitida. *Caro* mollis, pulposa. *Semen* erectum, globosum. *Pitamen* crustaceum, glabrum. *Integumentum* membranaceum. *Perispermum* cartilagineum, semini conforme, albicans, foveolatum et superficialiter ruminatum. *Embryo* longus, cylindricus, horizontalis, leviter curvus, diametrum perispermii saquans, totumque fere excurrans. *Cotyledones* semicylindrici, obtusi, intus plani; *radicula* obtusa.

## OBSERVATION.

"The wood of this species is of a chocolate colour, radiated, compact and heavy; it is much esteemed by the hill people for various carpenters works. They eat the fruit," Wall *he. cit.*

MYRSINE CAPITELLATA Wall. *I. cit.* 295. TAB. 25.

Arborea, erecta; foliis oblongo-lanceolatis, integerrimis, coriaceis; floribus subsessilibus, axillaribus, capilellalis; stylo elongato, crasso; stigmatibus integro, glabro, obtuso.

Nomen Parvultum; *Syade*.

Newarrene; *Bhoe Billoo*.

Valde communis in Nepalise sylvis/florens et fructifera hyeme.

Arbor priori habilitate et magnitudine similis. *Ramuli* crassi, angulati. *Folia* approximata, sparsa, palmata, coriacea, firma, oblongo-lanceolata vel subovata, integerrima, acuminata, basi acuta, quinque- ad septem-pollicaria, juxta marginem copiose punctulata, superne lucida, inferne pallida parumque glaucescentia, costâ elevata, nervis obsolete capillaribus. *Petiolus* crassus, brevissimus, sulcatus, nunc rufescens. *Flores* (fig. 1, 2, 3.) polygami, sessiles, viridiusculi, punctis conspersi copiosis, minutis, elevatis, resinosis, fuscis, aggregati in capitula parva, rotundata, axillaria, vel lateralia ad vestigia foliorum delapsorum, subsessilia vel suffulta *pedicellae* communi sublignosae, brevissimo, columnari, e *Iracteolis* minutis, ovatis, concavis, persistentibus scabriusculo. *Esthalio* valvata. *Calyx* (fig. 4.) urceolatus, dentibus quinque ovatis, acutis. *Corolla* (fig. 5.) calyce bis longior; *tubo* brevi; *laciniis* recurvatis, lanceolatis\* *Filamenta* brevissima, subulata;



*nthera* oblongae, erectae. *Ovarium* (fig. 6, 7,) globulare., *Stylus* carnosus, crassus, corollâ his longior, medio intumescens, apicem versus parum curvus, basi vertici ovarii depressae parum immersa; *stigma* obtusum, obscuré, bilobum. *Flores mascidi*, foemineis parum majores. *Fructus* (fig. 8.) quadummodo minor quam prioris speciei; coeterum omnino similis.

## OBSERVATION.

<sup>44</sup>The wood of this tree is hard and durable like that of *3tyrsinH capitellata* and is use,] for similar purposes. The fruit is also eaten." *Wall. hē. tit.*

## CRYPTOCHILUS, Wall

*Flores resupinrti. Perianthii* foliola exteriora connata in tubum, fundo perulifemim; apice libera, dentiformia. *Liabelluni* oblongum, nudum, ecalcaratum, inclusum, subsessile, basi *gynostemii* apteri elongate adnatum. *Anihera terminalis*, decidua, bilocularis. *Massa* pollinis octo, cereaceae, per pares filo communi, daslico cohaerentes.

Classis Liuneana: *Gynandria Monandria*.

Ordo naturalis: *Orchidearum* sectio quinta Browniana.

Habitus. Planta parasitica, rupicola, bulbis bifoliis, uniscapis. *Flores* sanguinei, tubulosi, tridentati, spicati, secundi; ante anthesin distichi.

Genus, *filasdevattia*, Ruiz et Pavon et *Stelidi*, Swartz, intermedium; distinctum floribus tubulosis, ore tridentatis, propter foliola perianthii exteriora, salvis ipsis apicibus, connata; labello subsessili, incluso (unde nomen) basi gynostemii elongatae adnato; massa pollinis octo; habitu magis *Stelidi* accedens.

## CRYPTOCHILUS SANGUINEA, Wall. TAB. 26.

Logi in Napalia, ad cacumen Chandaghiy, saxicolam, florenlem Junio- E montibus Cacliar, Sylhet in finibus, missi J. R. Sinilli, anno 1815.

*Herba* parasitica, repens, laevis, *radiculis* fuscis, filiformibus ramulosis, glabris. *HuU II* ovali, v. d. o. longi, pollicares canosi, obtusi, diphylli, nitidi, aetate nudi, vel vestigio uno allrove vaginarum cinarcidarulii basi circumdaii; dum juniores graciles, subcaulescentes, vaginis que induti quatuor vel quinque lanceolatis acuminatis, complicatis, bifariis, basi imbricantibus pallidis, lineatis, margine dilute purpureis, bi-tripollicaribus, inferioribus decrescentibus.—*Folia* duo ex apice bulbi, creta, leviter divergentia, lanceolata, acuminata, apice minutim bidentata, basi acuta, sex- ad octo-pollicaria, deorsum parum complicata, extrorsum plana cum sulco medio coriacea, laevis, supra atroviridia, lucida, subtus glauca, septem-lineata, costa carinali, marginibus purpurascens. *Petioles* crassi, canaliculati, basi parum dilatati: exterior paulo major, margines inferioris amplectens. *Scapitex* apice bulbi, erectus, leres, carnosus, crassus, nudus, atro-purpureus, basi viridescens, longitudine foliorum, apicem versus leviter complanatus. *Racemus* icrniinalis, erectus, solilarius, quindripollicaris, ante florum expansionem complanatus anceps, digitum latus; postea oblongus, secundus. *Rachis* purpurea, carnosa, planiuscula, flexuosa, demum recta. *Flores* sanguinei, inodori, carnosi, pollicares, cylindrici, approximati, alleni, initio disticli et patentes, post antlicia secundi el adscendentis; exclusi pilis canis, inollibus, adpressis, geniculatis conspersi; pedicellis suffulti brevissimis, terelibus, pilosis, lineam longis. *Bractea* infra singulam florem solilaria, linearis, acuminata, canaliculata, unguicularis, laevis, purpurea, carnosa, parum incurva, directione floribus opposita secunda, persistens. *Perianthii* foliola exteriora tria connata in tubum (fig. 1, 2.)











MICHELIA Dalzega, D' Cand.

Wm. and J. G. Smith





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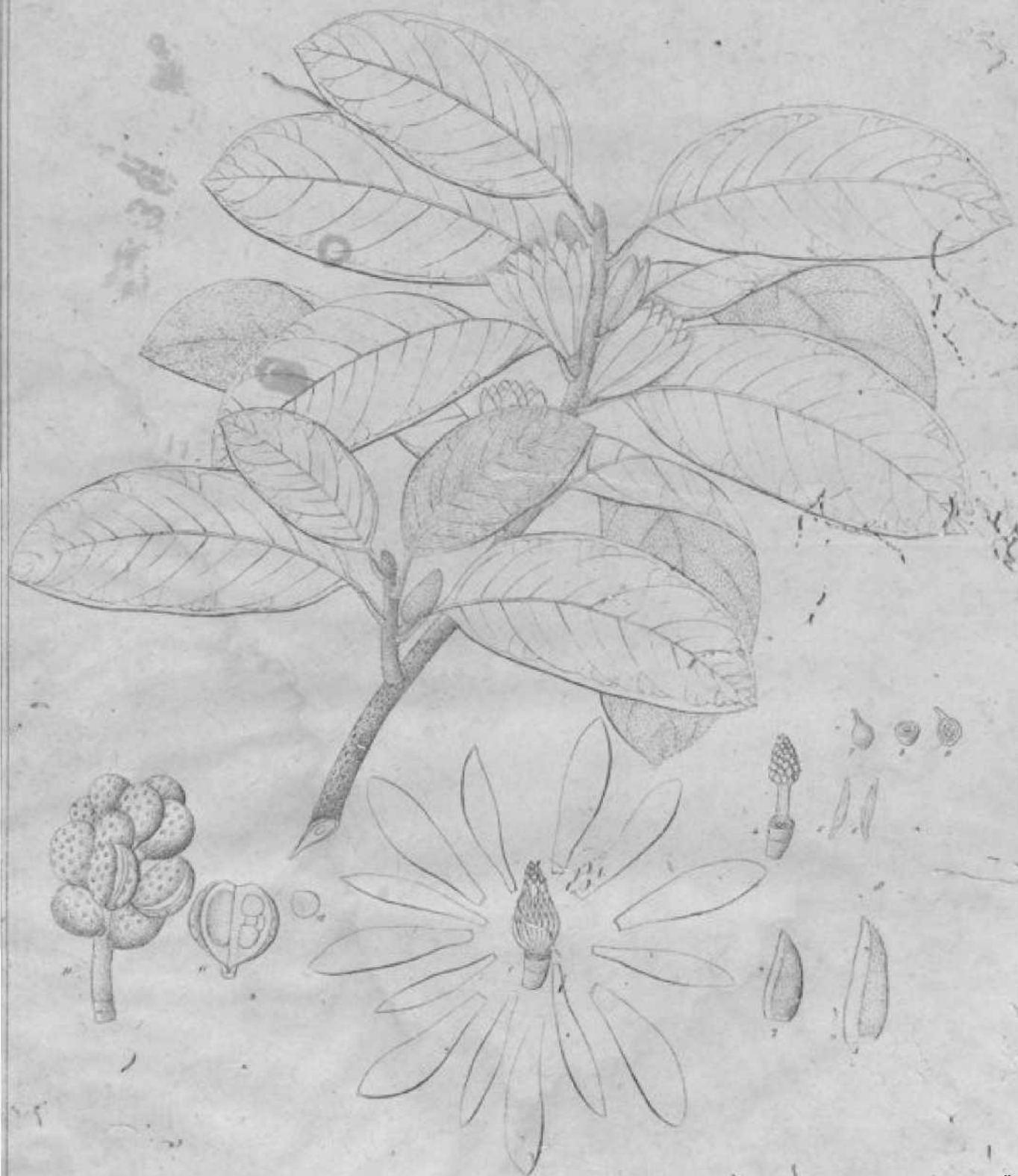
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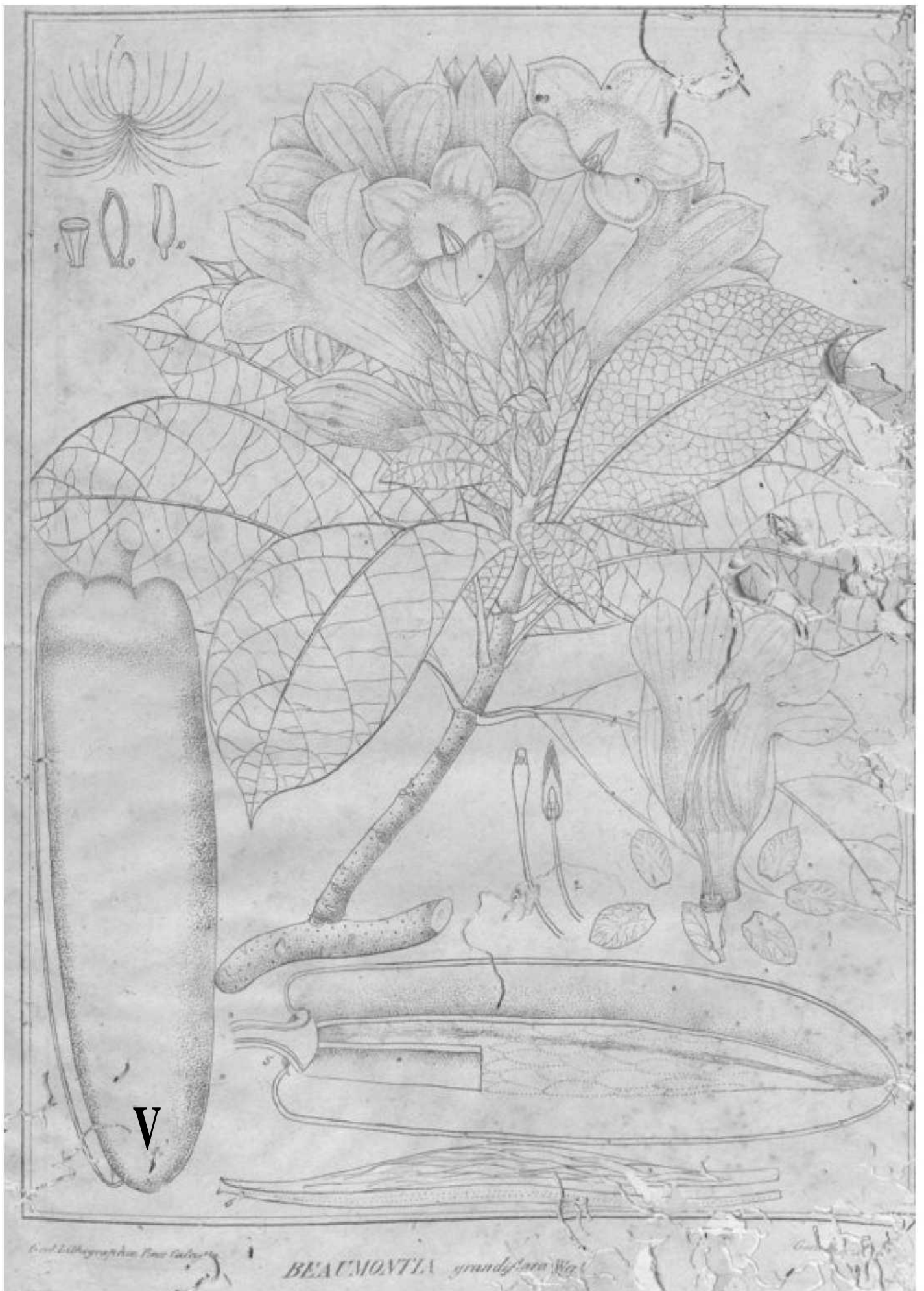
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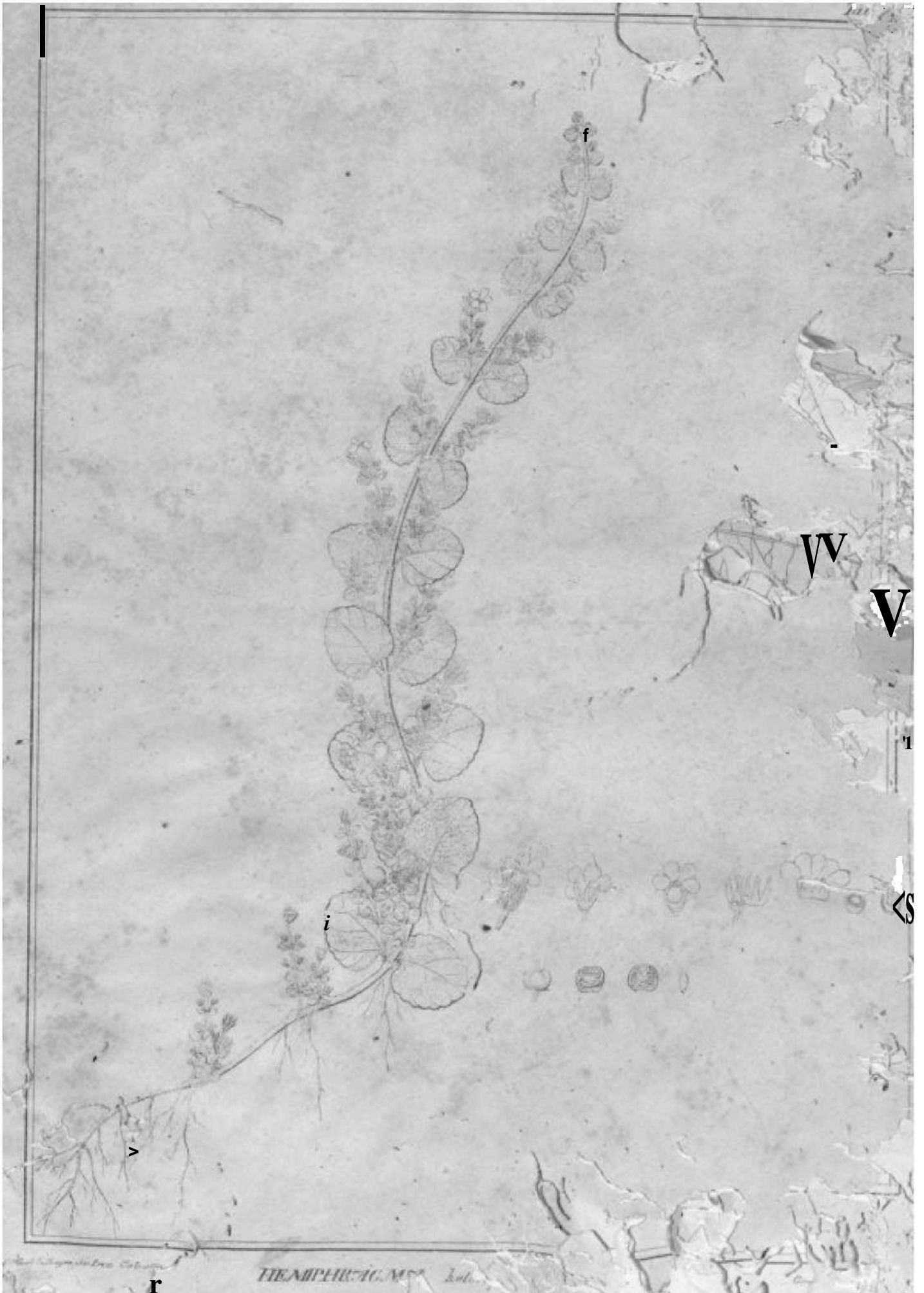
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BEAUMONTIA grandiflora Walp.

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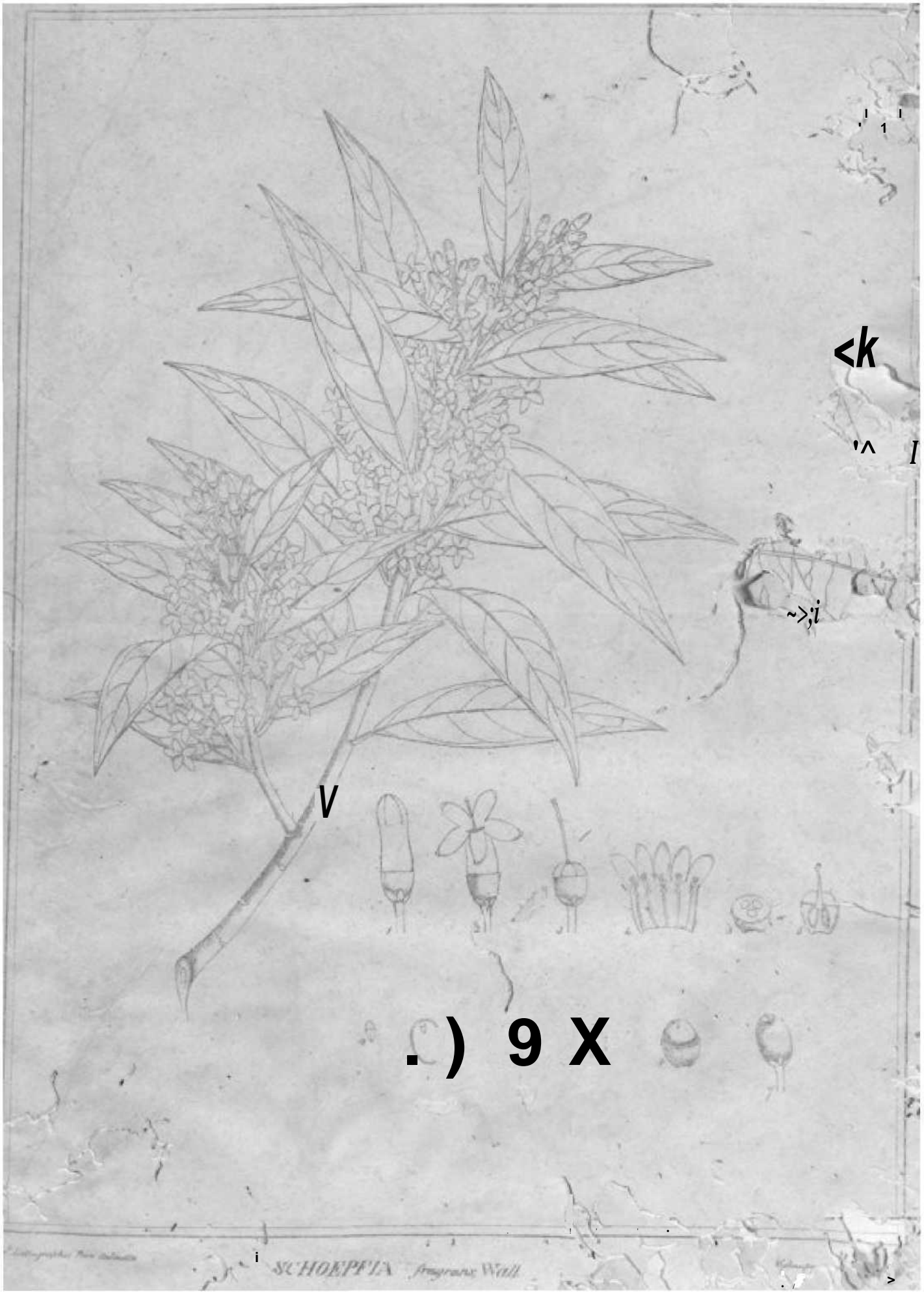




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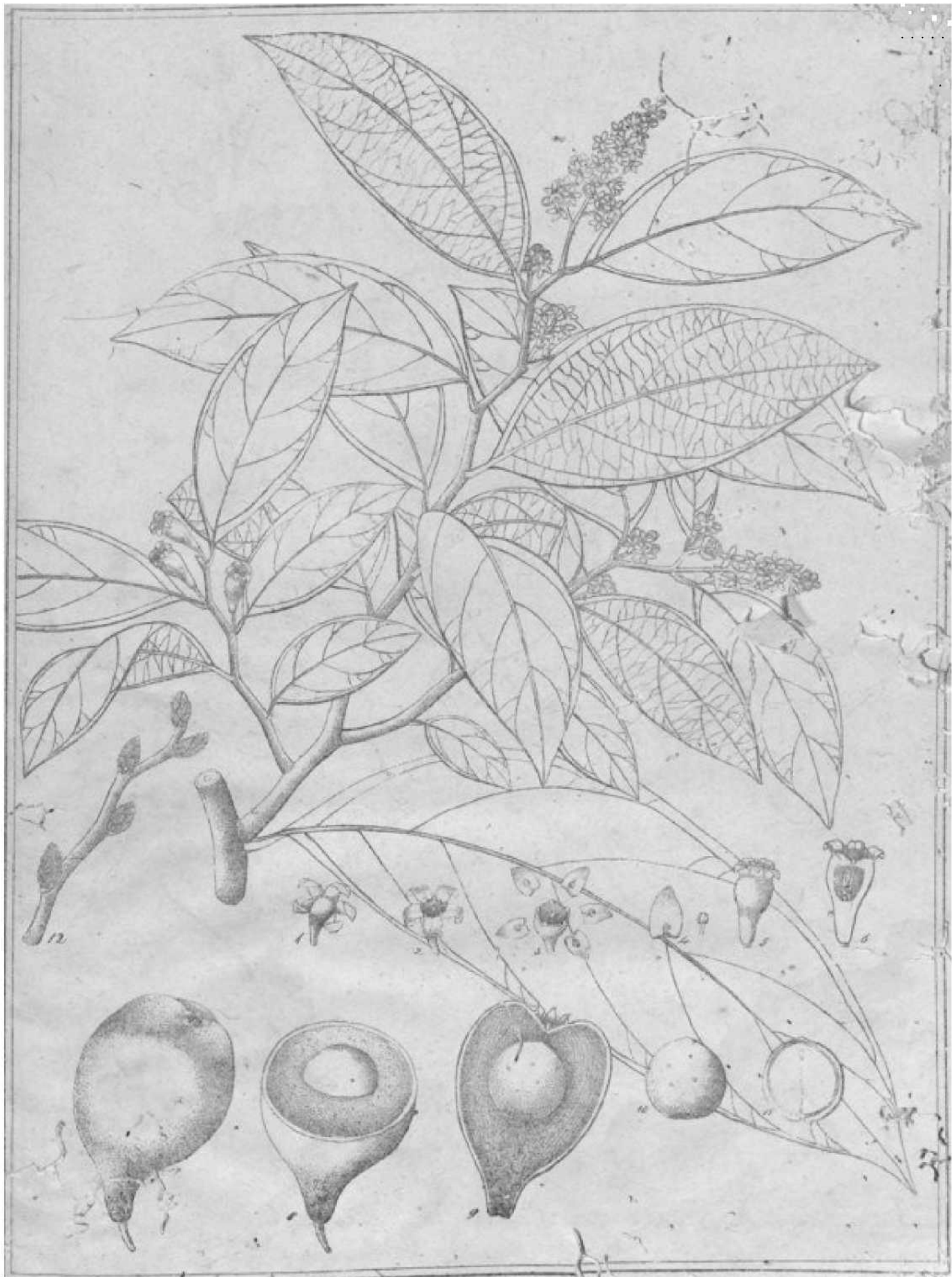
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SCHOEPFIA fragrans Willd.





Gen. Histogonata in Part. Calcutta

*SPIARGIS edulis*, Vahl

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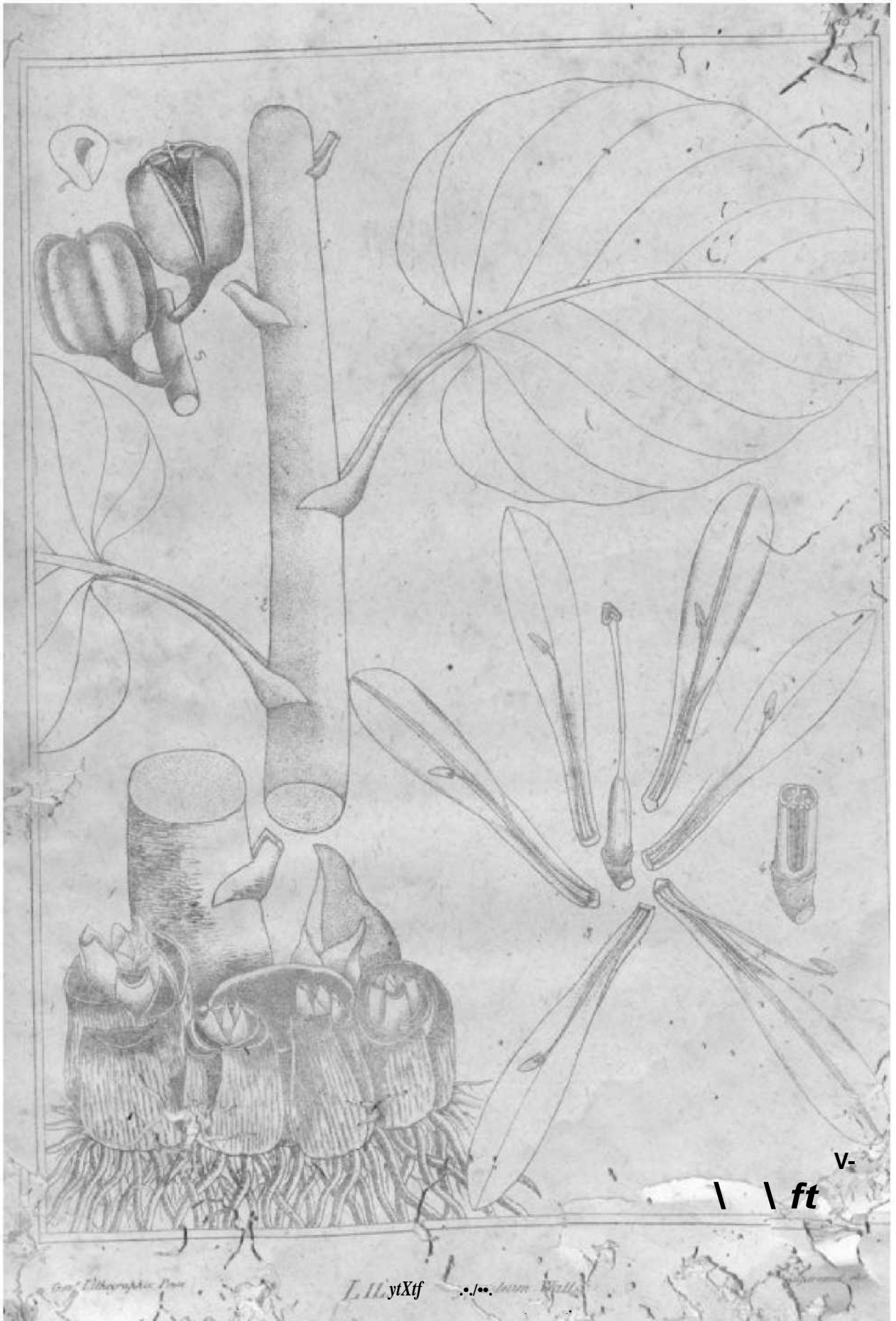












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*KADUBA crinitiflora* Wall.

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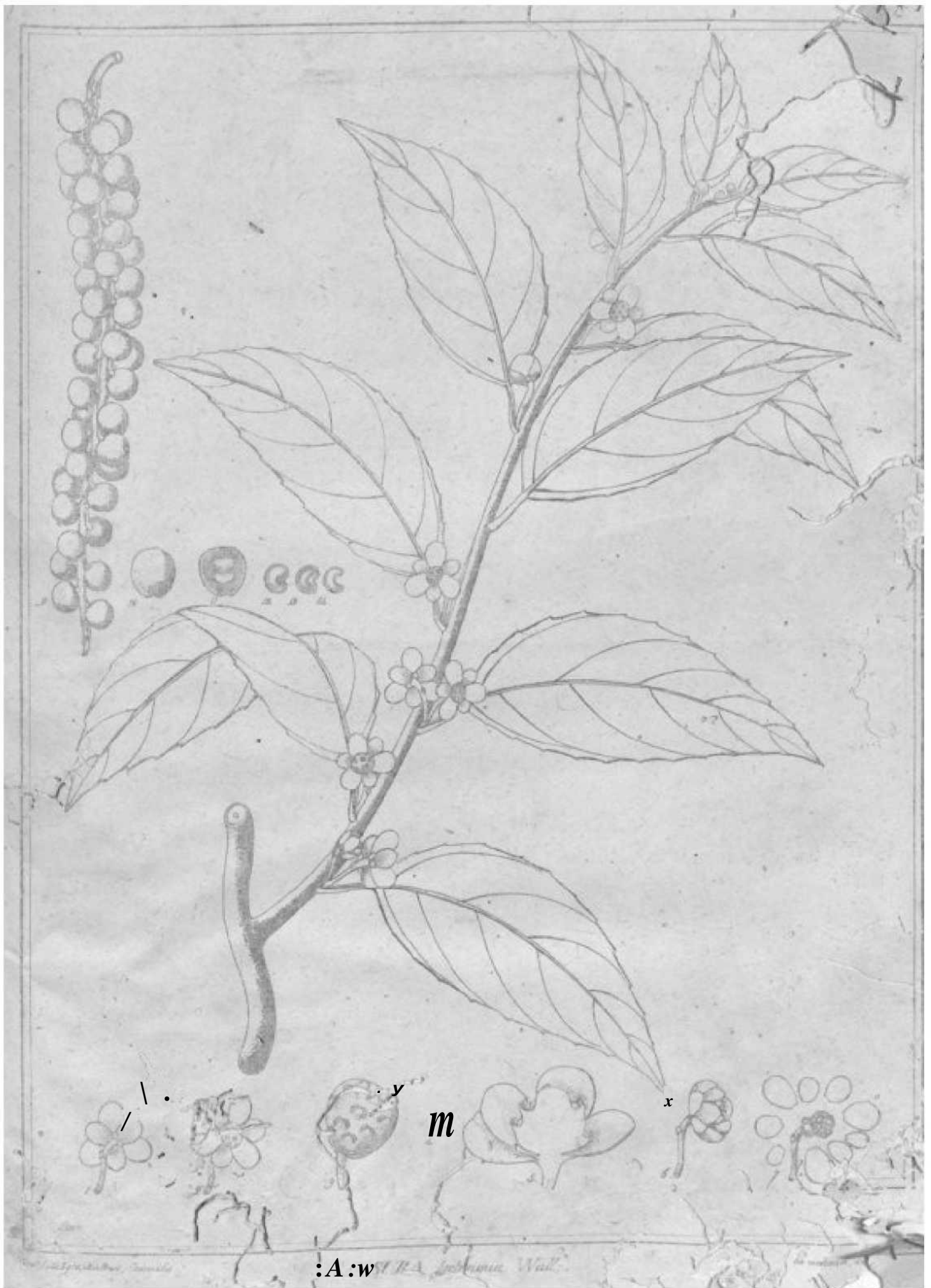
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*ADAPTA* *herpodytes*, Wall.

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*NOLPELLA luteifolia* Walk.

at Calcutta

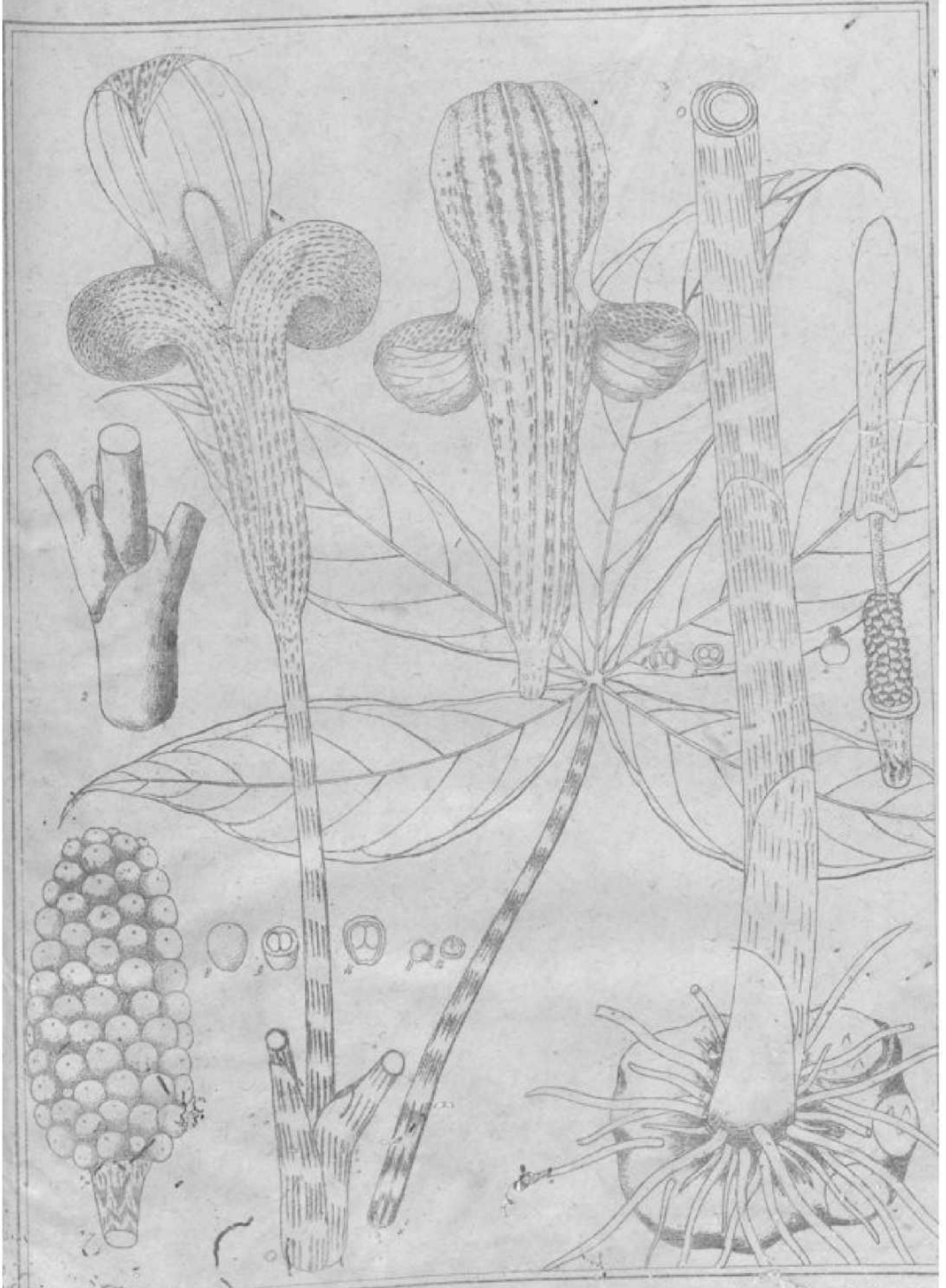




*SOLANUM angustifolium*, Willd.

Cookland, del.





Arum nigrum Linn. f.

ARUM nigrum Linn. f. & S.

Goussier del.





*Arum castellanum* Cav.

*ARUM castellanum* Weill.

W. H. Edwards del.

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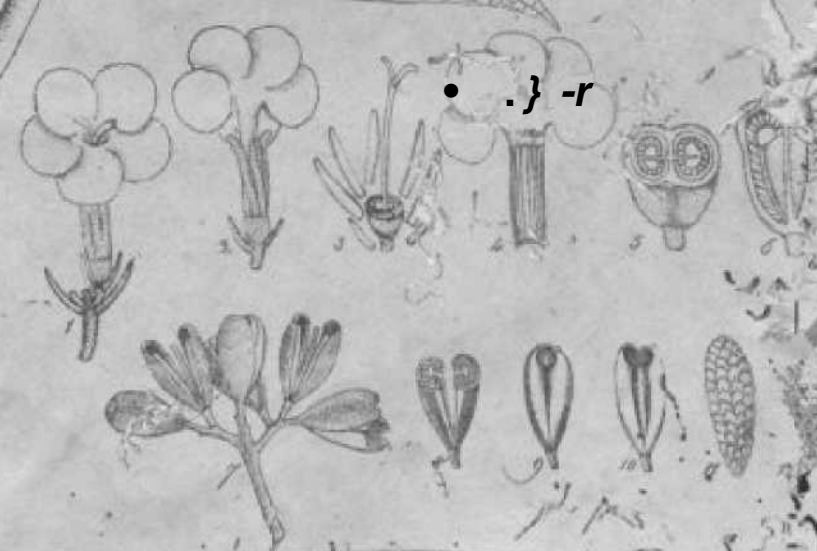


*ARUM speciosum, Null.*

*Reichmann del.*

*Lehmann sculp.*





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CINCHONA gratissima, Wall.

Walp.





*HYMENODICTYON febrinum* Walp.

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*NARCOPYRASIA reticulata* Walk.

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MYRSINE umbellata Wall.

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