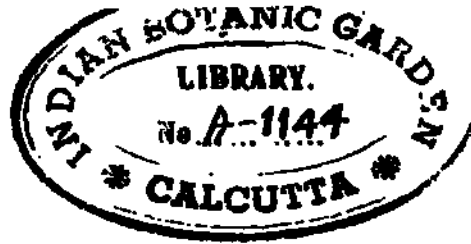


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HOOKER'S ICONES PLANTARUM;

OB,
FIGURES, WITH DESCRIPTIVE CHARACTERS AND REMARKS,
OF NEW AND RARE PLANTS,

RELETED FROM THE
KEW HERBARIUM.

FOURTH SERIES.

EDITED FOR THE BENTHAM TBUSTEES BY.

W. T. THISELTON-DYER,

C.M.G., C.I.E., LL.D_M M.A., F.R.S.

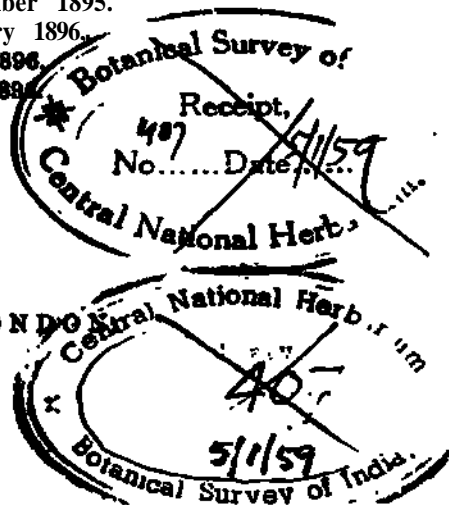
Director Royal Gardens, Kew.

VOL. V.

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1896.



INDEX TO SPECIES AND SYNONYMS.

	Plat		Plata
A«M			
AcndocappuB onentalis, Jus*	2432	Daniella thurifera, Benn.	2406
— Bocotranus, Oliv.	2433	Dapbnopsis Beta, Taubert	2409
Afromendoncia Hindaviana, Gily.	2426	Desmazeria unioloidea, Defl.	2448
— phytoerenoides, GUG.	2427	Dicoma quinquenervia, Baker	2464
— "Umorphiaaertuliftira, Cogn.	2420	DipterocarpuB Bourdilloni, Brandts	2403
Aloe minima, Baker.	2423	Dombeya arabica, Baker	2460
Amomum arundinaceum, Oliv. et		Driessenia acoppioidea, Stapf	2414
Hanb	2476	—cystallina, Stapf	2414
— cerefeum. ffoo* ./.	2477	Duthiea bromoides, Hack.	2474
— Pitratum, Ptreira.	2478	Elaeocarpus hainanensis, Oliv.	2462
giganteum, Olw. et Hmb.. . . .	2479	Garnotiella philippinensis, Stapf	2494
— limbatum, Oliv. et Hanb.	2480	Gironniera nitida, Benth.	2486
— longiscapura, Hook.'f.	2481	Habenaria polytricha, R»lfe.	2496
— Mannii, Oliv. et Hanb.. . . .	2482	Halopypum mucronatum, Stapf	2448
— piloaum, Oliv. et Hanb.	2483	Hederella Forbesii, Stapf	2415
T-T rotoericeum, Oliv. et Hanb.	2484	— multiflora, Stapf."	2415
Aniba peputilis, Hemd.	2485	— quintuplinervis, Stapf.	2416
Anisopus Mannii, N. E. Br.	2453	— tetrandra, Stapf.	2415
Appacacia filifopmiB, Coult \$ Rose	2420	Heteropyxis canescens, Oliv.	2407
Aster Bowerii, Hemd.. . . .	2495	Horaalopetalum jamaicensae, Bolfe.	2461
Baphia bopneensis, Oliv.	2456	HyoscyamuB leptocalyz, Stapf	2446
tuV*^thU sPurP»ro«'«. ^E.Brown	2500	Hyptiandra BidwilUi, Hook. f.. . . .	2449
Kentia fputiculosa, Rolfe	2431	—yAT.grunduiacitJa. Bail, ft	
lephanspepmum hirrum, Oliv.	2435	F. Muell.	2450
B. trophyra i mmmmaUm, Xees.	2448	Inula eutchka, Clarke.	2434
Carallia borneen^ Oliv.	2459	— grantioides, Boisx.	2434
Cardiogyne africana, Bureau	2473	Jpomoea erinigera, Oliv.	2437
Colons leucophyll weaker	2475	IschnochJoiï Falconeri, Hook. f.. . . .	2466
Columneafilipes. Oliv.	2428	LisBocarpa Benthami, Gürke	2413
omopoã piBocappa, Oliv.	2408	I Lithospermumhancockianum, Oliv.	2457
Wydalis, Bo^Pi, Hnntl..	2468	i Littledulea tibetica, Hemd.	2472
Craighiella purpurea, Stapf	2457	Lucuma multiflora, A. DC.	2498
Cyanandrium guttatum, Stapf	2419		
— rufum, Stapf.	under 2419		
Cylocheilon somalens. Oliv.	2439		
Cynoglossum tpiansBum, Wedd.	2458		
CynomotPHtrinitensis, Oliv.	2413		

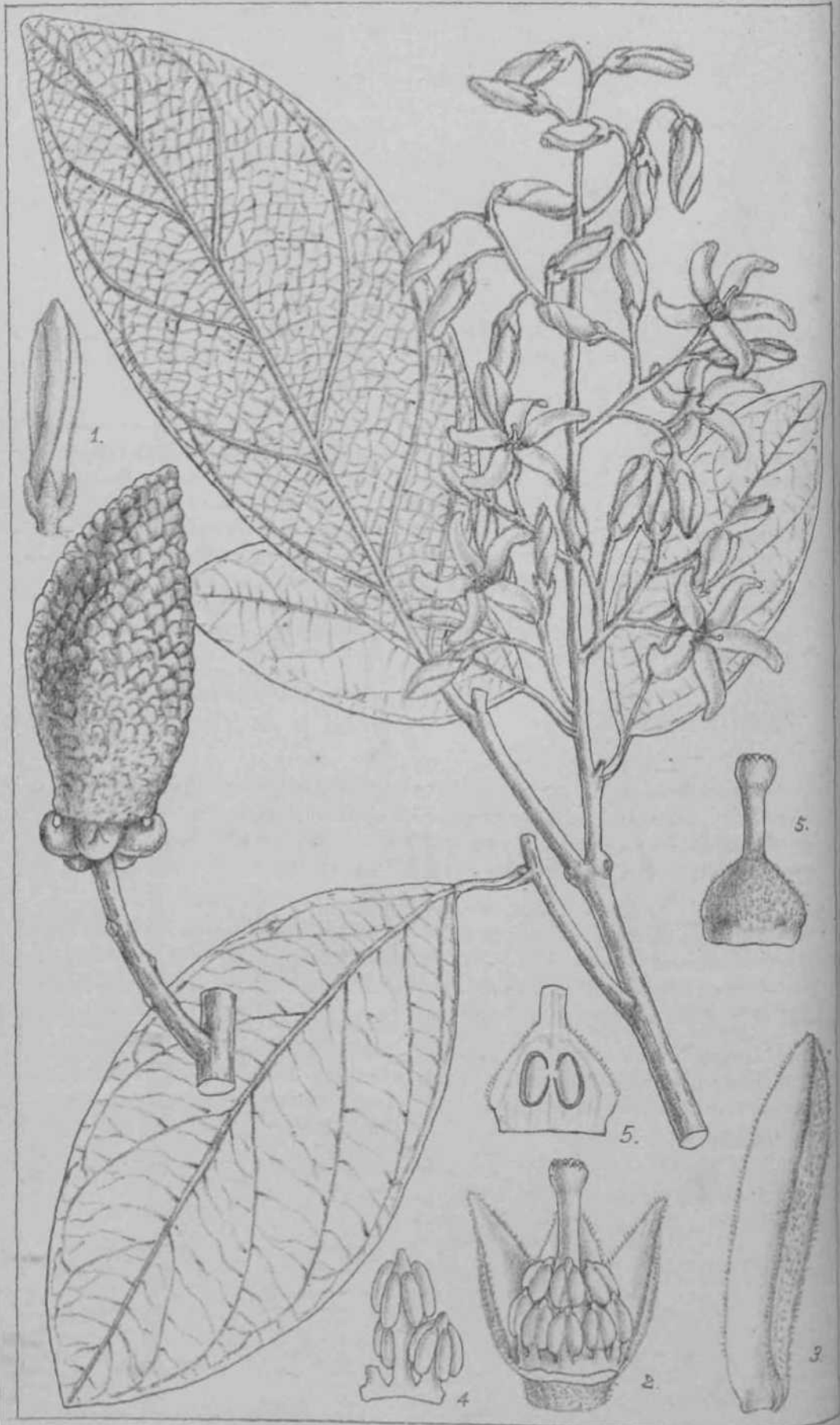
INDEX TO SPECIES AND SYNONYMS.

	Plate		Plate
<i>Luffa Batesii</i> , C. H. Wrtzhi . . .	2490	<i>Pomntostoma inaequale</i> , Stapf under	2421
<i>Lynimachia grundifolia</i> , Hemsl. . .	2405	— <i>phylligaioides</i> , Stapf . . .	2421
<i>Marsdenia efulensis</i> , N. E. Brown . .	2497	— <i>sertuliferum</i> , Stapf	2420
<i>Medinilla flagellata</i> , Stapf . under	2411	<i>Pterygiella nigrescens</i> , Oliv. . . .	2163
— <i>lorata</i> , Stapf	2417	<i>Rumex</i> <i>braeiliensis</i> , Oliv	2404
— <i>Berpens</i> , Stapf	2411	<i>Bhodocodon uragineoides</i> , Baker . .	2492
<i>Melanophyllum crenata</i> , Baker. . .	2499	<i>Samadera bnileyana</i> , Oliv.	2450
<i>Neogoezia trracilipes</i> , Hemsl.	2424	— <i>Bidwillii</i> /^/it;	2449
— <i>minor</i> , Hemsl.	2425	<i>Santulum fernandezianum</i> , F. Phil. .	2430
<i>Nepeta decolorans</i> , Hemsl.	2470	<i>Chizoglossum connatum</i> , N. E. Br. .	2452
<i>Oreomyrrhis gracilijtes</i> , Hemsl. . .	2424	<i>Sedum rotundatum</i> , Hemsl.	2469
<i>Oreosolpna un^uiculata</i> , Hemsl. . .	2467	<i>Senecio Prattii</i> , Hemsl.	2491
<i>Ormosia fordianit</i> , Oliv.	2422	<i>Shorea rigida</i> , Brandia	2402
<i>Orthtea cordata</i> , Oliv.	2412	<i>Stauranthera chiritaeflora</i> , Oliv. . .	2451
<i>Peptadtsma butyrueca</i> , Don.	2465	<i>Steuolirion Elliotii</i> , Baker	2493
<i>Peridiscus lucid us</i> , Benth.	2441	<i>Abxicodendron acutifolinm</i> , Benth. .	2444
<i>Petrocosmca grandifi-ra</i> , Hemd. . .	2HO	<i>rrachymene celeliica</i> , He,/isL . . .	2487
<i>Phillipsia fruticuloHi</i> , Rolfe	2445	<i>TnchodeBma eardiosepalutn</i> , Oliv.. .	24»6
<i>PlaryKpleba insigniH</i> , N. E. Br.. . .	2451	<i>Tnpogon pauperulus</i> , Stapf.	2442
<i>Plectranthus esculentus</i> , N. E. . . .	2488	<i>Triticum repens</i> , Thwaites	2448
— <i>Brown</i>	2488	<i>Uniola mucronata</i> , L.	2448
— <i>fluribundus</i> , N. E. Brown	2489	<i>Vatica ridleyana</i> , Brandts	240!
<i>Plethiandra cuneata</i> , Stapf under	2418	^{v H v} » * <i>megaphylla</i> , Wright	2438
— <i>Hookeri</i> , Stapf	2418	<i>Woodrowia diandra</i> , Stapf	2447
— <i>rejangensi</i> B. Stapf . . . under	2418	<i>Xylosma mowspora</i> , Harr.	2444
— <i>seBBili</i> B, Stapf.	2418	<i>Xymalos monosp ra</i> , Baill.	2444
<i>Pogostemon formosannH</i> , Oliv. . . .	2440		
<i>Polygonum tibeticum</i> , Hemsl.	2471		
<i>Pomatostoma angustifulium</i> , Stapf .	2420		

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M.S. del, et lith

Vatica imdleyana, Brandis



M. S. del. et lith.

Shorea rigida, Brandis

PLATE 2402.

SHOREA RIGIDA, *firandia*.

DIPTEROCARPACEAE. Tribe ~~SHOREAE~~.

S. rigida, Brandis (*sp. nov.*); arbor ingens, ramulis petiolisque verrucoso-scabris, novellis stellato-tomentosis, foliis rigide coriaceis niargine revolutis elliptico-oblongis supra glaberrimis nitidis infra pilis stellatis hirsutis nervis secundariis utrinque 18 arcuatis subtus valde prominentibus nervis tertiariis parallelis, tioribus sessilibus in paniculis axillaribus et terminalibus, ebracteatis, sepalis inaequalibus extus pilis longiusculis hirsutis intus ad apicem puberulis, petalis oblongis obtusis apice barbatis, staminibus circiter 50, filamentis basi connatis petalisque adhaerentibus antheras ter vel quater superantibus, antheris fere orbicularibus omnino exappendiculatis, ovario inferne glabro, superne in stylopodium elongato-conicum pilis longiusculis tomentosum angustato, stylo tenui glabro stylopodium vix jequante, stigmate lato obtuse 3-dentato, fructu tomentoso acuminato basi tantum calycis segmentis tecto.

HAB. Singapore (garden jungle), Ridley (No. 6393).

Folia 5-6 poll, longa ad 2 poll, lata; petiolus f poll longus. *Calycis* fructiferi segmenta tria majora lineari-oblonga, obtusa, basi angustata, 10-nervia, 4-5 poll, longa. *Fructus* f poll, longus. *Cotyledones* crassae, carosae, major bifida; radícula brevis.

Attains 180 feet, with a tall clean stem. Foliage light green; flowers creamy white in great masses; wings of fruiting calyx reddish brown. Flowers in July.

This species belongs to the small section of *Shorea* with inappendiculate anthers which now comprises 6 species of the Malay Peninsula, Sumatra, and Borneo. Some of these, like *S. leprosula*, Miq., have 15 stamens, while others (*S. sericea*, *rigida*) have a large number.—
D. BRANDIS.

Fig. 1. Portion of leaf showing stellate indumentum. 2. Expanded flower. * Same enlarged. 4. Stamen. 5. Vertical section of ovary. Except fig. 5 enlarged.



Dipterocarpus Bouillonii, Brandis.

PLATE 2403.

DIPTEROCARPUS BOURDILLONI, Brandis.

DIPTEROCARPACEAE. Tribe DIPTEROCARPEAE.

D. Bourdilloni, Brandis (*ftp. nov.*); arbor ingens, ramulis stipulis petiolisque dense fulvotomentosis, foliis tenuiter coriaceis longiuscule petiolatis ellipticis breviter acuminatis, subtus pncipue in nervis vemsque pilis longis paucis stellatis brevibus plurimis tectis, Horibus jnagnis, calycis tubo glabrō turbinato late 5-alato, segmentis duobus nnearibus tubum superantibus, petalis lineari-spathulatis extus velutinis, staminibus 30, antheris hastatis, valvis subaequalibus, arista antheram vix aequante, fructibus obovoideis glaberrimis nitidis, segmentis duobus linearibus longis, tribus obtusis fructum sequantibus.

HAB. Evergreen forests on the Periyar river, in North Travancore, at 200-500 ft. above sea-level, *BourdiUbn.*

Jf'W 8-12 poll, longa, 5-7 poll, lata, nervi secundarii utrinque *Jf'W* tertiarii plerumque paralleli, interdum reticulati; petioli 1-2 u. longi. Flores 2-pollicares. Calycis fructiferi segmenta longiora *Jf'W* longa, nervis e basi tribus venisque reticulatis conspicuis **ructus* li, poll, longus, alis 5, fructus diametrum dimidium fcquantibus.

.. An enormous tree, 150' feet high, with a straight trunk, 5 feet diameter. Wood not good, but used for dug-out canoes (*Bourdillon*).
 • Leaves corresponding exactly to those of this species were in 1868 collected by me in the evergifen forests on the Carcoor Ghat, in Malabar. In these specimens the long hairs on the midrib predominate, whereas in the Travancore specimens the tufts of stellate hairs predominate. It is probable that this species occurs along the Western Ghats from Malabar southwards, while *D. indicus*, Bedd., is found on the Western Ghats of the more northern districts, particularly in Canara. These are the only two species of *Dipterocarpus* known from the western peninsula of India. While *D. indicus*, Beddome, is nearly ^{late} d to, and has even been united with, *D. turbinatns*, Gaertn. f., a tree which grows on the west side of the eastern peninsula, from Cachar to Malacca, *D. BourdiUoni* is closely allied to *D. insignis*, Thw., of Ceylon. ^{late} *D. BourdiUoni* differs, however, in the shape of the leaves, their hairy underside, and longer petioles. The wings of the fruiting-calyx also are different.—D. BRANDIS.

Fig. 1. Bud. 2. Flower. 3. Anther, back and front vie*. 4. Base of calyx and ovary, later stage. 5. Vertical section of ovarj. Figs. 3, 4, and 5 enlarged.



M. S. del., et lith.

Ramisia brasiliensis, Olv.

PLITE 2404.

RAMISIA BRASILIENSIS, *Oliv.*

NYCTAGINEJE. Tribe LEUCASTERS.

Ramisia, *G'lazion in Bull. Soc. Linn. Par.* 1887, 697. *Flares* exinvolucrati, ebracteolati, hermaphroditi. *Perianthium* floriferum profunde 4-fiduni, tulk> medio contracto inferne turbimito c. 12-costato ovarium cingente, segmentis limbi erectis induplicato-valvatis; perianthium f ructiferum accrescens, segmentis limbi explanatis, oblongo-lanceolatis, mucronatis, subsequalibus. *Stamina* 2 leviter perigyna, fere ad basin tubi inserta; filamenta complanata; anthe didymaj, oculis longitudinaliter dehiscentibus induplicatim applicitis, dorso inferne carnosoincrassatse. *Ovarium* liberum, oblique ovoideum, tomentellum; stigma sessile, obliquum. *Ovulum* solitarium, e basi cavitatis ovarii erectum, campy lotropum. *Semina* . . . Arbor mediocris, ramulis fiexuosis teretibus, novellis lepidotis, deinde glabratis. Folia alterna, petiolata, membranacea v. tenuiter coriacea, elliptica, obtusa v. obtuse acutata, basi cuneata v. leviter rotundata, supra glabra, subtus appresse subargenteo-v. brunneo-lepidotis. Flores viridescentes smpins in fasciculis paucifloris v. racemulis axillaribus breviter pedicellatis, extus lepidotis.

E. brasiliensis, *Oliver (sp. unica)*.

HAB. Brazil; Minas Geraes, *Glaziou* (No. 15,385); R. Janeiro, near Cantagallo (Xo. 16,320; No. 14,221 near Rio).

Folia 2-5 (siepius 2£-3£) poll, longa. *Flores* 6-7 lin. longi: perianthium fructiferum H poll, latum; segmenta explanata % poll, longa, 3 poll, lata; tubus infra constrictionem 1^2 lin. longus atq. latus.

Unfortunately, I have not succeeded in finding well-ripened seeds of this very interesting plant, but there can be no doubt of its affinity, and that it is a near ally of *JReichenbachia*, Spreng. and *Leucaster*, Chois. to the former of which genera I was at first disposed to refer it. It differs from *Reichenbachia* in its much-acrescent, deeply divided perianth, and distinct perigyny of its stamens.* It presents very singular analogy, as M. Baillon, *I.e.*, points out, with *Elagnus* in its tapidote indumentum, inflorescence, form of perianth, the lower part of the tube constricted around the ovary, and monocarpellary pistil. It is, however, diandrous, and the ovule (and doubtless the fruit) is clearly nyctagineous. Whether we have here a suggestion of phyllogenic relationship with *Elagnus* may be a question worthy of consideration. *** M. Icaillon, J.c, simply cites a MS. generic name (only) of *M. glaziou* for this plant, with a full, but not formal, description of it, I have thought it expedient to give a description in the usual form.—
** OLIVEU.

Fig. 1. Flower. 2. Petal scale of its indumentum. 3. Vertical section of flower. 4. Stamen, back and front view. 5. Accrescent limb of perianth—all enlarged.

* I observe M. Baillon speaks of the stamens as hypogynous. I have re-examined nowep with regard to this, and can only confirm the description as given above.



MS.dd et-iilh

Lysirriachia grandifolia, Hemsl

PLATE 2105.

LYSIMACHIA GRANDIFOLIA, *Ueiml.*

FRIMULACEJE. Tribe LYSIMACHIKA

L. grandifolia, *Hemsl in Kew Bulletin*^ 1895,107. Herba bipedalis, caule erecto glabrato, foliis alternis longiuscule petiolatis ellipticis v. ovato-ellipticis acutis basi leviter rotundatis margine lanrinju petiolique pilosulis costa subtus nervisque priniariis spai-se setuloso pilosis lamina supra pilis rarissimis obsita, floribus flavis in uuibellis pauciy* pluri-floris pedunculatis ex axillis superioribus dispositis, bracteis involucrantibus lanceolatis pedicellis minute glandulosis brevioribus, calycis 5-partiti segmentis lanceolatis v. ovato-Janceolatis, corolla profunde 5-fida calycem superante segmentis ovato-ellipticis obtusis Utflandulosis, staminibus basi corolltu insertis, filanientis brevibus basi dilatatis brevissime annulatum coalitis, antheris basi cordatis apicem versus angustatis filamentis 2-3 plo longioribus, staminodia o, ovario subgloboso glabro, stylo ovario 3.plo longiore, ovulis numerosis.

HAB. Northern Siara, *F. H. Smiles*.

^ *Folia* 4|-6i poll, longa, 2-3? poll, lata ; petiolus 1-2^ poll, longus. *Flares* j-J poll. diam.; pedicelli ^-1 poll, longi.

Notwithstanding the protean character of the genus *Lysimachia* whether in respect of general habit, foliage, or inflorescence, I am Enable to cite any species known to me in the Kew Herbarium to which this curious species offers a general resemblance, unless, indeed, *t De *L. umlellifera*, Ph. of Chili, and that is sufficiently distinct.—
D. OLIVEU.

Fig* 1. Part of calyx and ovary. 2. Corolla laid open. *Enlarged.*



Daniella thurifera, Benn.



M.S. del, et lith.

Heteropogon canescens, Oliv.

PLATE 2407.

HETEROPYXIS CANESCENS, Oliv.

HYTHIRACEÆ.

H. canescens, Oliv. (*p. nov.); arbuscula, ramulis novellis inflorescentiaque leviter cano-pubescentibus, foliis elongato-ovalibus acumiatis ^o↳tusiusculis basi in petiolum angustatis margine angustissime incrassatis subrevolutis utrinque præcipue subtus in costa parce pilosulis niox supra glabratis parce pellucido-punctatis, cymulis compactis in paniculis breviter pedunculatis terminalibus et in axillis superioribus folio ^{hi}uito brevioribus dispositis, floribus brevissime pedicellatis 4- v. 5-^{line}ris, capsula vix aut leviter exserta.

HAB. Transvaal, Barberton, at Rimer's Creek, Galpin (No. 518).

Arbuscula 25-pedalis. *Folia* 3ℓ-6 poll, longa, | -1J poll, lata; petiolus ℓ poll, longus. *Calyx* breviter campanulata, dentibus obtuse ^{ue}ujtoideis. *Petala* rotundata, subsessilia, leviter concava, parce pellucide punctata, sestivatione late imbricata. *Stamina* medio calycis ^{tubi} inserta, petala superantia; filamenta subulata, glabra, exserta. **Ovarium** turbinatum, apice depressum, biloculare; stylus ovario ^{fe}quilongus; stigma capitellatum. *Capsula* subglobosa, loculicide ^bivalvis, valvis latis retusis. *Semina* plurima, angulata.

Hitherto this interesting genus, which Professor Baillon approximates ^to *Grypteronia*, has been represented by the original species figured by [«]* late Professor Harvey (Thes. Cap. pi. 128). Mr. Galpin's excellent ^aspecimens just received have much in common with *H. natafensis*, ^{^a}rv., differing in the ampler foliage, with the lateral looping primary [;]uis of the leaves directed forward at an acute angle, the slight ^{ro} Kluintentum canescent in young shoots and inflorescences, more sessile ^{ro} tundate petals, and in the very slightly exserted capsule.—D. OLIVER.

^{jp} ^F6; 1- Portion of leaf-margin. 2. Flower. 3. Same laid open, the petals ^{JM} ^ved. ⁴* Petal. 5. Fruit, enclosed in calyx. 6. Vertical section of ovary. ^{AU} enlarged.



M.S. del et lith.

Comoroa pisocarpa, Ohw

PLATE 2408.

COMOROA PISOCARPA, Oliv.

RUTACEÆ Tribe AURANTIEÆ.

Comoroa, Oliv. (*gen. nov.*) *Flares* 4-meri, ut videtur ahortu unisexualibus. *Calyx* cupuliformis v. breviter campanulatus, 4-fidus, lobis rotundatis. *Petal* a hypogyna, 4, oblonga, obtusa, basi filamentis adnata, aestivatione imbricata. *Stamina* isomera, petalis sequilonga; filamentis anguste linearia, complanata; antherse ovate, dorso infra medium angustata, longitudinaliter dehiscentes, inappendiculatæ. *Pistillum* (in pecc. nostris floriferis) rudimentarium ovoideum in stylum angustatum; ovario sine cavitate ovulifero. *Fructus* pisiformis indehiscens (?), subglobosus, monospermus, epicarpio tenuiter carnosus, mesocarpio reticulato fibroso, endocarpio tenuiter crustaceo. *Semen* sine dubio pericarpium, exalbuminosum, cotyledonibus piano convexis, radice superiora, brevissima, truncata.—*Arbuscula* (?) *glaberrima*, ramis teretibus teretibus. *Folia* alterna,]retiolata, unifoliolata, lamina basi articulata, oblongo-ovalis, interdum apice leviter acuminata, obtusiuscula, basi affixata, statura integra pellucido-punctata. Flores in paniculis terminalibus & cymis plurifloris (axillaribus sæpius folio multo brevioribus) subsessilibus v. brevissime pedicellatis sæpe fasciculatim glomerati; bracteolæ minutis late ovatis.

F AB. Comoro Islands: Angazija or Great Comoro, collected by Dr. (now Sir) John Kirk.

This plant has for many years remained undetermined amongst the fruitful Rutaceæ of this herbarium. Although we do not possess male flowers, yet with excellent specimens in fruit and others bearing staminate flowers, I think we are justified in naming it. Our leaves are small, alternate with a conspicuous articulation near the apex of the leaf. Primary triphyllous forms may occur. A curious point in the structure is the adhesion of the base of the petals to the filaments, so that the corolla is quasi-gamophyllous—a rare condition, if indeed it occurs at all in the Rutaceæ, unless it be in *Atiantia monophylla*, in which the petals sometimes adhere to the staminal tube, the rudimentary pistil in the antheriferous flowers is by no means distinct. I find the basal portion solid without trace of cavity or cavity; it is central and symmetrical.—D. OLIVER.

F 1. Pistillate flower, petals removed. 3. \$. Corolla and stamens. 4. Mesocarp. All enlarged.



M.S. del., et lith.

Daphnopsis Beta, Taub.

PLATE 2409.

BAFHNOFSIS BETA, *Taubert.*

THYMELÆACEÆ.

D. Beta, *Taubert in Engl. Bot. Jahrb.* xii., *BeAbl.* No. 27, p. 5 ; foliis p-fojolis tenuiter coriaceis ovali-oblongis oblanceolatisve apice acutius-
-uhs v. obtusis basin versus angustatis novellis plus minus piloso-
jurtellis mox glabrescentibus, floribus polygamo-dioicis in racenris
*Urtis axillaribus folio inulto brevioribus pedunculatis dispositis ebrac-
teatia pedicellatis, pedicellis defloratis persistentibus stiepius recurvis,
perianthio breviter campanulato 4-fido seginentis deltoideo-ovatis
P&tentibus reflexisve tubo intus dense hirsuto, staminibus (in fl. quasi-
jormaphroditis) biseriatis breviter exsertis, squamis hypogynis, c. 8-10
brevibus subulatis (basi vel per paria coalitis liberisve), ovario libero
ellipsoideo dense lanato.

HAB. S. Brazil, near Rio, *Glaziou* (No. 11,481, No. 19,813).

Folia cum petiolo (]-£ poll, longo), 3V-5 poll, longa. *Racemi* ^-||
Poll, longi.

I incline to think that *Bosca stupacea*, Veil. (Fl. Flum. 150, vol. iv.
p-b. ||y) may be identical with the above. In the 'Genoi-a Flantarum '
* Bentham and Hooker, *Bosca* is referred to under *Fnnifera*. Prof.
«« Millon and Dr. Gilg (Engl. and Prantl, Pfl. Fam., Thymel. 236) refer
1*'' to the same genus. If *Funnifera* be maintained as distinct from
~^{na} *phho* 2> 818 I should say *Bosca* should certainly fall into the latter, as
JJ^eed the note in the 'Gen. Plant.' (iii. 195) hints. The staminar-e
^wers "which I have examined contain an cipparently well-developed
0Var y, with a solitary anatropous pendulous ovary, but they fall away,
Jea ving the persistent recurved base of the pedicels.—D. OLIVER.

4 ^{ff} 1' \$ flower. 2. Ovary of same wirh h.yogynons pcales. 3. ? flower.
' UvHpy orShime. 6. Vertical section of ovary. C. Seed. *All enlarged.*



M.S. del et lith.

Petrocosmea grandiflora, Hemsl.

PLATE 2410.

PETROCOSMEA GRANDIPLORA, *Hemsl.*

GESNERACEJE. Tribe CYRTANDREJE.

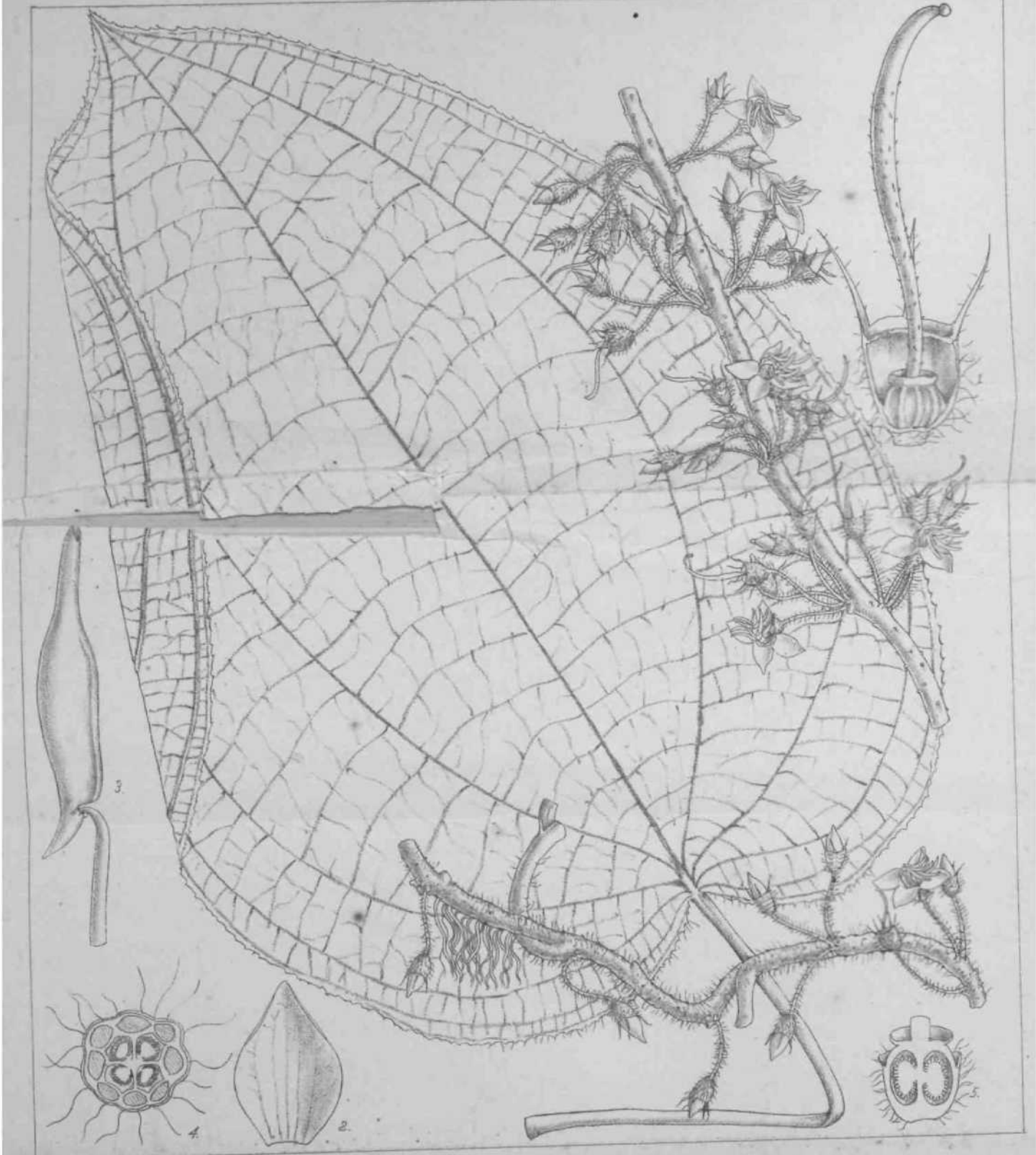
P. grandiflora, *Hemshy in Kew Bull.* 1895, **115** ; acaulis, caespitosa, foliis numerosis appressis longe v. longissime petiolatis papyraceis mollis oblongis lanceolatis ovatis v. orbicularibus vix acutis basi cuneatis v. interdum rotundatis ubique longe sericeo-pilosis, pedunculis gracilibus foliis brevioribus uni- v. raro bi-floris medio bibracteatis, bracteis parvis linearibus, calycis segmentis fere liberis inaequilongis lineari-lanceolatis acutis pilosis, corolla caerulea obliqua inaequaliter bilabiata, labio postico multo minore, lobis omnibus latis rotundatis, staminibus 2 filamentis brevibus incrassatis hirsutis, antheris magnis, loculis connectivo incrassato hirsuto sejunctis, ovario hirsuto, stylo urinato gracili bis curvato; id est rursus prorsum curvato, capsula ignota.

HAB. Western China : Mongtse, Yunnan, crevices of limestone precipices at 6400 feet alt. *Hancock* (No. 115).

Folia maxima cum petiolo 6 poll, longa; lamina 2 poll, longa. *Pedunculi* 1-2 poll, longi. *Calycis* segmenta 1-2 lin. longa. *Corolla* 1-1.5 poll diametro; labium anticum 10-12 lin. latum.

Mr. Hancock describes the flowers of this charming little plant as cobalt-blue. The only other known species is *P. Siensiensis*, Oliv., in 'Icones Plantarum,' t. 1716.—W. B. HEMSLEY.

Fig. 1. Calyx and ovary. 2. Base of corolla, with stamens and staminoes. *Enlarged.*



t.s.a.«a.*Mi

Medinilla serpens, Stapf.

PLATE 2411.

MEDINILLA SERPENS, Stapf.

MELASTOMACEA: Tribe DISSOCHIBTEA:

M. (§. **Heteroblemma**) *serpens*, Stapf(*sp. nov.*); foliis amplis cordato-ovatis vel rotundatis abrupte breviterque acuminatis minute serratis membranaceis 7-plinerviis nervis basin versus subtus setulosis superne ut venae transversae prominulse subfurfuraceis, petiolo laminasquilongo vel brevioribus plus minusve setulosis vel glabratis, floribus in rasciulis 3-5-floris e ramis vetustis et junioribus, pedicellis gracilibus. Calyx campanulatus truncatus dentibus subulatis limbi margini oppositis deciduis ornatus patule setosis.

HAB. Borneo : Sarawak, near Kuching, Haviland (No. 551).

Folia ad 9 poll. longa, ad 7 poll. lata; petiolus ad 6 poll. longus. Wicelli ad 1 poll. longi. Calyx 2 lin. longus. Corolla 3½ lin. longa. Antherae 3½ lin. longae?.

The section *Heteroblemma* was established by Blume on *Medinilla dtemifolia*, BL, from Sumatra; but subsequent writers, including Cogniaux, do not seem to have taken any notice of it. The recent collections of Dr. G. D. Haviland, however, show that it is not an old aberrant form, but the type of a well-characterised group of *Medinilla* which deserves certainly sectional rank. As the name *Heteroblemma* (circos = different, ftififia = aspect) indicates, it differs from the other species of *Medinilla* very strikingly in habit; a difference which is brought about by the long and slender branches, which climb by means of aerial roots, and by the alternate, generally fig-petioled, and often large leaves, the transverse venation of which is more marked than in most other *Afedinillce*. The flowers come in Indies, generally from old branches, as is often the case in the genus, and do not differ in any essential point from those of typical species of *Medinilla*. They are, however, as Blume has already noticed, characterised by the almost entire suppression of the anterior lobes of the connective of the stamens. I refer to this section also, *M. decurrens*, Cogn., from Sarawak (Beccari, 4016), *M. lorata*, Stapf, which is described on Plate 2417, and *AT. flagellata*, the description of which follows here.

V. (§ **Heteroblemma**) *flagellata*, Stapf (**p. nov.*); ramis vetustis ver-

rucosis, junioribus foliatis gracilibus quam petioli interdum tenuioribus vel saltern crassioribus superne ut ramuli nudis flagelliformibus, foliis ellipticis vel oblongis utrinque acuminatis minute serrulatis membranaceis supra glabris viridibus subtus rubescentibus laxe breviterque setulosis 5-plinerviis, floribus in fasciculis e ligno vetusto, pedicellis subgracilibus longis, baccis aurantiacis.

HAD. Borneo : Sarawak, Mt. Braang, on limestone, alt. 500 feet, *UavUcmd.*

Folia ad 9 poll, longa, ad 5 poll, lata; petiolus 2-3 poll. longus. *Pedicelli* 1-11 poll, longi. *Bacca* 3 lin. diam.—0. STAPP.

Fig. 1. Vertical section of calyx, with pistil. 2. Fetal. 8 Anther. 4. Transverse section of adherent base of calyx and ovary. 5. Vertical section of ovary. *All enlarged.*



M.S. del. et lith.

Orthaea cordata. Oliv.

PLATE 2412.

OETHJBA CORDATA, Oliv.

VACINIACEAE. Tribe THIBAUDIEAE.

O. cordata, Oliv. (*sp. nov.*) frutex vagans, ramis elongatis longe dependentibus angulatis novellis parce hirtis, foliis subsessilibus y. brevissimè petiolatis coriaceis 5-nerviis ovato- v. elliptico-oblongis subacutis v. breviter obtusiuscule acuminatis basi cordatis subtus pncipue in costa nervisque parce pubescentibus glabrativè, racemia multifloris quasi-terminalibus breviter pedunculatis pubescentibus, h'acteis membranaceis alabastris subrequilongis cito caducis, bracteolis subulatis, pedicellis superne leviter incrassatis apice articulatis, calycis tubo basi intruso limbo quain tubo paullo longiore segmentis ovato-lanceolatis acutiusculis, corolla tubulosa infra medium sensim dilatata °re angusta fere truncata lobis brevissimis erectis ovato-rotundatis festivatione induplicatim plicatis, staminibus imse corollas insertis corolla 3-4 plo brevioribus, loculis antherarum apice brevissime liberis Poro truncato dehiscentibus.

HAB. South America ; Columbia, between O\$ana and Pamplona, 6000ft., iTaZ6r6yfir(No. 1059).

m *Mia* 4-7 poll, longa, 2-2| poll. lata. *Bacemi* semipedales. *Flows* viridi-rubescens, 1-1J poll, longi. *Filamenta* libera, complanate, ^aapice angustata, dorso parce hirsuta; antherse oblongae, prope basin attix*. *Ovarium* 5-loculare j ovula x ; stylus rectus, gracilis, glaber ; stigma capitellatum ; discus styli basin circumcingens breviter annulatum elevatus.

This plant has long rested amongst our doubtful Thibaudiero, but I think if *Ortkma* >e maintained in a group of genera the diagnostic marks of which are somewhat arbitrary, it may be referred to tñac genus with little hesitation. The anthers are remarkable in their ^v*ry short free apical tubes, truncate in their broad terminal pores. *Orthm* is maintained by Dr. Baillon (with a ?) in his °Hist. des Mantes/ xi. 187, but reduced to *Thibaudia* by Dr. Drudein Engl. and ^prantl, Pflanzenfam., Ericaceae, 54.—D. OLIVER.

% 1. Vertical section of calyx and ovy. 2. Transverse section of apex of [^]rolla, showing aestivation. 3. Corolla-lobes laid open. 4. Stamens, front and bac* ^vle*s. *AUmUrycd*,



M. S. del. et lith.

Lissocarpa Benihami, Gurke

PLATE 2413.

LISSOCABPA BENTHAMI, *Gürke*.

* STYRACE-E ?

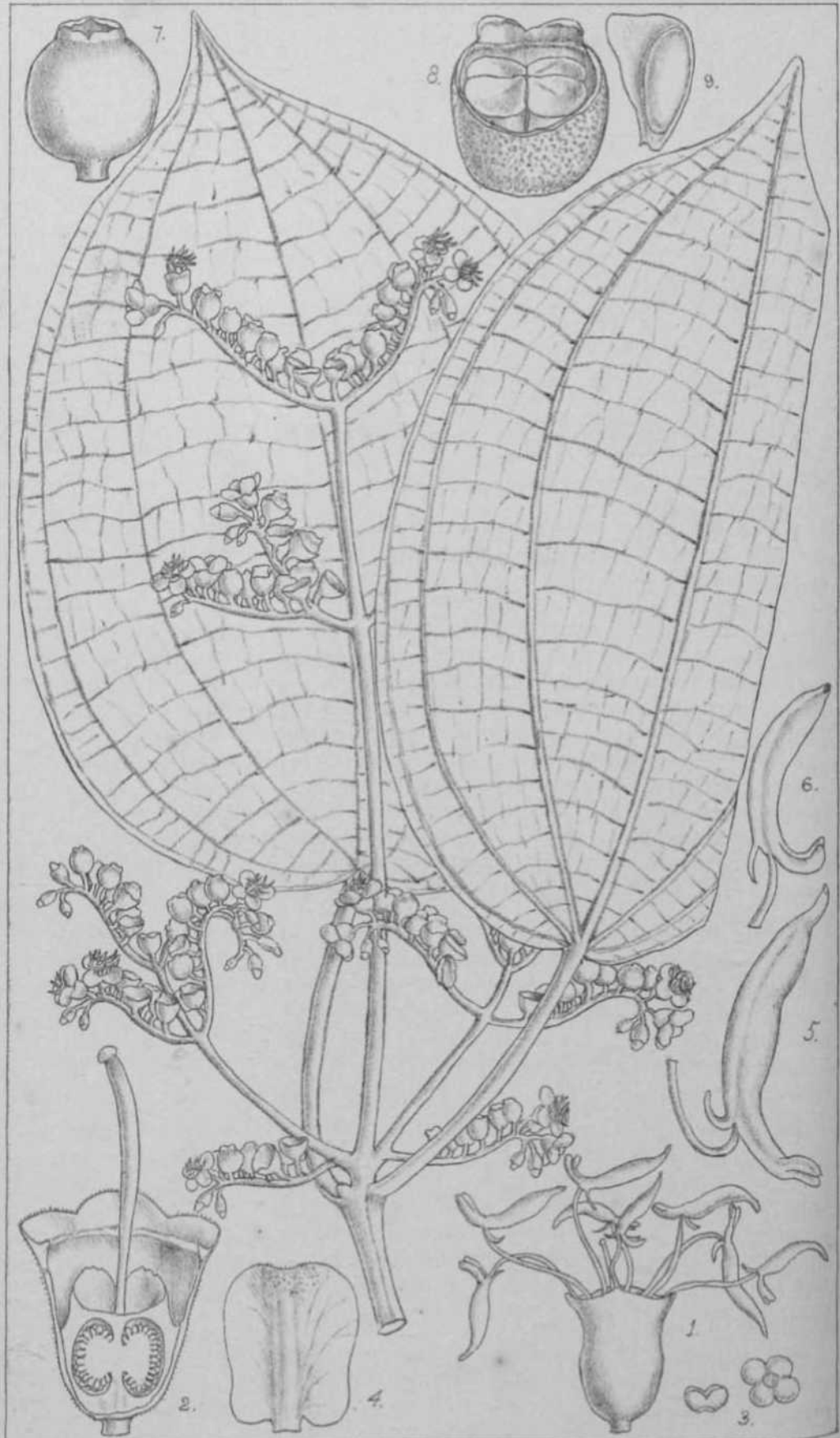
*••Jknthami, *Gürke in Engl and Prantl, Pflanzmf., Styracacea*, P- 180. *Arbuscula* glaberrima, foliis breviter petiolatis ovali-oblongis v. oblongo- v. ovato-ellipticis obtusiusculis basi cuneatis v. leviter rotundatis coriaceis nitidis tenuiter venosis, iioribus sordide luteis in racem̄is brevibus pluriloris folio multo brevioribus fasciculatim dispositis, bracteis parvis ovato-rotundatis coriaceis deciduispedicellobrevi sublongioribus, bracteolis geminatis basi ovarii insertis persistentibus, fructibus ovoideis 2-1-spemris, pericarpio carnosulo in sicco crustaceo nitido.

HAB. South America: Amazonia, near San Carlos, and on the *Winia i Spruce* (Nos. 3108, 3501).

Arbuscula 18-20-pedalis (*Spr.*). *Folia* integerrima subtus opaca, *6 poll, longa, 1£-2j| poll, lata; petiolus £-£ poll, longus. *Injlorescentia* j-1 poll longa. *Alabastra* ^-J poll, longa. *Calyx* tubo airtoso, in sicco lacunoso v. quasi costato, ovario adnato; limbo tubo subuequilongo, 4-fido, segmentis coriaceis late rotundatis, retusis, wstivatione uontorto-imbricatis. *Corolla* 4-tida, tubus cylindricus limbo fere JWjuilongus; segmenta limbi ovato- v. obovato-elliptica obtusa tempore florif. patula, in alabastro erecta, aestivatione contorto-imbricata. *Tubum staminiferum* epipetalum, apice 8-lobatum, lobis lanceolatis, contorto-imbricatis, breviter exsertis. *Antheras* anguste lineares inclusa? tubo staminifero ad basin insertae, ajquales, quasi-uniseriatss; filamenta brevissima. *Ovarium* omnino inferum, 4-loculare; ovula in loculis geminatis, pendulis. *Fructus* % poll, longus. *Semina* (in fruct. dispermo) plano-convexa; testa longitudinaliter costata; albumen copiosum corneum; embryo subteres, albumine fere dimidio brevior.

I have left this remarkable plant where Mr. Bentham placed it—in *Styracaceae*—although I think its affinity may rather be with *EbenacesB*, of which it has the general facies and horny albumen. The ovary, however, is wholly inferior, not **fere superuniy'* as stated by Mr. Bentham (in 'Gen. Plant.' ii. 671); the fruit also is crowned by the persistent; coriaceous contorted segments of the calyx-limb, not **calyci iinjjositus** (*Zc.* 667). Mr. Bentham has evidently taken the calyculus of paired bractedles at the base of the fruit for the calyx. The available material in a good state for analysis is, unfortunately, too small to enable me to clear up the relation of what I have called the staminiferous tube to the anthers. I take it, however, that the anthers are free from the .tube, though sometimes, in bud, not readily separable. The description given by Herr Gürke would seem to have been taken from the 'Genera/ and not from original observation, or the inaccuracies referred to would have been detected.—D. OLIVBB.

Fig. 1. Bud. 2. Longitudinal section of calyx and inferior ovary. 3. Corolla laid open. 4. Anther 5. Tranwrae section of ovary. 6. Fruit. 7. A}ex, of «»nie, showing the persistent limb of the calyx. 8. Seed. 9. Longitudinal section of same, showing the embryo. *Excepting fig. 6, enlarged.*



M.S. del, Stapf anal.

Driessenia scorpioidea, Stapf.

PLATE 2414.

DRIESSENIA SCORPIOIDEA, Stapf.

MELASTOMACEJE. Tribe OXYBORBJE.

D. (§ **ScorpioideB**, *aectio nova inflorescentia paniculMa ramis vd ramulis eximie scorpioideis*) **scorpioidea**, Stapf (*sp. nov.*) \ caule quad-rangulari fusco gland uloso-furfuraceo, foliis oppositis paulo maequalibuB late ovatis vel ellipticis basi breviter vel obscure eordatis apice breviter ftbrupte acuminatis integns 7-9 nervibus venis transversis distmctis subhorizontalibus supra sparse glandulosis subtus glaucescentibus, vel fulvescentibus dense glanduiis rainimis nitidis vestitis, petiolo longiusculo lateraliter compresso supra canaliculato fusco gland uloso-furfuraceo, paniculis terminalibus etex axillis foliorum summorum minorum fusco-vel fulvo-glandulosis fere a basi ramosis vel longe pedunculatis, nQTM..¹ dense scorpioideis in ramis vel ramulis divergentibus dispositis, pedicellis hrevibus crassiusculis, calyce sub anthesi tubuloso-eampanulato subtruncato glanduloso, petalis rotundato-obovatis obtusis, stamimbus⁸ paulo inasqualibus, capsula primo calyce globoso apice valde constnctc demum circa valvas rumpente inclusa 4-valvi.

HAD. **Borneo : Sarawak, Niah ; Haviland and Hose (No. 3222).**
Folia majora ad 7 poll. longa, ad 6½ poll. lata ; petiolus ad 2 poll. longus. **Panicula** ad 4 poll. longa, paulo supra basin ramis 2 oppositis iterum fere e basi ramulosis emitters, deinde ad 2-3 poll. nuda vel a W ad 2 poll, nuda (i.e. longiuscule pedunculata); peclicelli ad 1 iin. Wgi. **Calyx** 1-lin. longus. **Petala** j lin. longa. **CnrmJa** 1* lin. Uiani.

The structure of the flower and fruit is quite that of [^]sema [^]antJui, Korth. or *D. microthrix*, Stapf; but the panicles are larger *an in any other species, and, above all, distinguished by th€ distinctly scoi-pioid arrangement of the flowers. Moreover, the whole Plant is moi* or less densely covered with minute glands, which **sist of four cells in cross position. They are € r b d t f l yTM TM » ^ minute on the lowor surface of the leaves, which therefore api>ear P^fuinose.

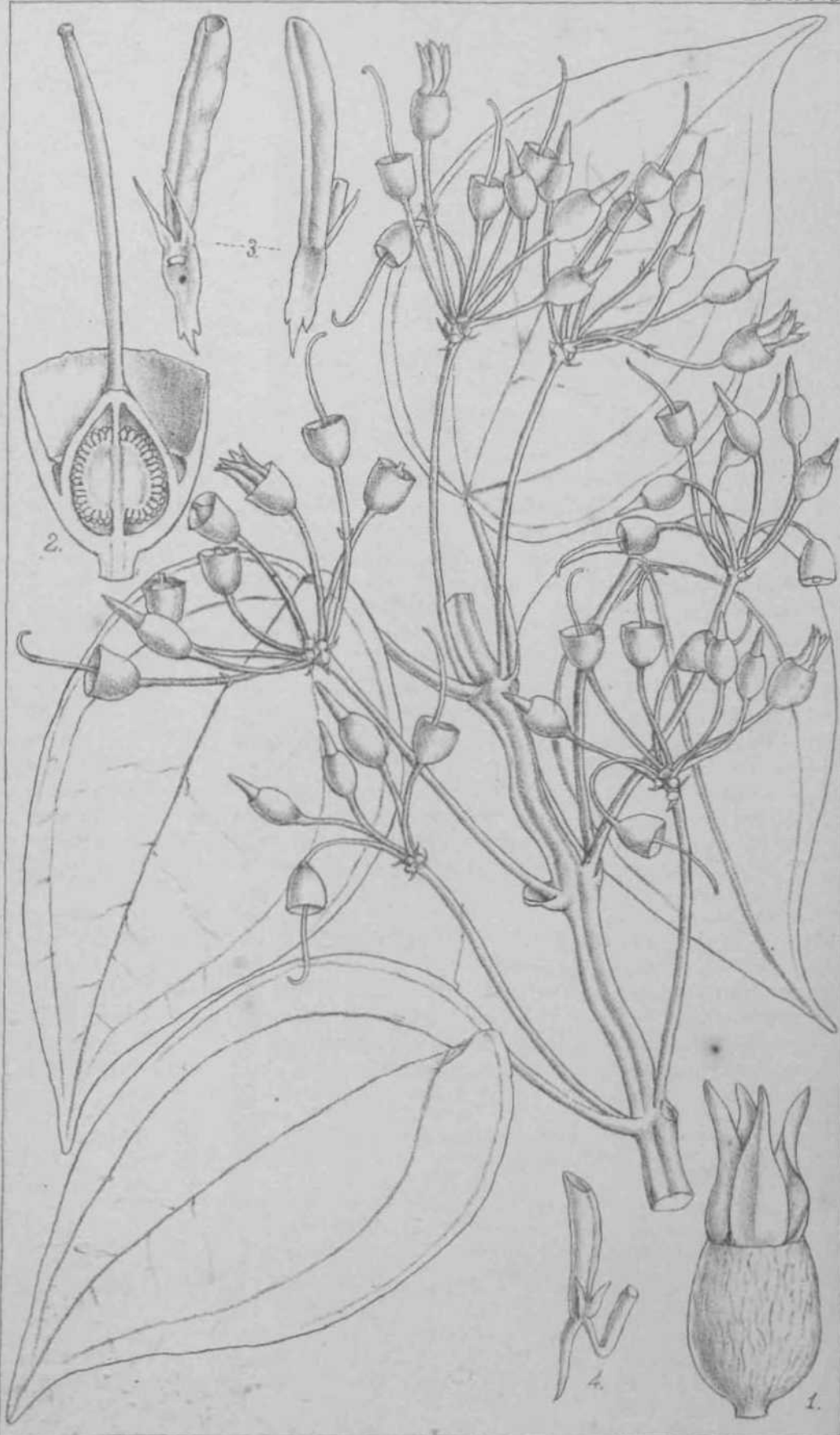
Another species of the same section is represented J • • £ » » * ; **Elected by Dr. G. P. Haviland on • «' & ^ f J £ £ £^m » i ;** Wmovul forest at Bongsitu, Sarawak, at an altitude of 800 fet.

Driessenia (§ Scorpioides) crystallinus, Stapf (*p. nov.), *D. scorpioidem* similis, sed foliis e basi cuneata ellipticis tenuiter acunrinatis, paniculis ad cynias longe pedunculatas furcatis rarius ad pedunculi basin ramis apice furcatis auctas reductis, pedicellis gracilibus calyce duplo longioribus.

Folia ad 4£ poll, longa, ad 2£ poll, lata; petiolus 1-1 £ poll, longus. *Injhrascentias* ad 2| poll, long®, ssepe multo breviores; pedicelli 1[^]-2 lin. longi.

Another specimen from Mt. Matang, Sarawak, ah. 1600-3000 ft., collected also by Dr. G. D. Haviland, seems to belong to a third species of this section, but the material is hardly sufficient for description.—O. STAPP.

Fig. 1. Flower. 2. Vertical section of calyx tube and ovary. 3. Glands of nder-surface of leaf. 4. Petal. 5 and 6. Larger and smaller stamens. 7. Calyx-tube and fruit. 8. Fruit laid open. 9. Seed. All enlarged.



M.S. del., Stapf anal.

Hedera multiflora, Stapf.

PLATE 2415.

HEDERELLA MULTIFLORA, Stapf.

MELASTOMACEJE. Tribe DISSOCILETEA.

Hederella, Stapf (*gen. nov.*); flores 4-meri. *Calycis* glabri vel tomentosi tubus ovoideus vel obconicus; limbus truncatus. *Petala* oblonga ovata vel lanceolata, acuta. *Stamina* 8, inaequalia, episepala majora fertilia, rarius sterilia, epipetala minora sterilia, rarius fertilia, vel 4 episepala; antherse basifixae, oblongae lanceolatae vel lineares, obtusae vel subrostratae, 1-porosae; connectivo basi plerumque haud producto, antice appendicibus 2 subulatis vel linearibus, postice calcarato. *Ovarium* totum vel ope septorum 4 vel 8 tubo calycino adnatum, 4-loculare, vertice subplano vel plus minusve conico glabrum vel tomentellum; stylus filiformis, stigmate punctiformi. *Fructus* maturus ignotus sed e structura anatomica fructuum juvenilium certe baccatus. —Frutices Malayani repentes samientosi, glabri vel furfuracei, ramis flexuosis angularibus vetustis imhatis. Folia opposita vel unum uniuscuiusque paris minutum deciduum vel suppressum ideoque alternantia, petiolata, ovata, coriacea, integerrima, 3-nerviata, venis transversis nullis vel obscuris paucis. Flores pedicellati, in umbellis breviter v. longe pedunculatis rarius paniculatis rarius solitarii, semper axillares vel e ligno vetusto.

H. multiflora, Stapf (*sp. nov.*); glaberrima, foliis oppositis sequalibus late ovatis basi rotundatis vel subcordatis acuminatis, umbellis axillaribus longe pedunculatis interdum paniculatis ad 10-floris, pedicellis caryocarpio duplo longioribus, calyce ovoideo, petalis in alabastris in conum gracilem contortis lanceolatis roseis, staminibus 8 episepalis. Antheribus obtusis calcar triangulari, epipetalis breviter lanceolatis. Ovario obtusis calcar longiusculo subulato, ovarii vertice glabro conico.

HAB. Borneo: Sarawak, Matang, alt. 1600 feet, epiphytic on a tall tree, Uaviland.

Folia ad 3 poll, longa, ad 2 poll, lata; petiolus 1-1½ poll. Jongus. Pedunculus ad 2 poll, longus; pedicellus ad ½ lin. longi. Calyx 3 lin. longi. Petala ad 3 lin. longi.

Besides // *quintunerviis*, figured overleaf, I refer to this genus also the following two species:

»

H. tatrandra, Stapf (*sp. nov.*); ramorum apicibus foliis admodum juvenilibus atque inflorescentiis junioribus ferrugineo-furfuraceis

exceptis glabra, ramis junioribus gracilibus flexuosis longis ope radiculorum substrata affixis, vctustis grosse 5-sulcatis cortice pallido, foliis rotundato-ovatis vel ellipticis basi rotundatis vel subcordatis, breviter acuminatis, subquintuplinerviis, sicco nigricantibus, umbellis ex axillis foliorum longe vel brevius pedunculatis 2-8-floris, pedicellis longiusculis crassiusculis, calyce obconico, petalis in alabastris in conum brevem acutum contortis oblongis, staminibus 4 episepalis, antheris lanceolatis subrostratis, connectivo basi haud producto antice bilobo lobis subulatis postice triangulari-calcarato, ovario vertice glabro haud producto ope septorum 4 cum tubo calycino connate.

HAB. Borneo : Sarawak, *Beccari* (No. 304) ; Niah, *Ilavifand* and *C. Hose* (No. 233).

Folia ad 3 poll, longa, ad $\frac{1}{2}$ poll, lata ; petiolus $\frac{1}{2}$ -1 $\frac{1}{2}$ poll, longus. *Pedunculi* $\frac{1}{2}$ -2 poll, longus; *pedicelli* $\frac{1}{2}$ -1 poll, longi. *Calyx* $\frac{3}{4}$ -1 lin. longus. *Petala* 5 lin. longa.

H. Forbesii, *Stapf* (*sp. nov.*); partibus juvenilibus ferrugineo-furfuraceis exceptis glabra, ramis flexuosis vetustis verrucosis grosse 4-sulcatis, foliis rotundato-ellipticis basi rotundatis apice obtusis vel apiculatis 5-plinerviis, umbellis in ligno vetusto pluribus e ramis abbreviatis globoso-nodosis breviter pedunculatis paucifloris, pedicellis* longis gracilibus, calyce quadrangulati-campanulato limbo subpatulari, petalis oblongis acutis, staminibus 8 valde inaequalibus, episepalis longioribus (sterilibus ?) antheris linearibus connectivo basi producto antice bilobo lobis lineari-oblongis postice triangulari-calcarato, epipetalis antheris a latere visis oblique lateque oblongis erostris connectivo basi haud producto antice bilobo lobis linearibus postice breviter calcaratis, ovario vertice glabro subplano ope septorum 8 cum tubo calycino connate.

HAB. New Guinea : Sogeri District, *Forbes* (No. 457).

Folia ad 3 poll, longa, ad 2 poll lata; petiolus $\frac{1}{2}$ -1 $\frac{1}{2}$ poll, longus. *Pedunculi* $\frac{1}{2}$ poll, longi; *pedicelli* ad 1 poll, longi. *Calyx* 3-3 $\frac{1}{2}$ lin. longi. *Petala* 3-4 lin. longi. *Antipetalae* episepalae cum connectivo 3 $\frac{1}{2}$ lin., epipetalae 2 lin. longae.

One of the species described was placed by Cogniaux in *Dissocheeta* — viz. *D. quintuplinervis*—together with *D. pwnctnlata*, Hook, fil., *D. 8(itj)ttata*, BL, and *D. Cummingii*, Naud., plants of an entirely different aspect, and no doubt typical representatives of the genus *Dissochmla*. Cogniaux's *D. quintnplinervis* differs from them in its scandent or trailing habit, the flexuose stem and the long, slender, and wavy branchlets being evidently too weak to support themselves; in the blackish leaves, the transverse veins of which are few and obscure ; and in the truly axillary position of the inflorescences, which are generally reduced to solitary flowers. The general structure of the flowers might do for *Dissochwta*, but I do not know any species of this genus where the calyx is so distinctly obconical; it is always more or less.campanulate or ovoid, and becomes soon constricted above the

ovary after fertilisation has taken place; and those species of *Dissochceta* at least with which Cogniaux places *D. quintuplinervis* have the long uexuose setae which characterise most species of this genus, whilst they are very short in *D. quintuplinervis*. In fact, this species would present a very peculiar type of *Dissochata* if left in that genus—so peculiar, indeed, that its deviation from the remainder of the genus would be quite equivalent to the differentiation on which the genera of *Dissochastea*; altogether rest. This alone would suffice to raise *Dissochceta quintupliformis* to the type of a new genus, and it appears so much the more justified, as there are now already three more species known which follow the same type. As to the affinity of the genus *Malanthos* (*axilla*, *flor* = flower), I believe it lies more with *Medinilla* than with *Dissochceta*.—O. STAPP.

Fig. 1. Flower. 2. Calyx-tube and ovary, vertical section. 3. Larger, and 4. Smaller anthers. All enlarged.



M.S.del,St3pfaiial

Hederella quintuplinervis, Stapf.

PLATE 2416.

HEDERELLA QUINTUPLIWERVIS, *Stapf*.

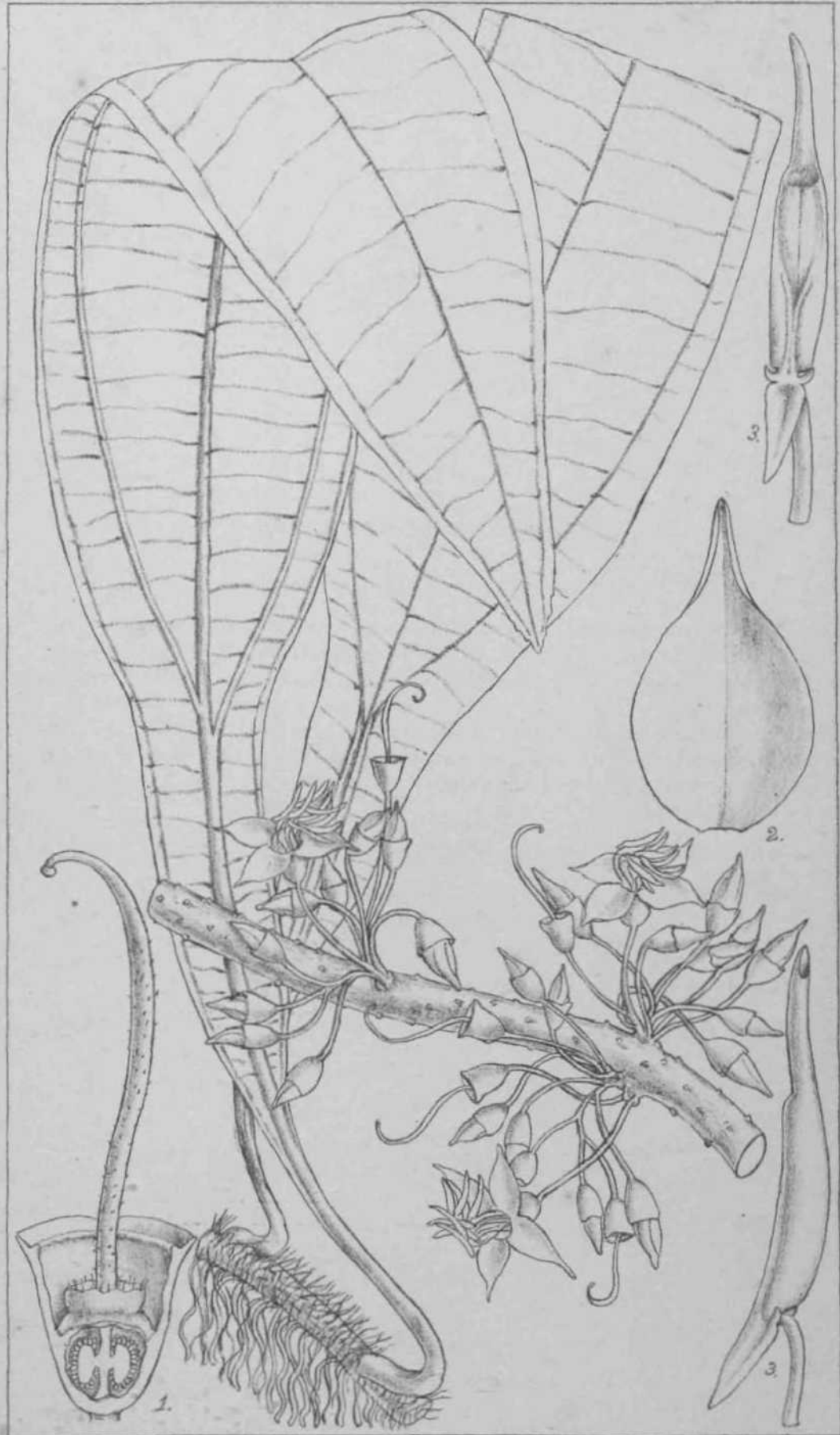
MELASTOMACEJE. Tribe DISSOCHJETE^{AS}.

H. quintuplinervis, *Stapf* [*sp. nov.*] ramis (scandentibus ?) junioribus dense ferrugineo-furfuraceo tomentosis foliis alternis, late ovatis vel ellipticis vel rotundato-ovatis basi rotundatis acutis vel breviter acuminatis 5-plinerviis, subtus ferrugineo-furfuraceis demum glabris, supra glaberrimis sicco nitescantibus, floribus plerumque solitariis, pedunculis dense furfuraceo-tomentosis brevissimis 2-4-bracteolatis, calyce lato conico-campaulato dense furfuraceo-tomentoso, petalis ovatis acutis in alabastro in conum brevem acutum contortis, staminibus 8, valde inaequalibus epispalis tantum fertilibus, antheris lanceolatis subrostratis, connectivo basi breviter producto antice bilobo lobis lanceolatis brevibus postice obscure calcarato, antheris epipetalis anguste linearibus connectivo haud producto antice minute bilobo postice minute calcarato, ovario ope septorum 8 cum tubo calycino connato vertice tumido rufo pubescente centro depresso.

HAB. Borneo: Sarawak, *Beccari* (Nos. 1802, 3274); Matang, *Uaviland*.

Folia 2-3 poll, longa, 1½-2 poll, lata; *petiolus* 1 poll, longus, *pedicelli* 3-4 lin. longi. *Calyx* 3-4 lin. longus.—O. STAFF.

Fig. 1. Calyx and ovary, vertical section. 2. Hair from calyx. 3. Petal. 4. Urger, and 5. Smaller anthers. *All enlarged.*



M.S. del. et. lith.

Medimlalarata, Stapf.

PLATE 2417.

MEDINILLA LORATA, Stapf.

MELASTOMACEAE. Tribe DISSOGHJETEIE.

Medinilla (*Medinilla*) *lorata*, Stapf (spec. nov.); ramis vetustis verrucosis foliatis flexuosis dense radicibus substrato adhaerentibus vestitis, foliis loratis vel lineari oblongis basi longiuscule acuminatis atque in petiolum decurrentibus obtusis vel subacutis integris subcoriaceis glaberrimis 3-nerviis, venis transversis subtus distinctis, floribus in fasciculis ad 15-floris e ligno vetusto, pedicellis gracilibus ut calyx obovatus vel demum campanulatus truncatus edentatus minutissime tomentoso-furfuraceis.

HAB. Borneo : Sarawak, Kuching, Haviland (No. 1785).

Fl. $\frac{1}{2}$ poll. longa, ad 2 poll. lata. *Petal.* 5 petiolus 2-2.1 poll. longus. *Styl.* 10 lin. longus. *Cal.* 2 lin. longus. *Ant.* 3 lin. longus.

See the note under *M. serpens* (pi. 2411).—0. STAPF.

Fig. 1. *Medinilla* vertical section. 2. Petal. 3. Anther, lower figure in side view. *Ml* enlarged.



M3 del, et lith.

Ple Jiiandra Hookei, Stapf

Folia 4 poll, longa ad 2\ poll. lata. Calyx vix 2 lin. longus. Petala H lin. longa. Antherau 1 lin. longa;

3. *P. cuneata*, *Stn*pf (*sp. nov.*); foliis subcoriaceis petiolatis oblongo- yel elliptico-cuneatis acuminatis 3-plinerviis venis transversis inconspicuis, fioribus solitariia e ramis annotinis pedicellatis, petalis late oblongis acutis, staminibus circiter 30.

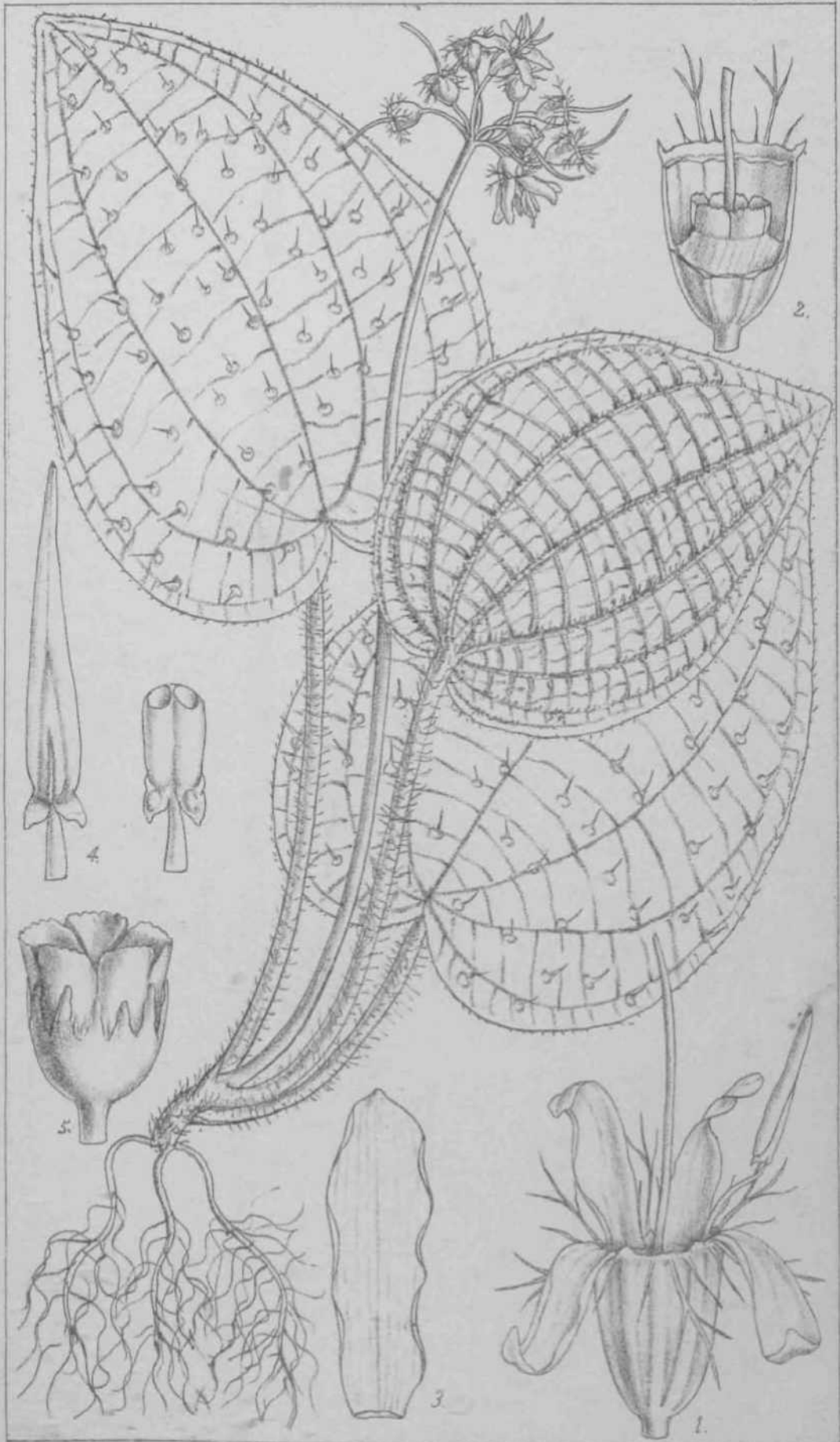
HAD. Borneo : Sarawak, Selabat Bock, on the coast, *Haviland*.

Frutex 5 ped. altus. *Folia* ad 3 poll, longa, ad H poll, lata ; petiolus \ poll, longus. *Pedicelli* 4 lin. longi. *Calyx* 2-2. Win. longus. *Petal a* 3 lin. longa. *Stamina* 1^ lin. longa.

The genus *Phthiandra* was placed in *Astroniectv* by the authors of the 'Genera Plantarum,' and subsequently by Baillon, Cogniaux, and Krasser. I have, however, pointed out in 'Trans. Linn. Soc.,' /c.» that the affinity lies most distinctly with *Medinilla*, from which *Phthiandra* differs mainly in the large number of stamens. Curiously enough, Cogniaux has described a new genus, *Medinittopsis*, which he places next to *Medinifla*, and which differs, according to him, from *Medinilla* in exactly the same points. Unfortunately I have not been able to see a good specimen of *MediniHopdw*. But judging from a specimen of Jteccari's in the Kew Herbarium numbered 4004, and from Cogniaux's description there cannot be any doubt that it is identical with *Pletfdandra*. There is only one point of difference so far as Cogniaux's description is concerned, viz. the number of cells in the ovary. Cogniaux indicates three cells for *Medinilloj)sis*, whilst I fina constantly six in *Plethiandra J* but the septa separating the cells are so extremely delicate that an error as to their number is quite conceivable. In a rather advanced fruft of Beccari's No. 4004 I counted, in fact, four distinct septa, the other two having been probably absorbed. The description of *Jfedinillops** sessilijlora*, Cogn., moreover, agrees almost exactly with my *P. sessiliSi* the only point of difference being the length of the petals.

Another specimen from Beccari's collection (No. 4049) was described by Cogniaux as *Medinil/a rohuxta*. The one I have seen> numbered 4049, is so extremely like Cogniaux's *MediniUopais b(*ccO>' riana* that it might be taken to be the same but for the very short pedicels. I have not seen flowers of it, but I feel convinced it is als° a species of *Plethiandra*.—O. STAPP.

Fig. 1. Flower. 2. Petal. 3. Larger, and 4. Smaller stamens. 5. Longitudinal section of ovary. 6. Transverse section of (immature.) fruit. All enlarged.



M.S. del. et lith.

CTABTANDRIUM GUTTATUM, *Stapf*

MELASTOMACEJE. Tribe SONERILEAE.

. *Cyanandrium*, *Stapf* (*gen. nov.*). *Mores* 5-meri. *Calycis* glaberrimi tubus turbinato-campanulatus, ultra ovarium productus | limbus ^{ttm}catus, denticulis 5 remotis impositis, paulo infra marginem atque inter denticulos setarum patularum alternatim majorum serie horizontali munitus. *Petala* oblonga apiculata. *Stamina* 10 sequalia; antherae lanceolatae, acuminatae, 1-porosae, connectivo basi antice in anculos breves producto postice exappendiculato. *Ovarium* toto ambitu calycis tubo adhaerens, 5-loculare, vertice lobis quadratis minute denticulatis 5 coronatum; stylus filiformis; stigma punctatum. ^{apsula} ut in *Phyllagathi*, sed 5-mera. *Semina* ignota.—Herbas ^{acaules} vel ^{subacaules}. *Folia* 3 radicalia, petiolata, cordata, 7-9-nervia, ^{discoloria}, petiolis setosis vel villosis. *Flores* in umbellas terminatas longe pedunculatas dispositi, pedicellati, ebracteati. *Antherae* cyaneae.

C. guttatum, *Stapf* (*sp. nov.*); foliis late cordato-ovatis acutis eroso-denticulatis 7-nerviis supra albo- vel aureo-guttatis niaculo quoque seta ornato subtus pallidis insigniter reticulatis in nervis imprimis basin versus setulosis, petiolo dense patuleque setoso-villoso, pedunculo gracili ut pedicelli et calyces, caerulescente.

HAB. Borneo: Sarawak, Saribas, *HavUand* (No. 1549).

Folia 2-3J poll, longa, 1[^]-2i poll, lata; petiolus U-2 | poll, longus. ^{pedunculus} 3-4[^] poll, longus | pedicelli 3 lin. longi. *Calyx* 1[^]-2 lin. longus. *Petala* (expansa) ad 3 lin. longa. *Antherae* 2 lin. longae.

^{not} ^{er} ⁸ ^{pedes} of *Cyanandrium* may, though imperfectly known, be described as follows:

C. ^{fiiim}, *Stapf* (**p. nov.*); foliis rotundato-cordatis acutis subtus ^{nervis} ^{9-nerviis} supra minute sparseque ^{capillis} villosis, subtus ^{scantibus} in nervis dense rufo-villosis, petiolo rufo-villoso, pedunculo (m statu mature) subrobusto.

HAB. Borneo: Sarawak, Matang, 1600 ft., *Haviland*.

Folia 3-3[^] poll, longa, 3 poll, lata; petiolus 3J-4[^] poll, longus.

Peribunulus 6 poll, longus; pedicelli 3-4 lin. longi. *Capsula* 3 lin. longa.

Cyanandriitvi has the habit of a typical *Phyllagathis*[^] but it differs from this genus in the pentamerous flowers and the auriculiform anterior processes of the connective. It resembles also very much the Madagascar genus *Gravcda*[^] which is also pentamerous. The anthers of *Gravesia* have, however, no appendage in front, but generally one from the back of the connective. The three leaves appear to be strictly basal, the stem being extremely short, and the internode above the lowermost pair of leaves and the following one, of which one leaf is completely suppressed, being also reduced to a minimum. The blue colour of the anthers which Dr. G. D. Haviland indicates also for *C. rnfum*—the flowers of which I have not seen myself—is, so far as I know, very unusual in Sonerilete, the anthers being generally bright yellow or, more rarely, purple. The same blue tinge is noticeable all over the inflorescence of *G. guttatum*.—O. STAPF.

Vig. 1. Flower. 2. Calyx, tube inil open. 3. Petal. 4. Anther and Eumæ in transverse section. 5. Fruit. *All enlarged.*



MS ial.olh'k

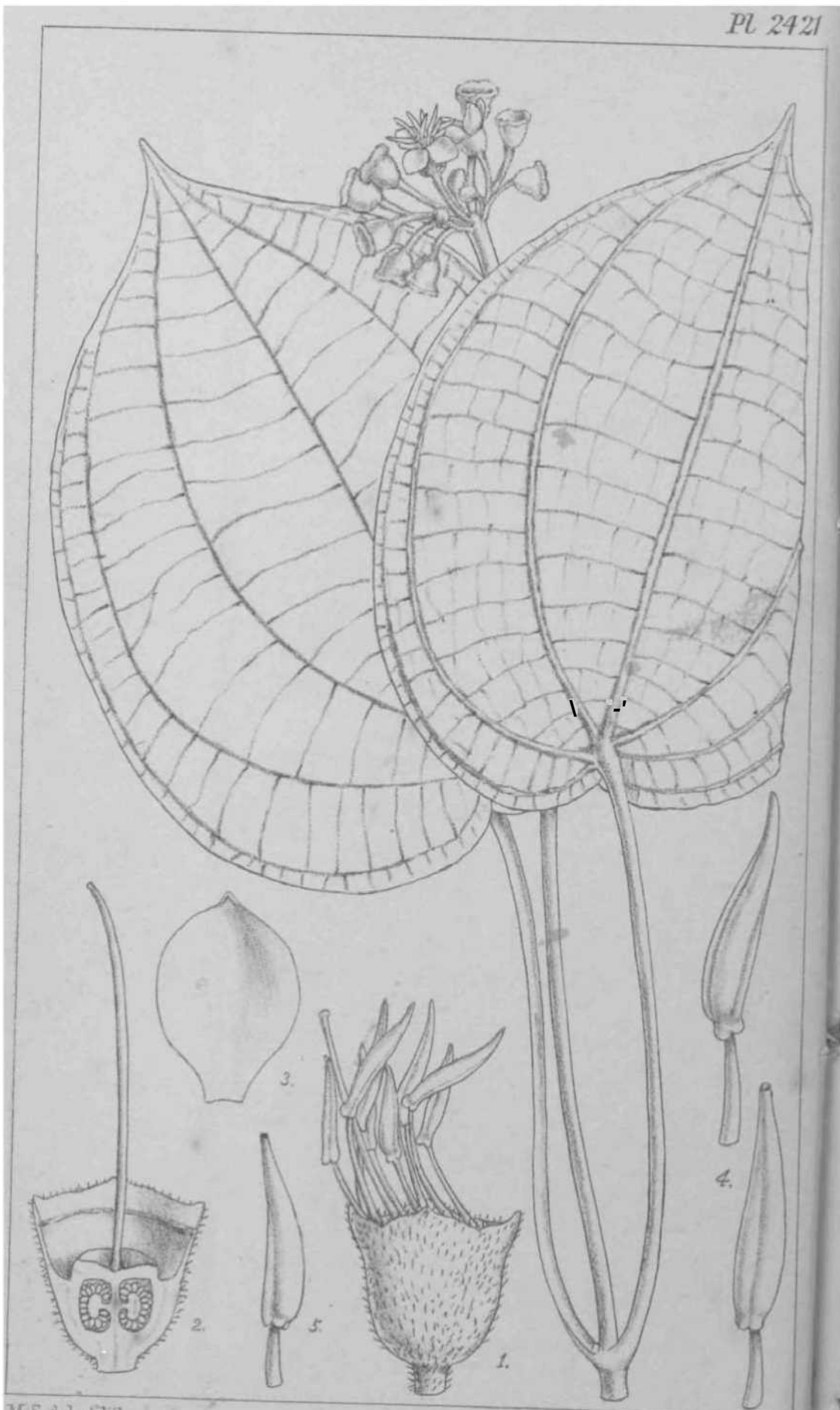
•Pomatostoma serluliferum, St&pf.

HAB. Borneo : Sarawak, Mt. Matang, alt. 2000 feet, on the face of a perpendicular rock, *Ilaviland*.

Herba 4-6 poll. alta. *Folia* ad 6 poll, longa, 9-14 lin. lata; *petiolus* 2-5 lin. longus. *Pedunculua* 2-3 poll, longus. *Pedicelli* 3 lin. longi. *Calyx* $l\frac{1}{2}$ lin. longus.

The genus *Pomatostoma* (*ifu/m*, lid ; *oro/jia*, mouth) approaches more to *Anerinckistus*, Korth., than to *Allomorpha*, BL, to which one of the species mentioned here has been referred by Cogniaux. It differs from both, as from all other *Oxysporece*, in the peculiar mode of dehiscence, the top of the capsule being transformed into a thick umbonate lid, which falls off in a mature state, exposing thereby the seeds. *Anerindeistus* has a capsule which dehisces very neatly by four valves, each of which is crowned with a lobe, a hardened part of the 4-lobed coronula of the ovary. *Allomorpha* has also a distinctly 3-5-valved capsule. The structure of the ovary might point to *Ochthockcuris*, BL, but here the capsule splits irregularly across the thin top and down to the base, falling at length to pieces, and thus exposing the seeds on the persistent placentas.—O. STAPF.

Fig. 1. Fetal. 2. Calyx and apex of ovary. 3. Vertical section of calyx-tube and ovary. 4. Seed. 5. Seed, longitudinal section, more highly magnified. *All enlarged*.



M.S. del. et lith.

Pomatostoma phyllagaloides, Stapf

PLATE 2421.

POMATOSTOMA PHYLLAGATHOIDES, Stapf.

MELASTOMACEAE. Tribe OXYSPOREA.

P. Phyllagathoides, Stapf (*spec. nov.*); herba, ut videtur, monocarpica, foliis oppositis superioribus subapice caulis congestis late rotundato-ellipticis breviter cordatis breviter abrupteque acuminatis vel obtusis 7-plinerviis supra glabris minutissime granulatis subtus in nervis venisque tenuiter strigillosis caeterum sub lente valido minute hirtellis, pedunculo pedicellisque adpresse setulosis, calycis adpresse setulosi lobis obscuris latissimis obtusisque.

HAB. Borneo : Sarawak, Bangsitu, on the ground in old jungle, on sandstone, *Uaviland*.

Herba ad 1 ped. alta. Folia 4-7 poll, longa, 3-5 poll, lata; petiolus 3-4 poll, longus. Pedunculus 7 poll, longus. Pedicelli 3 lin. longi. Calyx 2 lin. longus. Antherae ad 1-2 lin. longa.

P. iniqualis, Stapf (*nov. sp.*); herba, ut videtur, monocarpica, foliis oppositis paribus aequaliter distantibus summis valde inaequalibus oblongo-vel obovato-ellipticis basi subcordato-rotundatis acuminatis sub-7-plinerviis utrinque minute sparseque papilloso-hirtellis supra mox glabris, petiolo et pedunculo obscure minuteque hirtellis, pedicellis adpresse setulosis, calycis breviter setulosi lobis brevissimis latissimis obtusis, petalis albis.

HAB. (No. 900) Borneo) Sarawak, Mt. Brongoh, near Tegura, *Uaviland* (No. 905).

Herba ad 1 ped. alta. Folia 6 poll longa ad 3 poll lata. Petiolus 2 poll longus. Pedunculi terminales et laterales 2-3 poll, longi. Calyx 1 poll. longus. O. STAPP.

1. Calyx and ovary. 2. Ventralside of calyx and ovary. 3. Petal, larger, and 5. Smaller anthers. All enlarged.



M.S. del, et hth.

Ormosia fordiana, OHv

PLATE 2422.

ORMOSIA FORDIANA, 01 iv.

LEGUMINOSJE. Tribe SOPHOREJE.

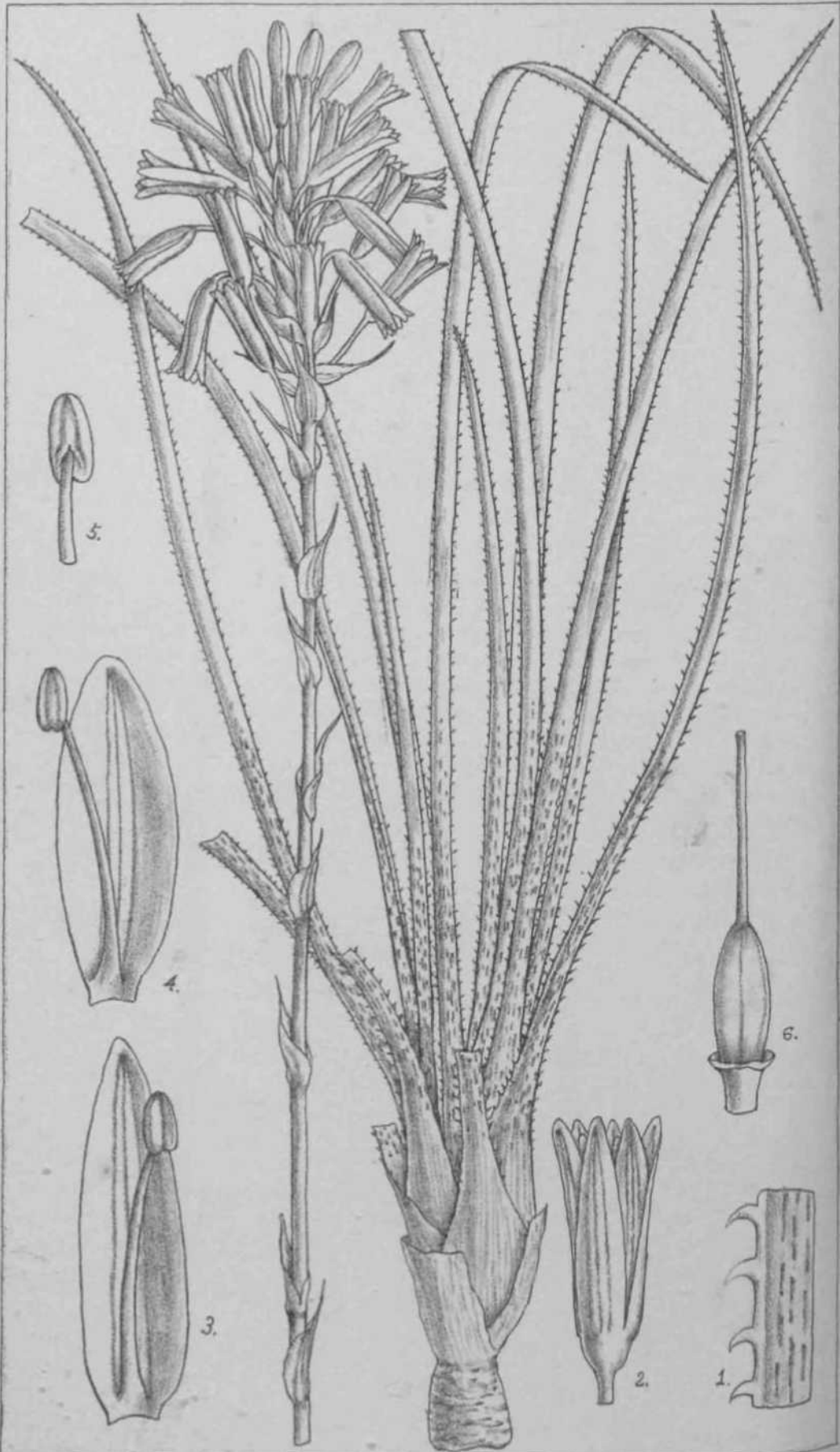
O. *ord*ana* *lv-* (*sp. nov.*); arbor ramulis ultimis floriferis
 puberulis, foliis imparipinnatis stepius 7-9-foliolatis foliolis
 ovalibusve acuminatis basi cuneatis supra
 racematis vel obsolete sericeis, floribus majusculis racemosis
 terminalibus laxis ferrugineo-pubescentibus aggregatis
 bibracteolatis bracteolis parvis subulatis, calycis
 turbinato segmentis oblongo-lanceolatis
 posticis altius connatis, petalis calycem superantibus,
 stylo apice involute, ovulis 3-4.

China: Prov. Kwang Tung, North-West River. *Native*
Elector, comm. C. Ford (No. 231).

Folia 6-11 poll., longa; stipulae obsolete; foliola superiora 4-6 poll.,
 laxiuscula, (2); foliola lata; petiolulus longus, 4-6 lin. longus;
 5 bractea lanceolata 1-2 lin. longus; pedicellus
 unguiculatum, cuneatis petalis similia, oblique
 obovata, obtusa, unguiculata. *Leyumen* non vidi.

Very distinct from the species hitherto described from China, and
 belonging to the macrocalycine section of the genus.—D. OLIVER.

Fig. 1. Flower laid open, the petals removed. 2. Vexillum. 3. and 4. Wing-
 and keel-petals. 5. listil. 6. Longitudinal section of ovary. *AM enlarged.*



M.S. del. et lith.

Aloe minima. Baker

'PLATE 2423.

ALOE MINIMA, Baker.

LILIACEÆ. Tribe ALOINEJE.

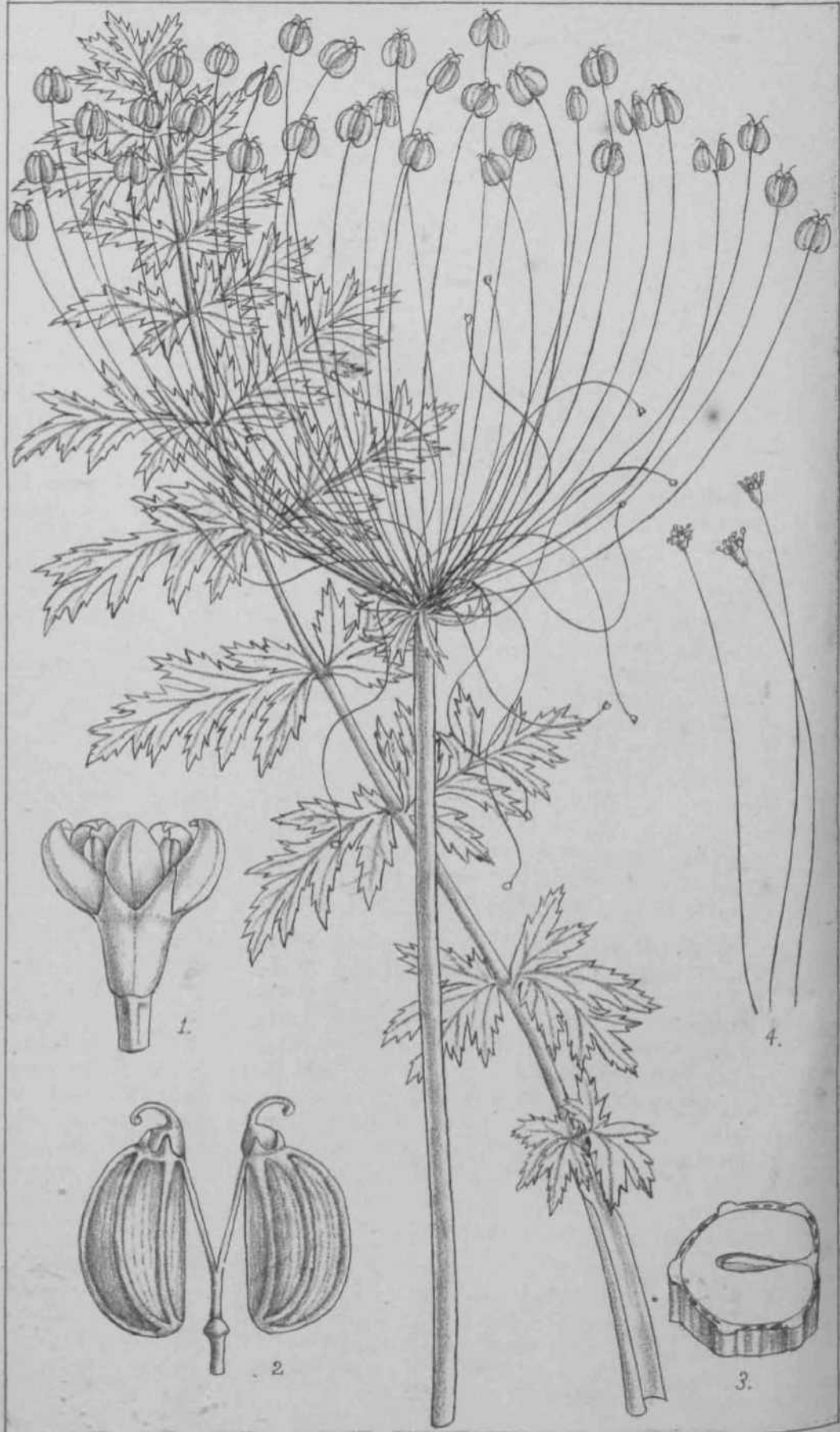
A. ^{^ ^} ^{aniS ^S} ^{118*6} *Baker in Kew Bull.* 1895; acaulis, foliis suberectis
multif ^{co} ^{prose} ^{interdu} ^{plurimis} ^{pedicellis} ^{perianthio} ^{Paran} ^{long} ^{is} ^{3-nerviis} ^{nervis} ⁱⁿ ^{segmentis} ^{interioribus} ^{arete} ^{genitalibus} ^{inclusis}, antheris late oblongo-ellipticis, ovario
^{lanceolato-oblongo.}

HAB. Natal: 'Solitary among grass, South Downs,' *M. S. Evans*
 (No. 40Q)

Folia 5-8 poll. longa, supra ^{hs} ^{lin} ^{lata}. **Scapus** 6-12 poll.
Pedicelli 4-6 lin. longi. **Perianthium** c. 5 lin. longum.

Allied to *Aloë Cooperi*, Baker, and *A. Kraussii*, Baker.—J. G. BAKER.

Fig. 1. ¹ ^{of} ^{lwf-margin} ^{with} ^{acu'ei}. **2.** Flower. **3 and 4.** Perianth-
^{segments} ^{enlarged.} ^{stamens} ^{adnate} ^{to} ^{base}. **5.** Anther, back view. **6.** Pistil. *All*



M.S. del. et lith.

Neogoezia gracahpes, Hemsl.

PLATE 2424.

NEOGCEZIA GBACILIPES, *Hemsl*

UMBELLIFERJE. Tribe SMYRNEJE.

Neojcezia, *Hemsl in Kew Bull.*, 1894, p. 354 (generis char, hic emend, et auct.); *calycis* dentes prominentes, interdum iuuuquales, persistentes, saepius colorati. *Petala* lata, fere plana, integra. *Discus* conicus, interdum purpureo coloratus. *Fructus* didynius subcordiformis, a latere plus minusvo compressus vel vix compressus, ad commissuram sulcatus; carpella fere teretia, basi leviter gibbosa; juga primaria tenuia vel prominentia; vittae tenuissimae, ad valleculas 3-5, ad commissuram 4-6; carpophorum demum bifidum vel bipartitum. *Semen* subteres, facie profunde excavatum.— *Herbae mexicanae glabrae, pvrenne* vel biennes, scapiformis, radicibus fasciculato-tuberosis tub&ribu* cylindricis. Scapi solitarii vel plures. Folia pinnatim dissecta, omnia radialea, petiolis confertis longe angustaque inter se vaginantibus. Umbellae simplices, in scapo graeili solitarice, pedicellis eximie filiformibus. Involucri bracteae numerosae, angustae vel angustissimae, integerrae paucidentatae vel paucilobulatae. Flores aJbi vel Jlavi, Jojy; pami vel unisexuales, nunc in umbella omnes autfeminei aut masculin>h nunc exteriores masculini interiores feminei.*

. *K. gracilipes*, *Hemsl in Kew Bull.*, 1894, p. 355, atque descriptiones; *Oreomyrrhis gracilipes*, *Hemsl Diag. Pl. Nov. i. p. 16, et in Mol Cntr. Am., Bot.* p. 567, t. 33 et t. 34 figg. 6-8 (descriptio hic emendata); foliis variabilibus longe petiolatis pinnatis angustis oblongis, rachi crassiuscula, pinnis sessilibus oppositis fere obtegentibus vel distantibus tenuibus bi- vel tri-pinnatisectis segmentis angustis ultimis parvis subcuneatis apiculatis, petioli parte supra vaginam saepe brevissima, scapo saepius solitario? erecto recto leviter sulcato vel striato, involucri bracteis angustissimis integris vel paucilobulatis quam pedicelli multo brevioribus, pedicellis numerosis elongatis fere capillaribus, calycis dentibus parvis saepe incqualibus, jugis primariis sat prominentibus, stylis brevibus recurvis.

HAB. South Mexico: slopes of the Pacific side of the Cordillera of Oaxaca, *Galeotti* (No. 2753); without locality, *Salle**; Santa Inez del Monte, Oaxaca, at 8500 feet, *Pringle* (No. 4997); foot-hills west of valley of Oaxaca, between 5500 and 7500 feet altitude, *Nchon* (No. 1418); mountain sides near Tlapancingo, Oaxaca, 6000 to 8000 feet, *Wehon* (No. 2088).

Tubera 3-4 poll, longa. *Scapi* usque ad 4-5 ped alti, srepus breviores. *Folia* absque petiolo iuterdum 18-24 poll, longa, pinnis distantibus latioribus minus dissectis 1[^]-2 poll, longis, sed ssepius 6-12 poll, longis, pinnis coufertis magis dissectis, segmentis angustioribus acutioribus. *Petiolorum* pars vaginans 2[^]-5 poll, longa, pars libera 0-3 poll, longa. *Involucri bracteae* 6-9 lin. longae. *Pedicelii* 1-3 poll, longi. *Fructus* maximus vix 3 lin. longus.

We are indebted to the courtesy of Mr. S. P. Langley, Secretary of the Smithsonian Institution, and the good offices of Mr. J. N. Rose, Assistant Botanist in the United States National Herbarium, for the loan of Pringle and Nelson's specimens of *Neoycezia*, from which this and the following plate were prepared.

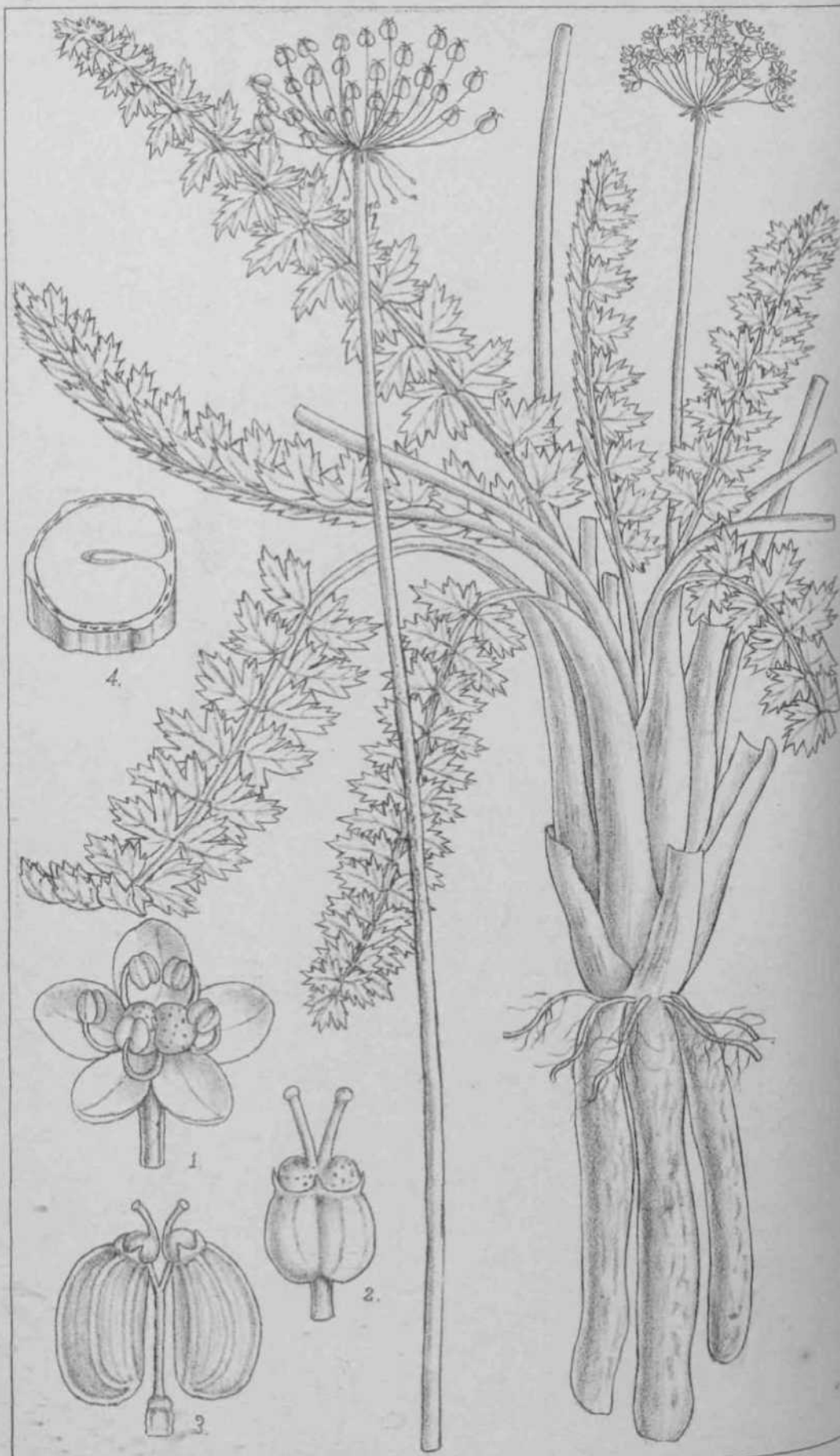
Mr. Rose also communicated the following particulars of the dimensions &c. of *N. gracilypes*, as well as Mr. C. G. Pringle's note on the locality it inhabits :

¹ Stems from a cluster of deep-seated tuberous roots as in *N. minor*, thirty to sixty inches high ; length of petiole above the sheath very variable, sometimes nearly wanting, often three inches long. Leaflets generally close together along the rachis, sometimes much separated, occasionally three inches or more apart. Involucels rarely short and entire, but generally all, or nearly all, 3- to 5-toothed and six to nine lines long. Pedicels very numerous, in fruit one and a half to three inches long. Fruit rather variable, two to three lines long, nearly orbicular to ovate, slightly cordate at the base.¹

Mr. Pringle's note follows :

¹ As respects *Neag&zia* No. 4997, it was found first by Mr. Nelson, then by myself more widely scattered, on a range of mountains twenty-five miles west of Oaxaca, which range has an altitude of 9000 feet, and may be regarded as the margin of the mountainous track called the Mixteca Alto, over which runs, in a zigzag course, the continental divide. The plant is abundant on somewhat dry ridges and slopes of these mountains at an elevation of 8000 feet, amongst a sparse growth of oaks and pines. Frankly it is my opinion that there is but one species there, though a variable one, as the conditions, fertility, and humidity of soil and exposure to open sunlight vary. The specimens weie all gathered on a tract two or three miles in extent; the fruits which lie in sheets with flowers (they are scarcely mature enough) were gathered at the same time with the flowers, October 19 ; those in the sheets by themselves with only a few inches of the peduncle attached were taken on a later visit to the same field, .October 27.'—W. BOTTING HEMSLEY.

Fig. 1. Flower. 2. Fruit, the mericarps separated, shoving the Lfid carpophore. 3 iransYers* sec ion of mericarp. *All enlarged.*



M S del, et lith.

Neogoezia mmor, Hemsl.

PLATE 2425.

NEOGKEZIA MINOR, *Hemsl.*

UMBEIXIFEBJE. Tribe SMYBNEJB.

Neogkezia minor, *Hemsl. in Km BvM.* 1894, p. 355; (descriptio
He einendata) tuberibus elongatis cylindricis, scapis plumb\,s interdum
oaque ad 12 erectis vel fructiferis ssepe deflexis, foliis longe petiolatis
Pinnatis, rachi crassiuscula, pinnis oppositis sessilibus nunc confer-
tissimis deorsum sese obtegentibus nunc plus minusve sejunctis. ca-
cumscriptioe ovatis saspis trilobatis lobis acute dentatis, peboliB
inter se vaginantibus supra vaginam vix vel haud productis, myolucn
bracteis minutia subulatis, pedicellis numerosis gracilibus angustissime
togulatis, calycis dentibus minutis acutis, petalis ovato-oblongis apice
obtusis vel rotundatis, fructu late cordiformi, jugis pnmams naua
prominentibus.

HAB. South Mexico: mountains above Oaxaca, 9000 to. ^{1 0 500} altitude, *Prinah* (No. 4725); Oerro San Felipe, Oaxaca, *Ndmn* (JNo. U18A.).

Tvhera 2-3 poll, longa. *Scapi* circiter 6-12 poll. alti. *Folia* absque
Petiolo 2|-5 poll longa, medio 6-9 lin. lata, *pfooha* vaginantibus
¹ Mi poll. longU. *pJkeUi* 4-8 lin. longi. *Fruelm* labor quam
"Kgas, circiter ¹/₂ lin. latus.

Mr. Rose communicated the following interesting note on this
⁸Pecies, which he received from Mr. C. G. Pringle :

, '*Xeogcesia minor*, Hemsley, presents a rosette of leaves which lie
do* upon the surface of the son (black humus) in M^ m^ ows and
flats along the creeks of the Sierra de San Felipe, 10,000 ft. elevation.
J^h^w mountain chain is the continental divide, at whose base on the
^ tific side, and some ten miles distant from, and 5,000 ft. below it
s. tt!>nut, is located the city of Oaxaca. The flowering peduncles of
S^h? Plant at anthesis rise 1 to 4 or 5 inches above the leaves but am
iH Some of them recline on the p⁰TM* while others rise quite

"* ' W. fioTIINO HEMSL.ET.

1. Male flower. 2. Calyx m. ovary of p' ^ f X J ' 3. Fruit, the
rpssepanung, 4. Transverse section of mencarp. All enlarge*.



M. S. del et lith

Afromendoncia lindaviana, Gilg.

Pure 2420.

AFROMENDONCIA LINDAVIANA, *Gilg.*

ACAXTHACEAE. Tribe THUNBERGIEAE.

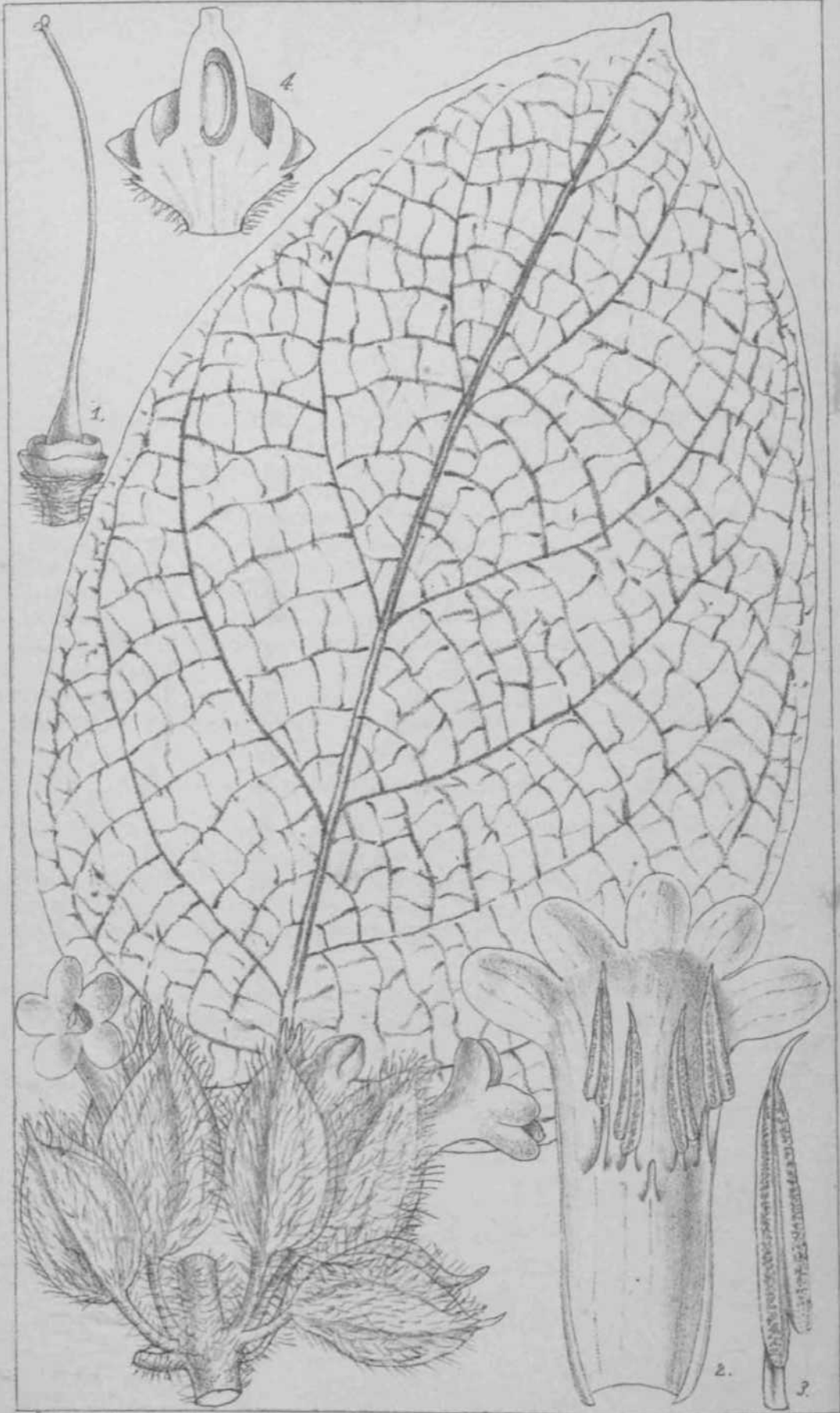
A. lindaviana, *G'ily in Engler, Bot. Jahrb.* xvii. (1893), 112; frutex alte scandens caule florifero sulcato nonnunquam torto, ramulis foliiferis gracilibus subteretibus glabris, foliis petiolatis ovali-oblongis v. anguste ellipticis obtusiuscule acuminatis, nervis primariis lateralibus utrinque 3-4 incurvatim confluentibus tenuiter coriaceis glabris subtus (in sicco) rubescentibus, floribus pedicellatis in axillis foliorum delapsorum fasciculatis, alabastris bracteolatis ellipsoideis apiculatis, calycis cupuliformis ovario dimidio brevioris margine truncato late undulato-lobato, corollae tubo bracteolas paulo superante limbi bilabiati segmentis fere sequilongis obovato-rotundatis patentibus.

HAB. W. Tropical Africa: Corisco Bay, *Mann* (No. 1849); Sibange Farm on the Gaboon, *Soyaux* (No. 156).

Rami floriferi 3-6 lin. diam. *Folia* 3-4J poll, longa, 1-2 poll, lata; petioli 6-9 lin. longi. *Alabastra* etiam inaperta 3-4 lin. longa; pedicelli 6-9 lin. longi. *Flores* 1 poll. diam. *Ovarium* ovoideum, glabrum, uniloculare, biovulatum, basi disco carnosulo circumdatum; ovula collateralia; stylus bracteolas superans, apicem versus leviter dilatatus; stigma brevissime 2-lobulatum.

This plant was described, but never published, by the late Dr. T. Anderson as a new species of *Thunbergia*, and I am not sure the wiser course would not be to leave it in that genus or, rather, in *Mendoncia*, in which suppression of one cell of the ovary occurs; but as Dr. Gilg has founded a new genus for it, and thinks the fruit may be capsular—not drupaceous, as in *Mendoncia*—rather than give a new name to it, I prefer to leave it with Dr. Gilg. Dr. Lindau (*I c.* p. 113) calls attention to the abnormal structure of the stem, *in many respects recalling that of Bignoniaceae,' of which he proposes to give a separate account.—D. OLIVER.

Fig. 1. Bud, one of the enclosing bracteoles removed. 2. Corolla laid open. 3. Anther, back and front. 4. Pistil, with disk and calyx. 5. Longitudinal, and 6, transverse section of ovary. *All enlarged.*



Sts del. et lit.

Afromeadoacia phytocrenoides, Gilf.

PLATE 2427.

AFROMENDONCIA PHYTOCRENOIDES, *Gilg.*

ACANTHACEAE. Tribe THUNBERGIE^J.

A. phytocrenoides, *Gilg in Engler%*, *Bot. Jahrb.* xvii. 112 ; scandens, ramis foliiferis novellis hirsuto-pilosis mox glabratis, foliis amplis subcoriaceis petiolatis rotundatis v. late ellipticis breviter apiculatis basi in foliis latioribus leviter cordatis supra glabratis subtus stellato-hirsutis et in costa plus minus setuloso-pilosis, nervis lateralibus incurvis utrinque 5-7, floribus axillaribus, fasciculis 2-4-floris petiolo subsequilongis, bracteolis ovatis abrupte cuspidatis 3-5-nerviis extus longe hirsuto-pilosis intus glabris, calyce brevissimo, corollae tubo bracteolas subsequente, limbo bilabiato tubo 3-4-plo brevior, lobis obovato-rotundatis.

HAB. W. Tropical Africa : River Muni, *Mann* (No. 1839).

Frutex alte scandens (30 iped. *Jide Mann*). *Folia* tenuiter coriacea, 4-7 poll, longa, 3-4i poll, lata ; petiolus 1-1^ poll, longus. *Pedicelli* 3-6 lin. longi. *Bracteolae* 1-1\$ poll, longae, cum apiculo 2 lin. longo terminatae. *Corolla* 1-1^ poll, longa. *Antiterm* 4 lin. longae, loculis basi leviter inaequalibus. *Discus* crasse carnosus, ovario compressiusculo 1-loculari dimidio brevior.

So very different in facies from *A. lindaviana* as to deserve a separate plate. The flowers, moreover, are from the axils of attached leaves.—D, OLIVER.

Fig. 1. Pistil, with disk and calyx. 2. Corolla laid open. 3. Anther. 4. Vertical section of ovary. *All enlarged.*



M. S. d. al. lith.

Columnnea filipes, Oliv.

PLATE 2428.

COLUMNNEA FILIPES, *Oliv.*

GESNERACE*:. Subtribe COLUMNNEEJE.

C. (§ *Ortholoma*) *filipes*, *Oliv.* (*sp. nov.*) ; fruticosa, epiphytica, sericea, foliis valde disparibus majoribus dependentibus elongatis leviter falcatis lineari- v. oblongo-lanceolatis sensim acuminatis breviter petiolatis aureo tinctis, floribus axillaribus solitariis longe graciliterque pedunculatis, calycis 5-partiti segmentis anguste linearibus acuminatis sericeis, corollas purpureo-punicese tubo ventricoso laxe piosulo basi geniculatim gibboso calyce subduplo longiore, labiis subsequilongis segmentis anguste lineari-lanceolatis acuminatis tubo paulo brevioribus, antheris quadratim cohserentibus.

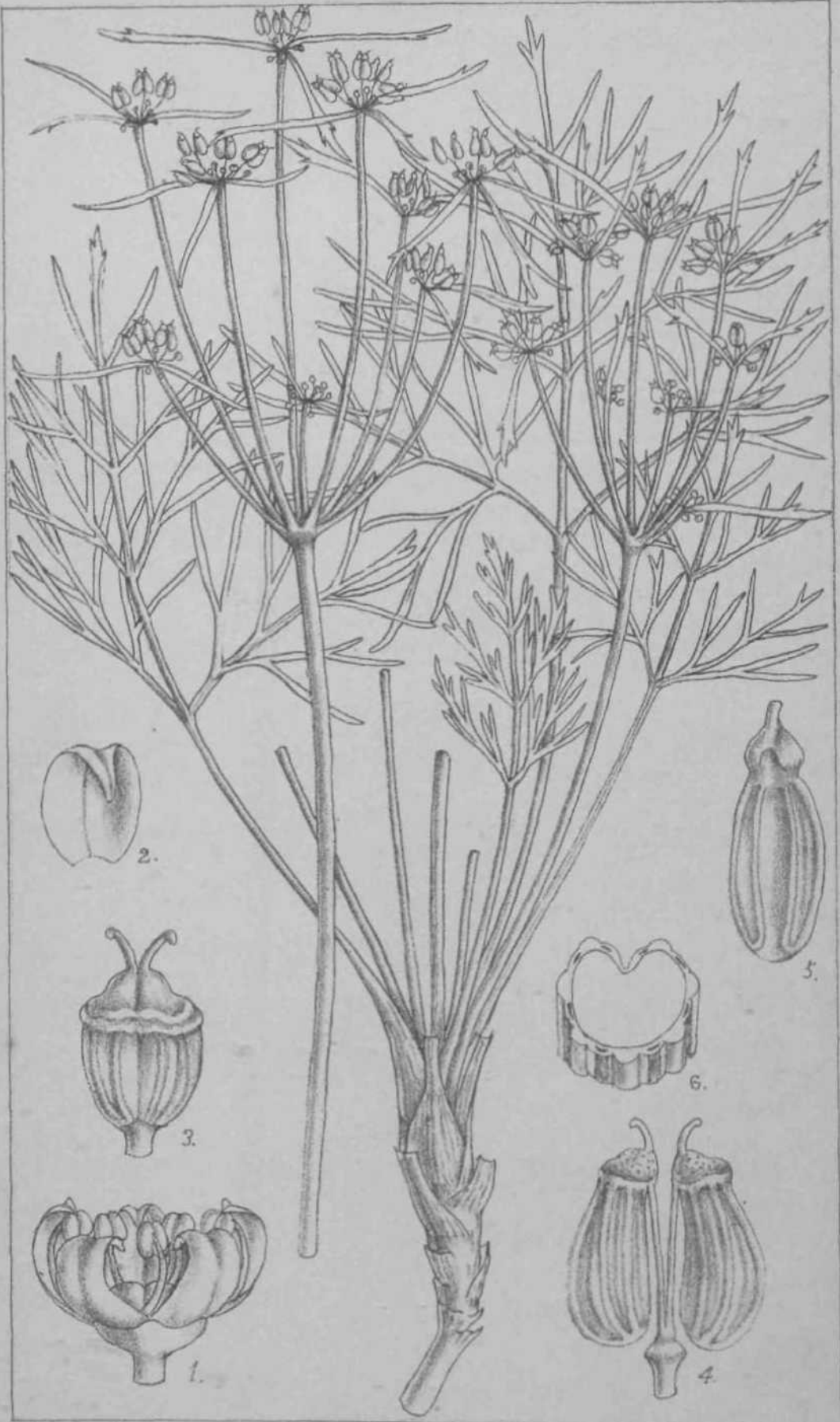
HAB. Colombia : Frov. Antioquia, 7500 ft. alt., *Kctibreyer*.

Folia adpresse sericea 5-8 poll, longa, 6-9 lin. lata; petiolus 2-3 Hn. longus; folia minora rudimentaria. *Pedunculi* 4[^]-6 poll, longi. *Calyx* 1-1½ poll, longus. *Corolla* 3 poll, longa.

For excellent specimens of this fine species, which have rested for some years amongst our undetermined *Gesneracea*, we are indebted to Messrs. Veitch, for whom it was collected by Mr. Kalbreyer in 1880. It is clearly allied to *C. acuminata*, Benth., differing in the much narrower acuminate leaves, long narrow segments of the corolla-limb, and the conspicuous obliquity of the base of the tube of the corolla.—

D. OLIVER.

Fig. 1. Stamens. 2. Pistil and unilateral disk. *Enlarged.*



M.S. del, et lith.

Arracacia ? fiiiiformis, Coult & R.ose

PLATE 2429.

ARBACACIA P FILIFORMIS, CoulL <b Hose.

UMBELLIFER[^]. Tribe AMMINEJS.

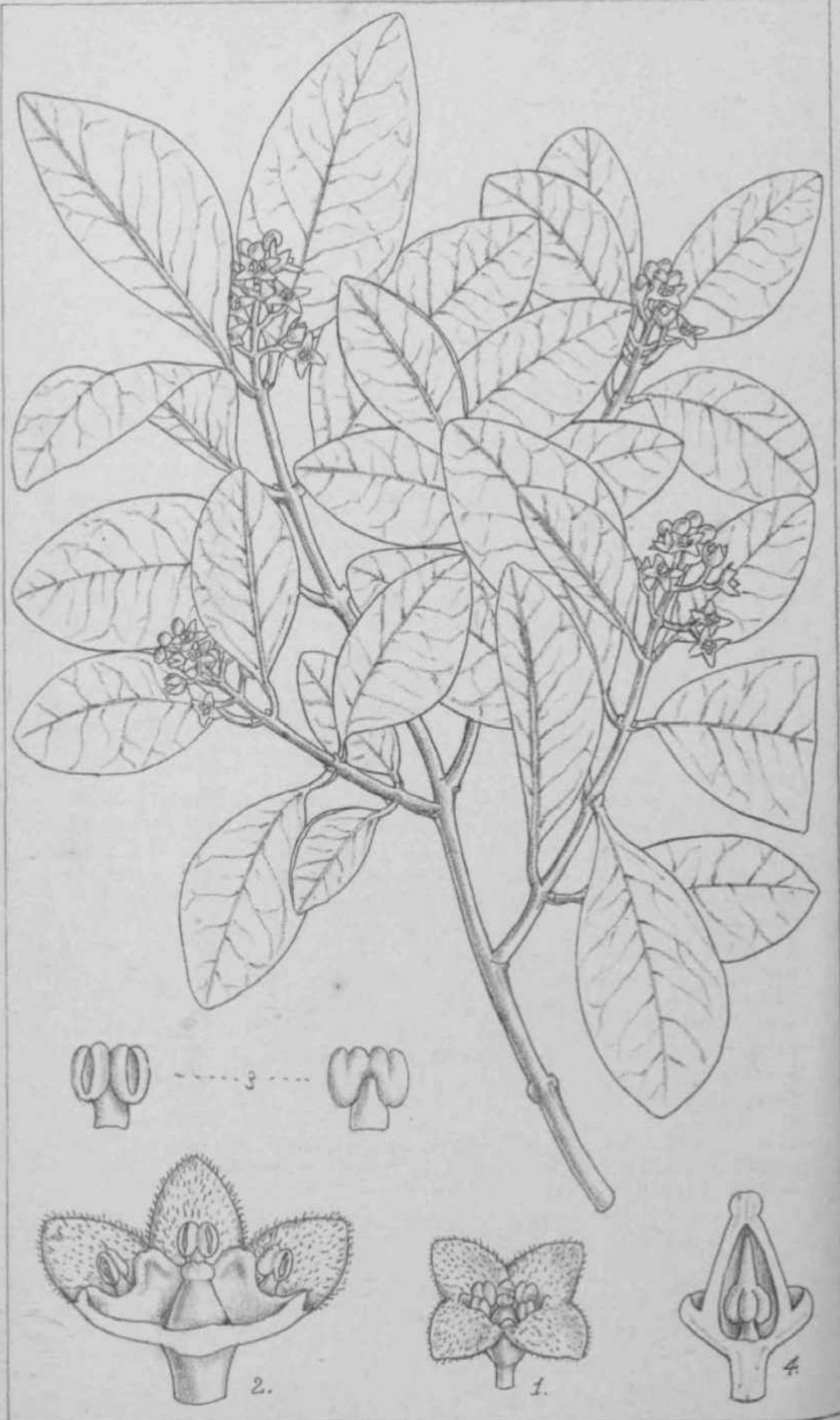
A. ? **filiformis**, *Coulter & Rose (sp. nov.)*; herba acaulescens glaberrima, foliis longe et graciliter petiolatis bi- tri-ternatipartitis segmentis angustissime linearibus acutis integris v. apicem versus saepe 2-3-dentatis, scapo erecto folia nonnunquam superante, radiis rigidis ascendentibus inaequilongis exinvolucratibus, involucellorum bracteis saepius ternis anguste linearibus integris dentatis v. trifidis floribus multo longioribus, pedicellis brevibus fructui subaequilongis, cremocarpiis ovato-oblongis lateraliter leviter compressis mericarpiis purpurascens jugis 5 prominulis stramineis, vittis saepius ad sulcos solitariis, seminibus subteretibus facie sulcatis dorso lasevibus.—*Contrib. U.S. Nat. Herb.* iii. 296.

HAB. Mexico: Sierra de San Felipe, Oaxaca, on rocky ridges, 10,500 ft. alt., *Pringle* (No. 4714); at 9500-11,000 ft., *Nelson* (No. 1088); summit of Mt. Zempoaltepec, alt. 11,400 ft., *Nelson* (No. 621).

Folia, cum petiolo, 4-9 poll, longa. *Scapus* 2[^]-7 poll, longus; radii longiores 1-2j- poll, longi. *Flores* atro-purpurascentes. *Bracteae* involucellorum 6-9 lin. longae. *Fructus* 1[^]-2 lin. longus; carpophorum bipartitum; stylopodia conica.—J. N. ROSE.

Whatever may be finally determined as to the limitation of the genus *Arbacacia*, this plant, of which excellent specimens, together with a description, have been placed at our disposal for the *Icones Plantarum* by Mr. S. P. Langley, Secretary of the Smithsonian Institution, through Dr. Rose, of the U.S. National Herbarium, Washington, would seem to be clearly a congener of *A. mariana*, S. Wats, in *Proc. Amer. Acad.* xxvi. 136.—D. OLIVER.

Fig. 1. Male flower. 2. Fetal. 3. Perfect flower, petals and stamens fallen. 4. Cremocarp, showing carpophore. 5. Commissural face of mericarp. 6. Transverse section of mericarp. *All enlarged.*



MS.4d,eLlih

Santa, um fernandezianum, F. Phil.

PLATE 2430.

SANTALUM FERNANDEZIANUM, *F. Phil*

SANTALACEJE.

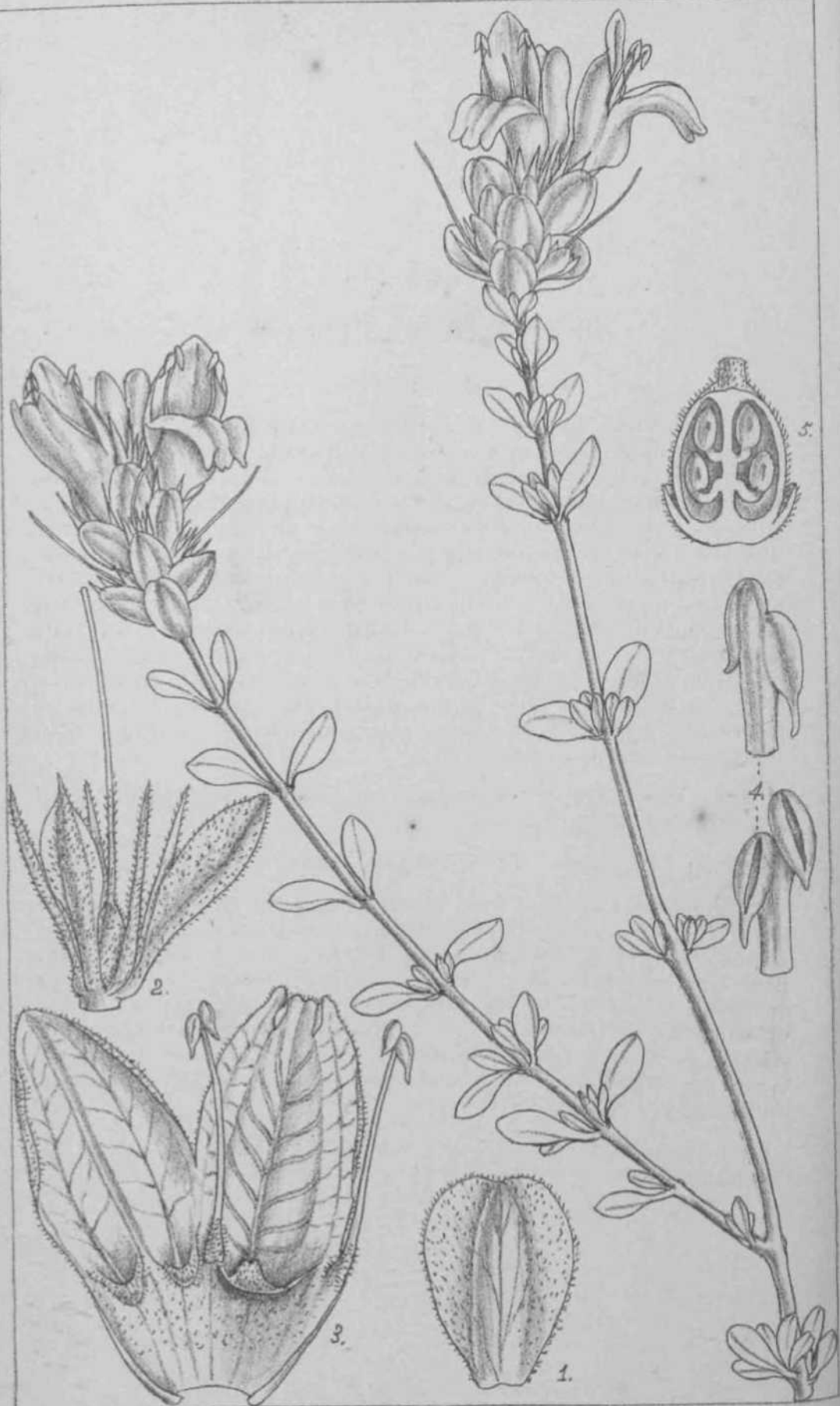
S. fernandezianum, *F. Philippi in Bot. Abhandl. Leipzig*, 1893, p. 3, tab. i. (Reprint from *Arbores del Mus. Nacional de Chile*) ; arbor glabra, foliis saepissime oppositis petiolatis ellipticis oblongo- v. obovato-ellipticis late acutatis obtusisve basi in petiolum cuneatim angustatis, floribus parvis breviter pedicellatis in cymulas breviter pedunculatas paniculatas foliis breviores aggregatis, perianthii turbinati glaucescentis segmentis 4 late ovato-deltaideis intus hirto-papillosis v. pone filamenta brevissima pilis paucis longioribus instructis, antheris sub-didymis, disco inter stamina in lobos carnosulos rotundatos obtusos producto, stylo breviter conico, ovula 2 (v. 3) dependentia.

HAB. Juan Fernandez: *Flühmann, Söhrena*.

Folia tenuiter coriacea, opaca, subtus pallidiora, 1½-2 poll, longa, 7-10 lin. lata; petioli 1[^]-2[^] lin. longi. *Paniculae* 5-8 lin. longae atque late; pedicelli tubo perianthii tequilongi.

In the *Kew Bulletin*, 1894, p. 110, an interesting account is given of the sandalwood of Juan Fernandez, which C. Gay in his *Flora Chilena*, v. 326, referred to *S. album*, L., and which, on some unauthenticated authority, he stated had all perished, although previously abundant in the island. Thanks to the persevering inquiries of Mr. F. Philippi, following up the discovery of twigs of sandalwood amongst some fuel supplied by the islanders to the celebrated Chilian warship 'Esmeralda,' he has now made it clear that the Juan Fernandez sandalwood is afforded by a previously undescribed species of *Santalum*, which he has figured as above cited, and of which excellent specimens have been transmitted by him to the Kew Herbarium. It is quite distinct from *S. album*, as also from any other species in this Herbarium.—
D. OLIVER.

Fig. 1. Flower. 2. Same laid open, showing the lobed adnate disk. 3. Stamens, showing back and front views of anther. 4. Vertical section of ovary. *All enlarged.*



M. S. del. et lith.

Ben Ua frubculosa, Rolfe.

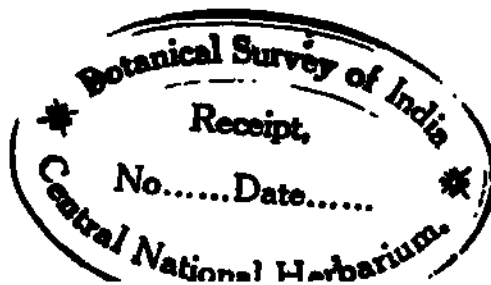


PLATE 2431.

BENTIA FRUTICTTLOSA, Rolfe.

ACANTHACEAE.

B. fruticnlosa, Rolfe in *Kew Bulletin* 1894, p. 338; frutex 2-3-pedalis, ramis teretibus divaricatis albidis novellis cano-puberulis, foliis parvis carnosulis spathulatis oblanceolatisve obtusis swpe in axillis fasciculatis basi in petiolum brevem angustatis puberulis, floribus majusculis spicatis, spicis terminalibus brevibus pJuritloris, bracteis laxis dilatatis albedo-marginatis, calycis a basi 5-partiti segmentis oblanceolato-linearibus subtvquilongis acutis 1-4 supra medium leviter dilatatis margine scariosis albidis, corolla calyce 3-plo longiore subventricosa fere ad medium bilabiata, labio superiore integro inferiore breviter 3-dentato lobulo centrali emarginato extimis paullo latiore, staminibus anticis 2 tantum evolutis, antheris 2-locularibus loculis discretis altero altius affixo basi vix aut obscure mucronatis altero inferiore conspicue inucronato, ovario ovoideo hirto, ovulis in quoque loculo geminatis superpositis adscendentibus.

HAB. South Arabia : Hadramaut, near Gambia, 1000 ft. alt., *Lunt* (*Mr. Bents Expedition*).

Folia 3-6 lin. longa. *Spiccc* 1-2 poll, longse. *Flores* |-1 poll, longi.

Ver*y different in habit from any species of the genera to which its staminal structure allies it, and having the margined bracts of *Rungia*. for the remarks of Mr. Rolfe and of Dr. Lindau on its affinity see the page cited above in the *Kew Bulletin*. A curious concave fleshy emergence projects into the tube about tho middle opposite to the median line of the lower lip ; and the position of the lateral undeveloped stamens is strongly marked by intruded plaits in the tube under the upper lip. The Sowers are white with feathered veining in reddish-brown on the lower lip.—D. OLIVER.

Fig. 1. Bract. 2. Brarteole and calyx, with pistil. 3. Corolla laid open. 4. Anther, back and front. 5. Vertical section of ovary. *All enlarged.*



M.S. del. et lith.

Aconitum orientale, Juss.

PLATE 2432.

ACEIDOCARPUS ORIENTALIS, *Jus**.

MALPIGHIACEAS.

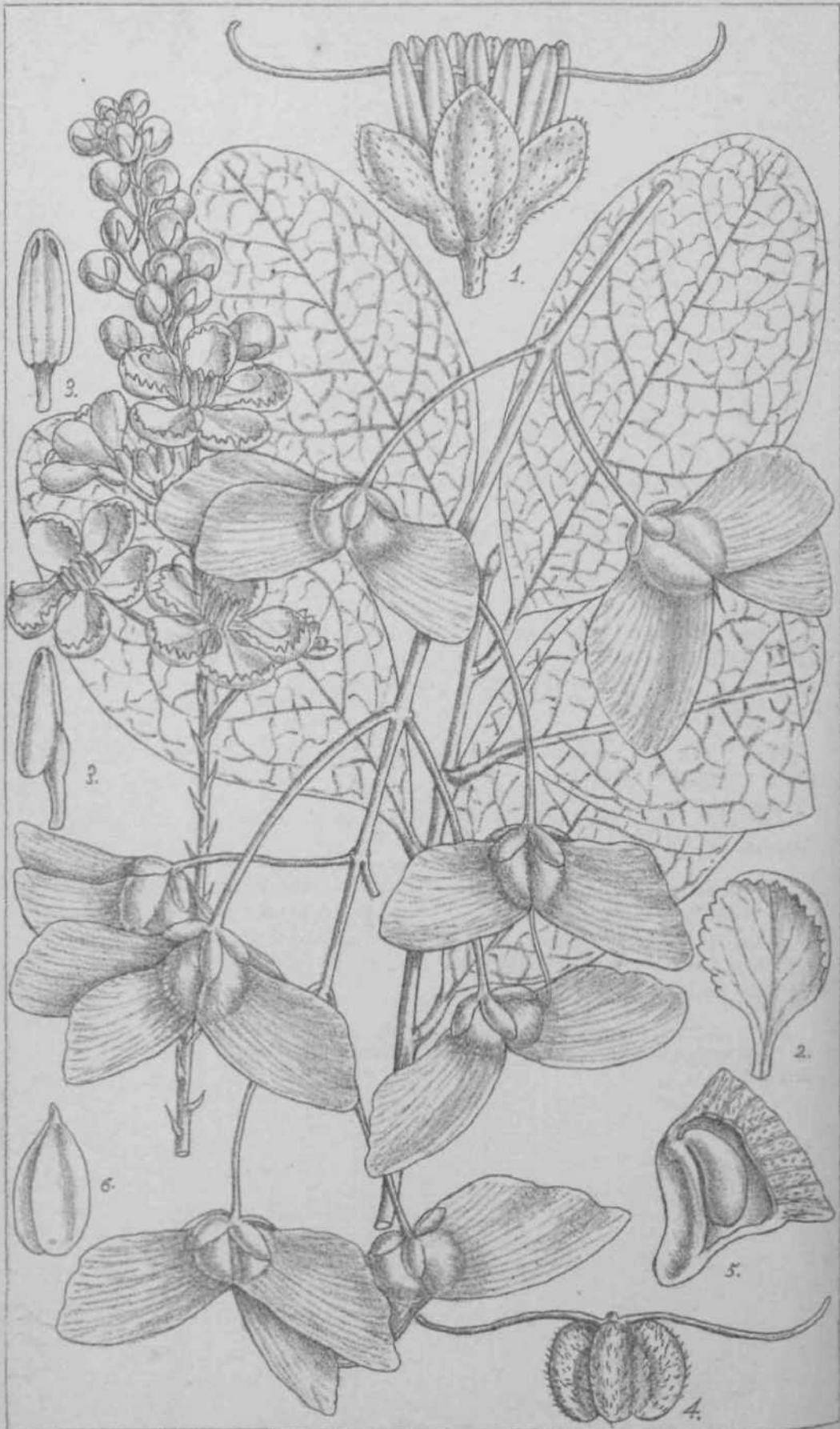
A. orientalis, *A. Juss. Monogr. Malpigh. 234*; arbuscula, ramulis nodosis novellis ferrugineo-tomentosis, foliis ovali- v. oblanceolato-oblongis acutiusculis v. obtusis mucronulatis basi soepius cuneatis junioribus tomentosis mox supra glabrescentibus petiolatis, racemis rufo-tomentosis tempore florifero corymbosim contractis, bracteis brevibus obovatis atque pedicellis calycibusque dense tomentosis, sepalis ovatis v. ellipticis obtusis, petalis breviter unguiculatis late ellipticis ovato-ellipticis v. rotundatis margine plus minus fimbriatis, antheris oblongis obscure breviterque apiculatis, ovario hirsute, samaris evolutis soepius solitariis oblique obovatis margine antico leviter postico conspicue curvato venis prominulis flabellatim decurvis.

HAD. Eastern Arabia: Mascat, *Aucher-Eloy* (No. 4294); at the foot of the Dhofar Mountains, *Bent* (No. 118).

Folia 2½-3[⁄] poll, longa, 10-14 lin. lata; petiolus 3 lin. longus.

Mr. Bent's specimens precisely correspond to Jussieu's type specimen, and as they are in ripe fruit as well as flower enable me to determine that the Socotran plant identified with it by Professor Bayley Balfour is specifically distinct; a figure of the latter from Professor Balfour's and Dr. Schweinfurth's specimens is given in the following plate. Ad. Jussieu, speaking of the sepals, says : '*una aut cetera in margine glandula minuta rubente impressa.*' Smaller glands are liable to be concealed by the indumentum, but I do not find all the sepals with basal glands. The fruit of *A. orientalis* was unknown to Ad. Jussieu.
D. OLIVER.

FIG. 1. Flower, the petals removed. 2. Fetal. 3. Stamens. 4. Pistil, the ovary in vertical section. *All enlarged**



M.S.del, et lith

Acridocarpus socotranus. Ohw

PLATE 2433.

ACRIDOCABPUS SOCOTRANUS, *Oliv.*

MALPIGHIACEA.

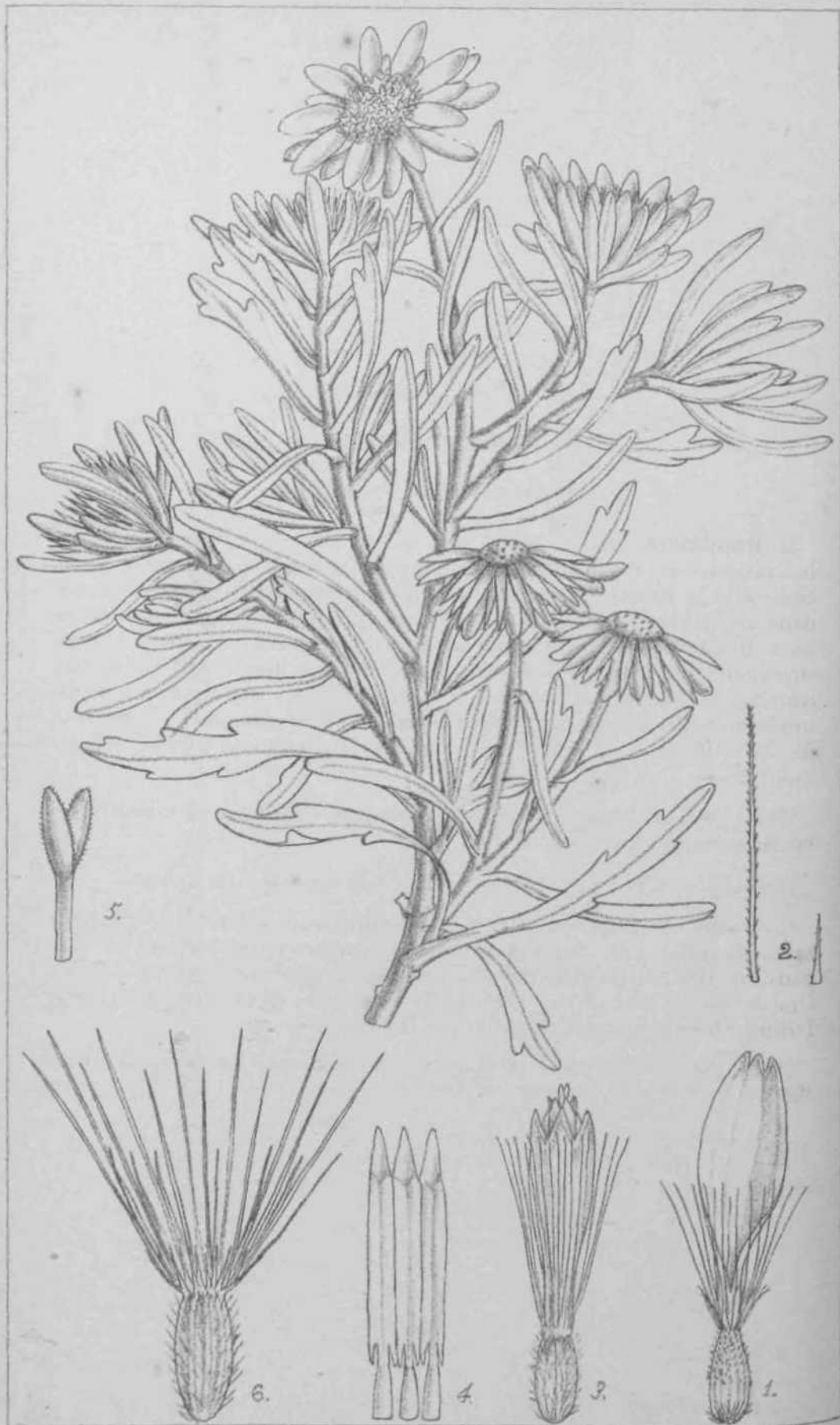
A. socotranus, *Oliv.*; arbuscula *A. orientali* affinis, differt foliis obovatis v. obovato-oblongis obtusissimis v. apice rotundatis haud mucronatis mox utrinque fere glabris supra nitentibus, bracteis subulatis, sepalis parce pilosulis glabrativis, samaris saepissime ternis quam in *A. orientali* brevioribus cum ala oblique- v. cuneatim-oblonga v. subquadrata.

HAB. Socotra, *Nimmo*; *Bayley Balfour* (No. 272); *Schweinfurth* (No. 434).

Folia in ramulis floriferis conspicue nervosis 1^{^-}2[^] poll, longa. *Hacemi* evoluti 3-7 poll, longi.

Professor Balfour finds "all the sepals invariably "in margine glandula minuta rubente impressa." See his remarks in his *Botany of Socotra*, pp. 41-42, where this plant is referred to *A. orientalis*, of which no fruiting specimens were accessible to him at that time.—
D. OLIVER.

Fig. 1. Flower, the petals removed. 2. Petal. 3. Anther, front and side views. 4. Pistil, anterior style removed. 5. Vertical section of a carpel. 6. Embryo. *All enlarged.*



M. S. del. et lith.

Intila g]antioides, Boiss.

PLATE 2434.

INULA GRANTIOIDES, *Boiss.*

COMPOSITE. Tribe INULOIDEJE.

I. **grantioides**, *Boiss. Diag. Srr. ii. No. 3, p. 14*; fruticosa tota indumento crispulo-papilloso viscidulo obsita, ramiis foliosissimis, foliis carnosulis spathulato linearibus integris v. irregulariter parce et obtuse dentatis obtusis, capitulis majusculis terminalibus solitariis, involucris basi 6-10-bracteatis, bracteis herbaceis spathulatis obtusis discum subsequantibus, squainis involucris propriis interioribus linearibus acutis, ovarii c. 10-sulcatis setulosis, pappi duplicis setis exterioribus paucis brevissimis interioribus barbellatis corollae fere sequilongis.—*Fl. Orient.* iii. 195 ; *Hook. f. FL Brit. Ind.* iii. 296 ; I. *cutchica*, *Clarke, Comp. Ind.* 126.

HAB. Scind, *Stocks* ; Waziristan, *Stewart*; Eastern Arabia, Dho-far Mountains, *Bent* (No. 81).

Folia f-1£ poll, longa, 1-3 lin. lata. *Capitula* J-1 poll. diam.

I owe the identification of this interesting plant to Mr. C. B. Clarke's kindness, never guessing the anthers, as correctly represented on the plate by Miss Smith from the Arabian plant, could belong to an *Inula*. One or two at least of the species referred to the genus *Grantia* must, I think, be congeners of this plant.—D. OLIVER.

Fig. 1. Ray-floret. **2.** Setae of pappus. **3.** Disk-floret. **4.** Anthers. **5.** Apex of style. **6.** Acheno with pappus. *All enlarged.*



M.S. del et lith.

Blepharidium hirtum, Oliv.

PLATE 2435.

BLEPHARISPEEMUM HIRTUM, *Oliv.*

COMPOSITE. Tribe INULOIDEA:.

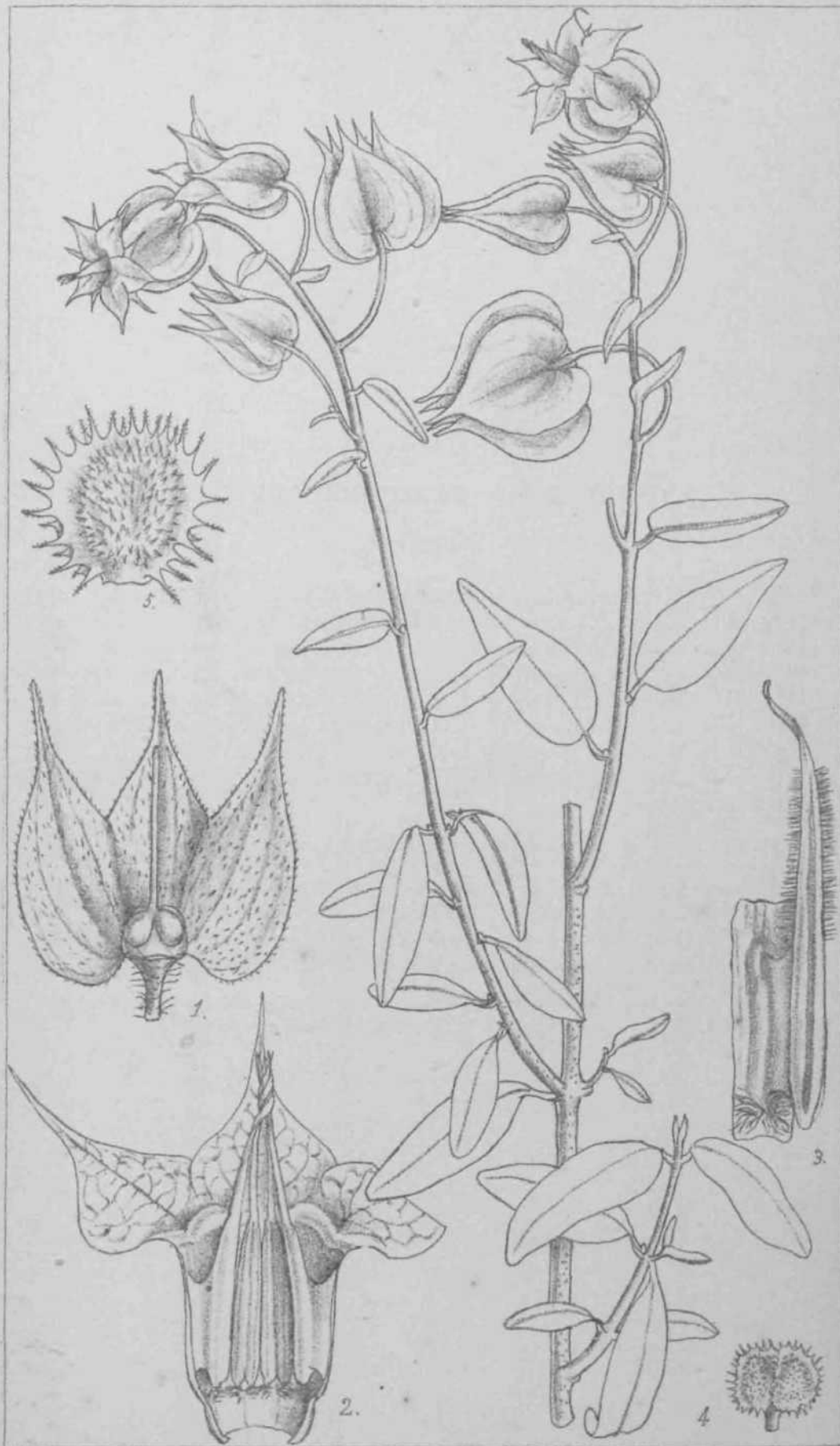
B. hirtum, *Oliv. (sp. nov.)*; frutex inermis, foliis petiolatis ellipticis v. ovato-ellipticis obtusis tomentellis, capitulorum glomerulis pedunculatis solitariis folia vix superantibus globosis, capitulis 4-floris, involucri bracteis 4 decussatim oppositis obovato-cuneatis, floribus 2 exterioribus femineis; fl. ? ovario nigrescente obovato-elliptico setuloso-ciliato, corolla tubulosa ovario sequilonga ore denticulata; fl. $\frac{4}{4}$ (<?) breviter stipitatis, involucri squanris conduplicatis flores amplectentibus, pappo paleaceo, paleis ovario sterili longioribus linearibus.

HAB. S. E. Arabia: Dhofar Mountains, Wadi Derbat, *Bent* (No. 122).

Frutex 10-pedalis. *Folia* 1-2 $\frac{1}{2}$ poll, longa, $\frac{1}{2}$ —1 $\frac{1}{2}$ poll, lata; petiolus 1 $\frac{1}{2}$ —4 lin. longus. *Glomeruli* 9 lin. diam.; pedunculi $\frac{1}{2}$ —2 poll, longi. *Bractem* receptaculi communis eis involucri exterioribus conformes, cuneato-obovate, concavee, subcarinate; bractese 2 interiores involucri ovali-oblongas, mucronate, basi cum stipite fl. $\frac{1}{2}$ confluentes. *Antherw* basi breviter sagittate, per paria connatae.

Very distinct from any species in the Kew Herbarium, and exceptional in the genus in its tomentose leaves and younger extremities.—
D. OLIVER.

•fig. 1. Detached capitulum, laid open. 2. Male floret and subtending scale. 3. Pales of pappus. 4. Anthers. 5. Apex of style. *AH enlarged.*



M.S. del. et lith.

Trichodesma cardiosepalum, Oliv.

PLATE 2436.

TRICHODESMA CARDIOSEPALUM, *Oliv.*

BORAGINEAE.

T. (§ *Friederichsthalia*) **cardiosepalum**, *Oliv. (sp. nov.)*; herba suffrutescens ramis pilis brevibus crispatis albidis cum setulis albis basi inconspicue tuberculatis intermixtis hirtis, foliis suboppositis breviter petiolatis oblongo- v. ovato-lanceolatis obtusiusculis utrinque adpresse setulosis, racemis 3-5-floris pedicellis decurvis, sepalis ovatis etiam in alabastris basi conspicue cordatis breviter graciliterque acuminatis, corolla lobis subreniformibus apice subito graciliter acuminatis, tubo calyce omnino operto, nucibus (immaturis) margine acute dentatis dorso muricatis.

HAB. S. E. Arabia: foot of the Dhofar Mountains, *Bent* (No. 115).

Folia 1-1.5 poll, longa, 3-6 lin. lata; petiolus 1-2 lin. longus. *Sepala* temp. florif. 3-5 lin. *Tata*, 1-1.5 lin. longa. *Antherarum* conum exsertum facie exteriori interne albido-pilosum, pilis longitudinaliter seriatis dextrorsum sinistrorsumque divergentibus.—D. OLIVEE.

Fig. 1. Calyx laid open, the corolla removed. 2. Corolla laid open. 3. Detached stamen. 4. Fruit. 5. Dorsal view of detached nucule. *All enlarged.*



M.S. del. et lith.

Ipomoea crinigera, Oliv.

PLATES 2437.

IPOMCEA CRINIGERA, *Oliv.*

CONVOLVULACEA.

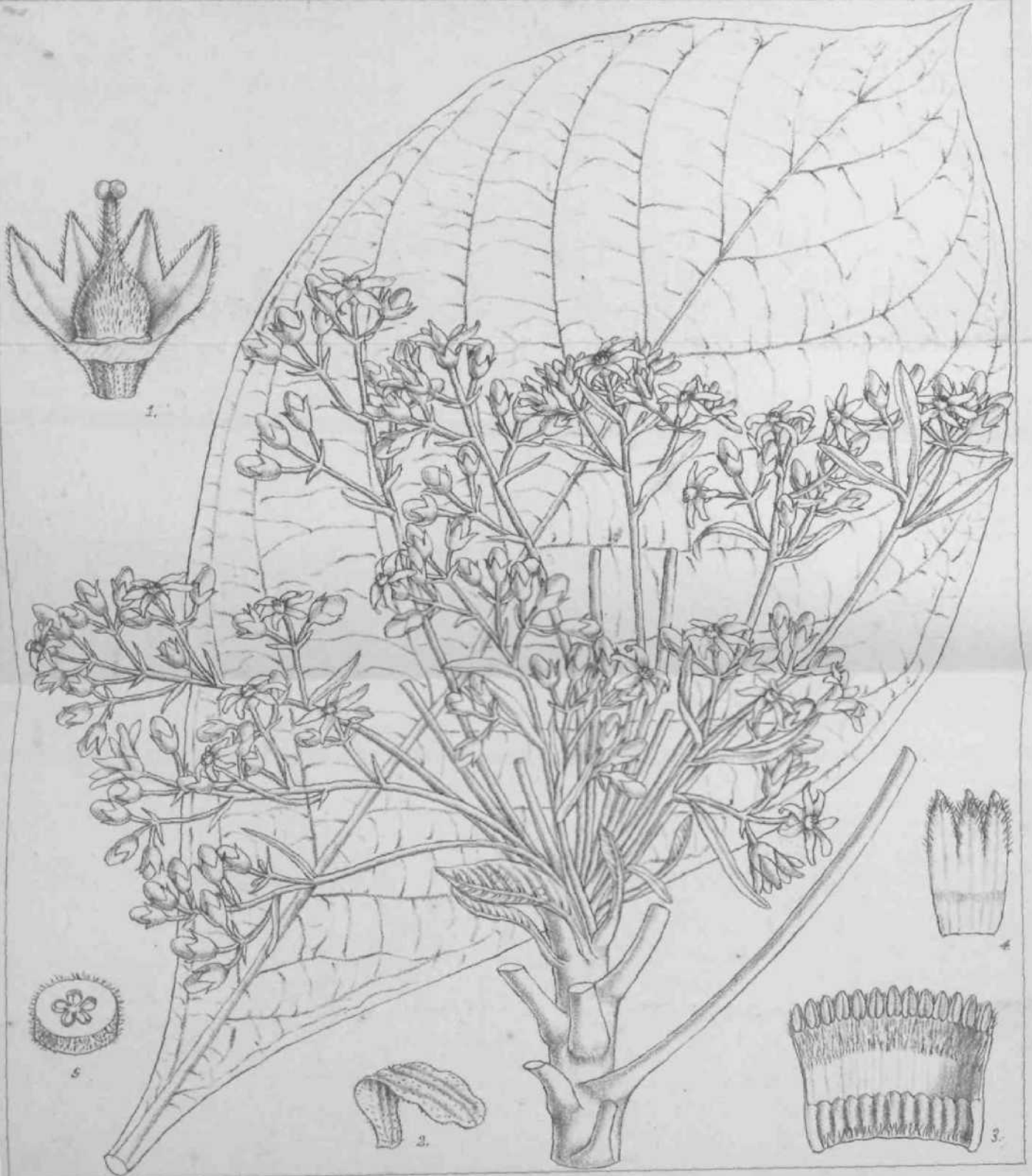
I. (§ *Orthipomoea*) *crinigera*, *Oliv. (sp. nov.)* fruticulosa ramulis cortice sub lente minutissime ruguloso atque foliis carnosulis lineariblongis pinnatim dentatis margine revolutis glabris, floribus axillaribus breviter pedunculatis ssepius solitariis interdum geminis ternisve, sepalis ovatis acutis intus glabris 2 interioribus dorso etiam glabris sed 3 exterioribus (marginibus tectis exceptis) extus dense et longe setosopilosis, corolla calycera 2-3-plo excedente, filamentis basi dilatatis incrassatis papillois, stigmatibus didymis lobis ovoideo-globosis papilloso-rugulosis.

HAB. S. E. Arabia: Dhofar Mountains, *Bent* (No. 55).

Fruticulus calyce excepto glaber verosimiliter 1-U ped. altus. *Folia* 6-8 lin. longa, 1-2 lin. lata, breviter petiolata. *Peduncidi* 2-3 lin. longi. *Flores* | -1 poll, longi; corolla flavescens deinde rubescens; discus brevis, annulatus.

Very different from any *Ipomxa* known to me, and much more suggestive of a frutescent *Convolvulus*. The stigma, however, is typically that of *Ipomcea**—D. OLIVER.

.Fig. 1. An outer, and 2, an inner sepal. 3. Corolla laid open. 4. Pistil. 5. Stigma. *AU enlarged.*



M. S. del. et lith.

Vavaaa megaphylla, Wight

PLATE 2438.

VAVIEA MEGAPHYLLA, *Wright*

MELIACEÆ. Tribe MELIEA.

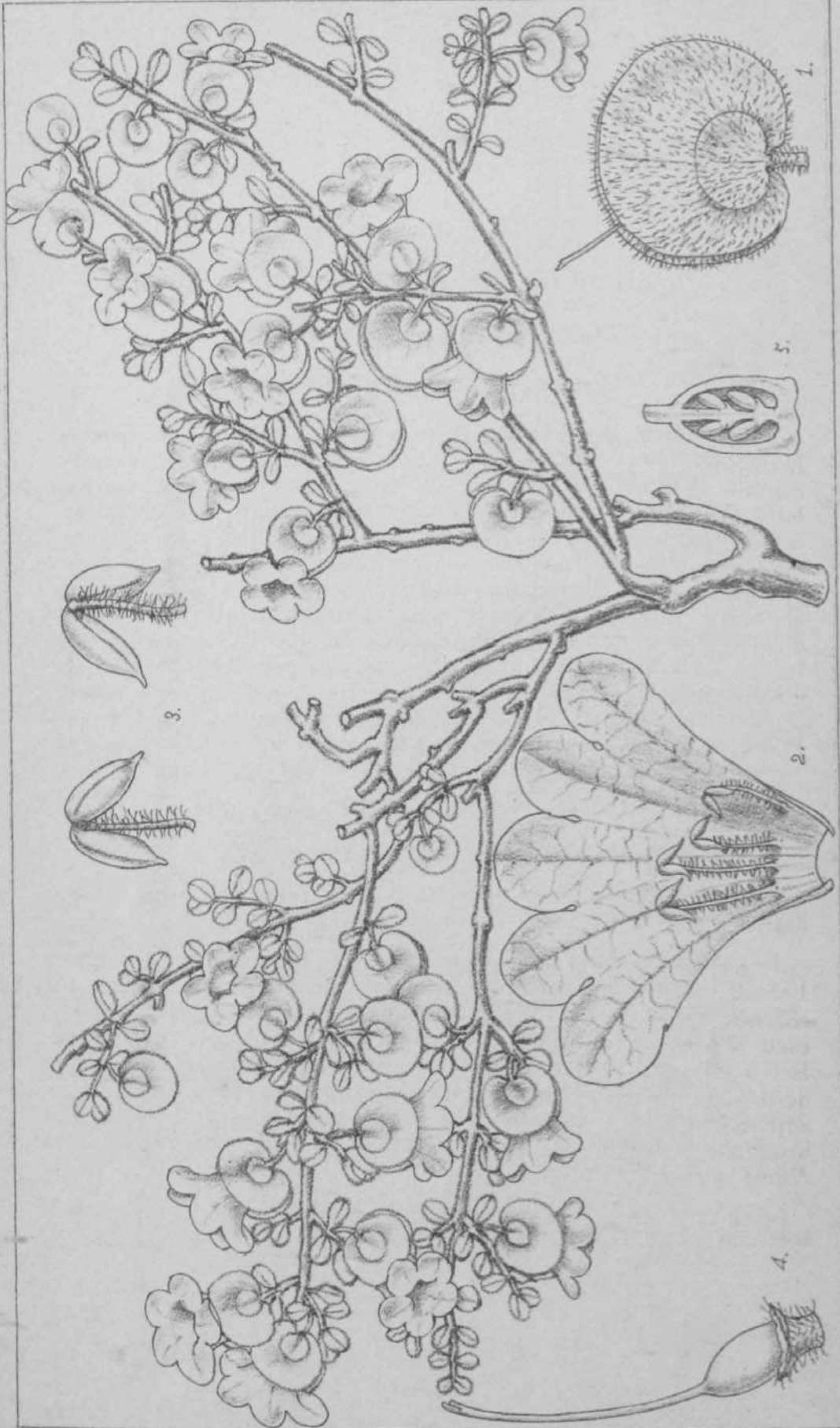
V. megaphylla, *C. IT. Wright in Kew Bulletin*, 1895, 102; ramis teretibus crassis lenticellatis; foliis longiuscule et rigide petiolatis coriaceis glabratis elliptico-obovatis breviter cuspidatis v. obtusis lamina basi in petiolum cuneatim angustata, venis primariis utrinque 11-13, costa valida supra puberula subtus prominente, cymis pedunculatis plurifloris ad apices ramorum congestis, bracteis ovali-oblongis, calycis hirti 5-6-tubum tubo turbinato segmentis ovatis lanceolatis obliquis, petalis 5-7 coriaceis oblongis vix tortis sed marginibus sæpius incurvis tomentellis, filamentis apice liberis intus pilosis, antheris 12-16-exsertis, ovario ovoideo hirsuto 4-5-loculare, ovulis geminatis collateralibus.

HAB. Fiji: Tamavua, *D. Yeoward* (No. 37).

Arbor procera. *Folia* pedalia, 5-6½ poll, lata; petiolus 1½-2½ poll, longus. *Pedunculi* cymarum 3 poll, longi. *Flares* albi.

The description of this fine *Vavcea* is based on an excellent specimen communicated by Mr. Yeoward. We had previously what I take to be a form of the same species with narrower leaves (2-4 in. broad) from Mr. Storck.—D. OLIVER.

Fig. 1. Calyx laid open, showing the pistil. 2. Fetal. 3. Staminal tube laid open, from within. 4. Dorsal view of anthers. 5. Transverse section of ovary. *All enlarged.*



M. S. del, et lith.

Cyclocheilon soTnalen.se, Oliv.

PLATE 2439.

CYCLOCHEILON SOMALENSE, *Oliv.*

SCROPHULARIACEE Tribe GERARDIEJE.

Cyclocheilon, *Oliv. in Kew Bulletin*, 1895, p. 222. *Calyx* bilabiatus, herbaceus, labiis aequalibus, reniformi-orbiculatis, integerrimis, basi coalitis. *Corolla* bilabiata calycem superans, tubo oblique ampliato, labio superiore bi- inferiore tri-lobato, lobis patentibus, omnibus sub-sequentialibus rotundatis. *Stamina* didynama, inclusa, filamenta laxa pilosa; antherse liberae, glabrae v. basi tantum pilosae, loculis sequalibus divergentibus breviter mucronatis. *Ovarium* biloculare, glabrum, ovoideoglobosum, compressiusculum; ovula anatropa in loculis geminata, oblique collateralia; stylus gracilis apice oblique stigmatiferus. *Capsula*. . . . Fruticulus *divaricatim ramosus, ramulis rectis pilis brevibus albidis patentibus cano-hispidulis*. *Folia* opposita, parva, breviter petiolata, oblanceolata obovata v. elliptica, obtusa, integra, hispidula. *Flores* in axillis solitarii, breviter pedunculate bibracteolati; bracteolae obovato-rotundatae, parvae, dorso labii calyciae arete applicitae.

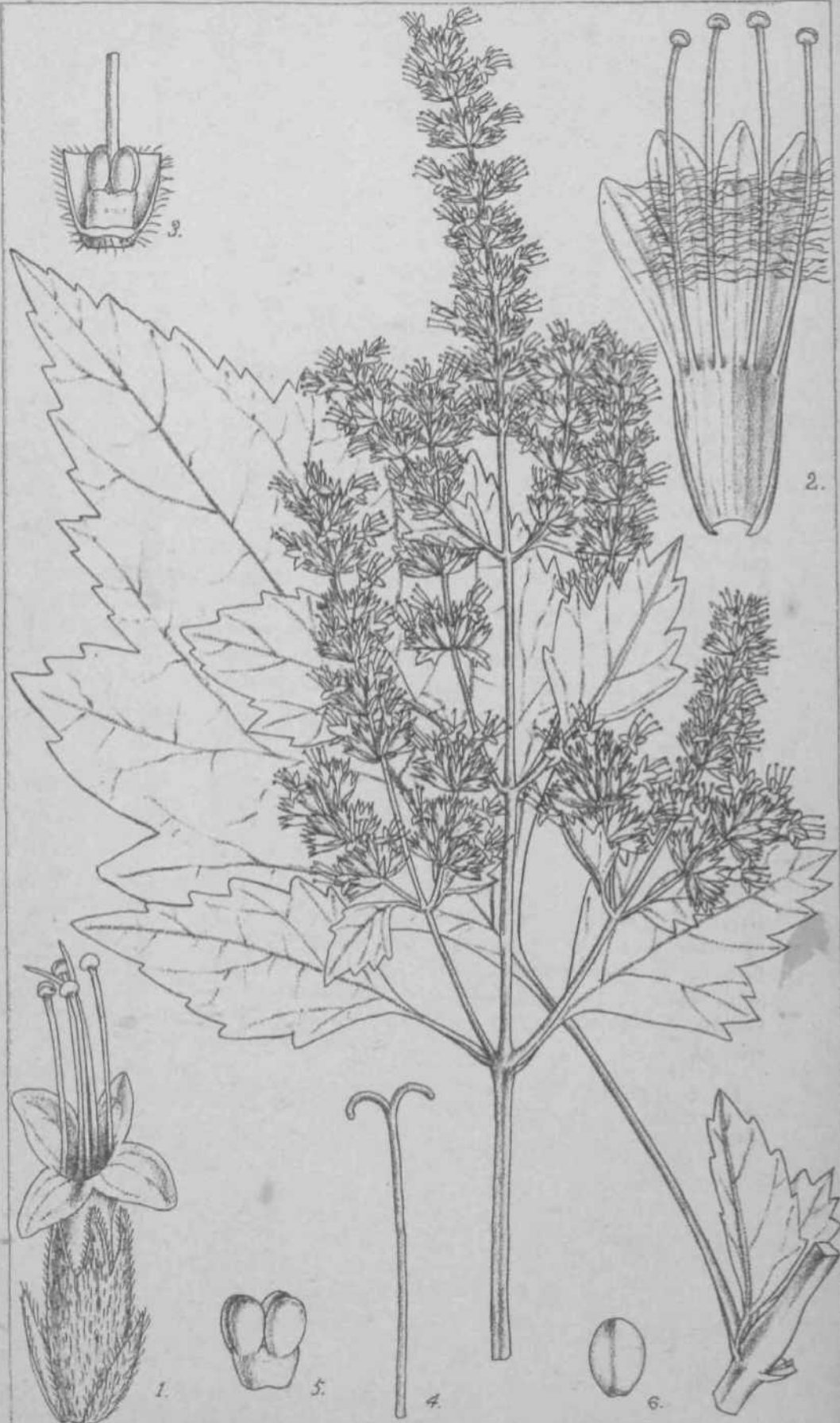
HAB. E. trop. Africa: Somaliland, Mrs. Lort Phillips.

C. somalense, *Oliv. (sp. unica)*.

Fruticulus 4-8 poll., hispidulus. *Folia* 1-2½ lin. longa. *Calyx* florifer 4-5 lin. latus. *Corolla** limbus 6-9 lin. diam.

I know of no genus nearly related to this very curious plant, which I think I cannot be wrong in referring to the *Gerardieae*. It has the characteristic anthers of the group, and the ovules, reduced to a pair in each cell, are not without parallel, but I do not know any scrophulariaceous plant with a similar calyx, the two orbicular, entire and quite equal divisions of which, coherent towards the base, each with an adpressed bracteole opposed to its base, remind one of the foliaceous bracteoles of some *Thunbergiae*[^] or of the two outer enlarged sepals of *Maecorantia*.—D. OLIVER.

[^]g. 1. Calyx and adpressed bracteoles. 2. Corolla laid open. 3. Anther, buck
at*d front view. 4. Pistil. 5. Vertical section of ovary. All enlarged.



M.S. del. et lith.

Pogonimon formosense. Oliv.

PLATE 2440.

POGOSTEMON FORMOSANUS, *Oliv.*

LABIATE. Tribe SATUREIEXEJE.

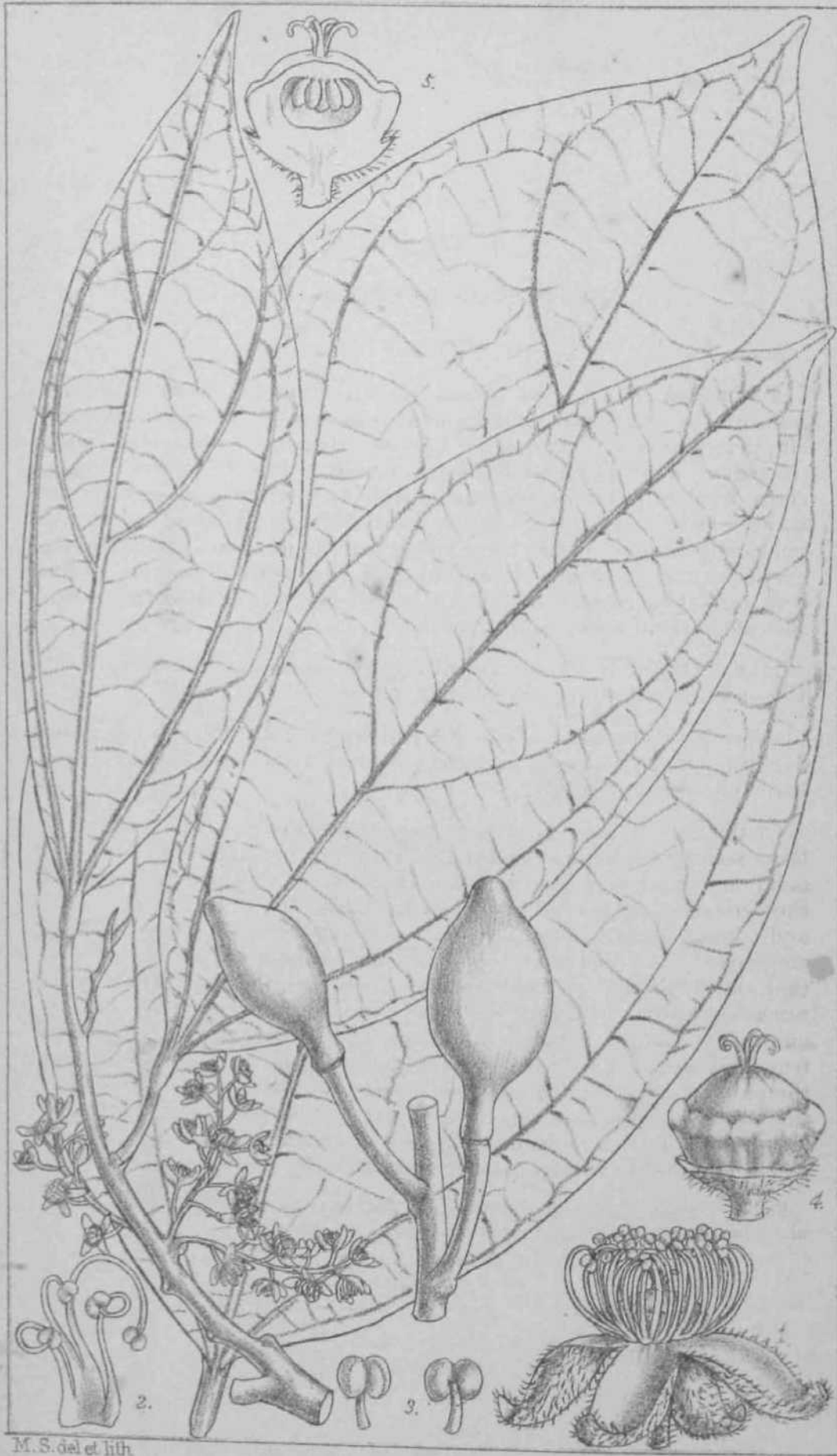
P. formosanus, *Oliv.* (*sp. nov.*); parce strigilloso-pubescens v. glabrescens, foliis longiuscule petiolatis rhomboideo-lanceolatis ovatisve acutis v. acuminatis basi cuneatim angustatis lobato- (ititerdum profunde) dentatis, floribus subsessilibus adscendentibus in cynulas 5-8-floraa breviter pedunculatas dispositis, cymulis (verticillastris) in spicas densas subcontinuas paniculatas dispositis, bracteis bracteolisque linearibus calyce dimidio brevioribus, calycis parce pubescentis dentibus subulato-lanceolatis ciliatis, corolla lobis sequilongis 2 lateralibus labii superioris ceteris obtusioribus et paulo latioribus.

HAB. Formosa: Benkising (No. 70); Ape's Hill, Takow (No. 1178), *Dr. A. Henry.*

Folia supra et subtus procipue in costa venisque parce strigillosa, 2J-4 poll, longa, 1[^]-3 poll, lata; petiolus 1-1[^] poll, longus. *Floret* lilacini.

Nearly allied to *Pogostemon Patchouli*, Pell. (*P. Jieyneanus*, Benth.), from which it differs in the nearly uninterrupted spikes, the component cymules of which are shortly but distinctly pedunculate, with their flowers directed upwards, not radiately divergent as in the sessile cymules of *P. Patchouli*, and in the small, short, and linear bracteoles, besides the more acute lobing of the leaves. Dr. Henry describes the root as having a 'peculiar, strong odour.'—D. OLIVER.

Fig. 1. Detached flower and bracteoles. 2. Corolla laid open. 3. Ovary and base of calyx-tube. 4. Style. 5. Nucules. 6. Detached nucule, showing inner angle. *All enlarged.*



Peridisous lucidus, Benth.

PLATE 2441.

PERIDISCUS LUCIDTJS, *Benth.*

BIXINEE I

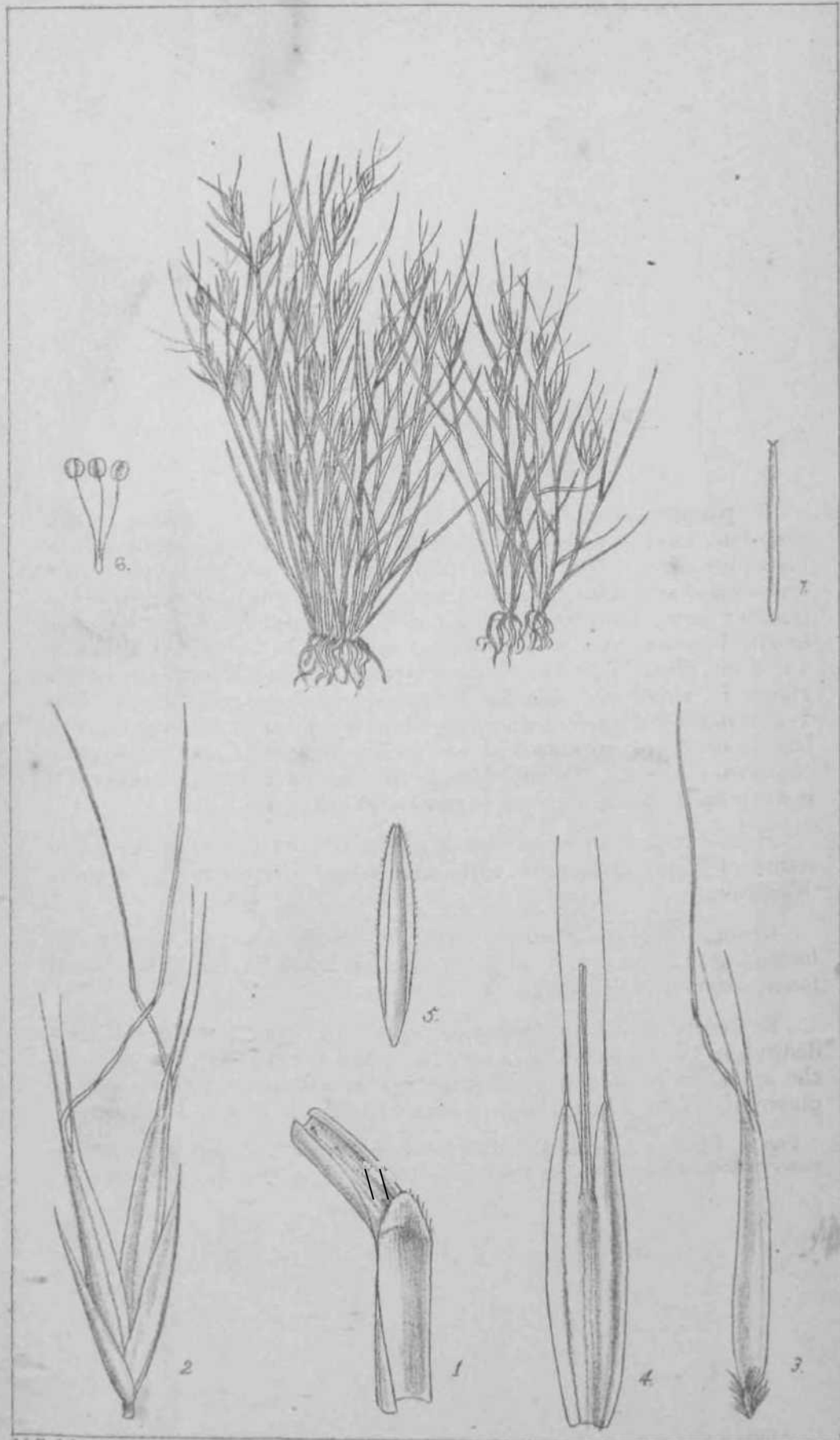
P. lucidus, *Benth. Gen. Plant*, i. 127 ; ramulis toretibus glabris, foliis amplis petiolatis coriaceis ovato-oblongo- v. interdum obovato-ellipticis acutis v. obtusiuscule breviter acuminatis basi plus minus (interdum late) rotuniatis integris lucidis e basi trinerviis integerimis, floribus parvis in racemos simplices plurifloros ad ramulorum nodos inferiores disposita, bracteis ovato-oblongis deciduis, sepalis 4-6 imbricatis obliquis extus hirto-pubescentibus deciduis, filamentis angustis incurvis glabris exterioribus basi irregulariter coalitis, ovario depresso subhevnisplirerico glabro usque ad medium disco carnosio crassiusculo verticaliter sulcato adnato.

HAB. On the borders of Brazil and Venezuela : on the Uaupés and Upper Facimoni, *Spruce* (Nos. 2843, 3389).

Arbor 50-80-pedalis. *Folia* 4-9 poll, longa, 2-4J poll, lata ; *petiolus* 6-8 lin. longus ; *stipulae* caducse. *Racemi* 1-1[^] poll, longi. *Mores* hermaphroditi v. masculi.

Of the fruit I have only seen immature examples, and several of these seem to be insect-punctured. They are ovoid, obovoid or ellipsoidal and narrowed below into a short, stout, but distinct, stipes ; the pericarp already of almost bony hardness. Dr. Warburg, in Engler and Prantl, *Natürl. Pflanzenfam. (Flacourtiacea, 54)*, describes it as one-seeded ; the seed as exalbuminous and the embryo curved ; adding, that, on the ground of these seminal characters, the plant would seem referable rather to *Ternstroemiacee* than to *Flacourtiacem*. In this view of its affinity I cannot acquiesce, and should like to see mature fruit and seed before expressing any decided opinion. It may be that the publication of this figure in the *Icones Plantarum* may direct attention to what must be a rare tree, hitherto collected, so far as I know, only by the late Mr. Spruce. In the meantime it may well remain where Mr. Bentham, without any note of doubt, left it.—D. OLIVER.

Fig. 1. Flower. 2. Group of stamens. 3. Anther, front and back views. 4. Pistil, with sidnate disk. 5. Vertical section of ovary. *All enlarged.*



M.S. del, et lith

Jnpogon paupepulus, SLapf.

PLATE 2442.

TRIOGON PAUPERULUS, *Stapf.*

GRAMINEÆ. Tribe CHLORIDES.

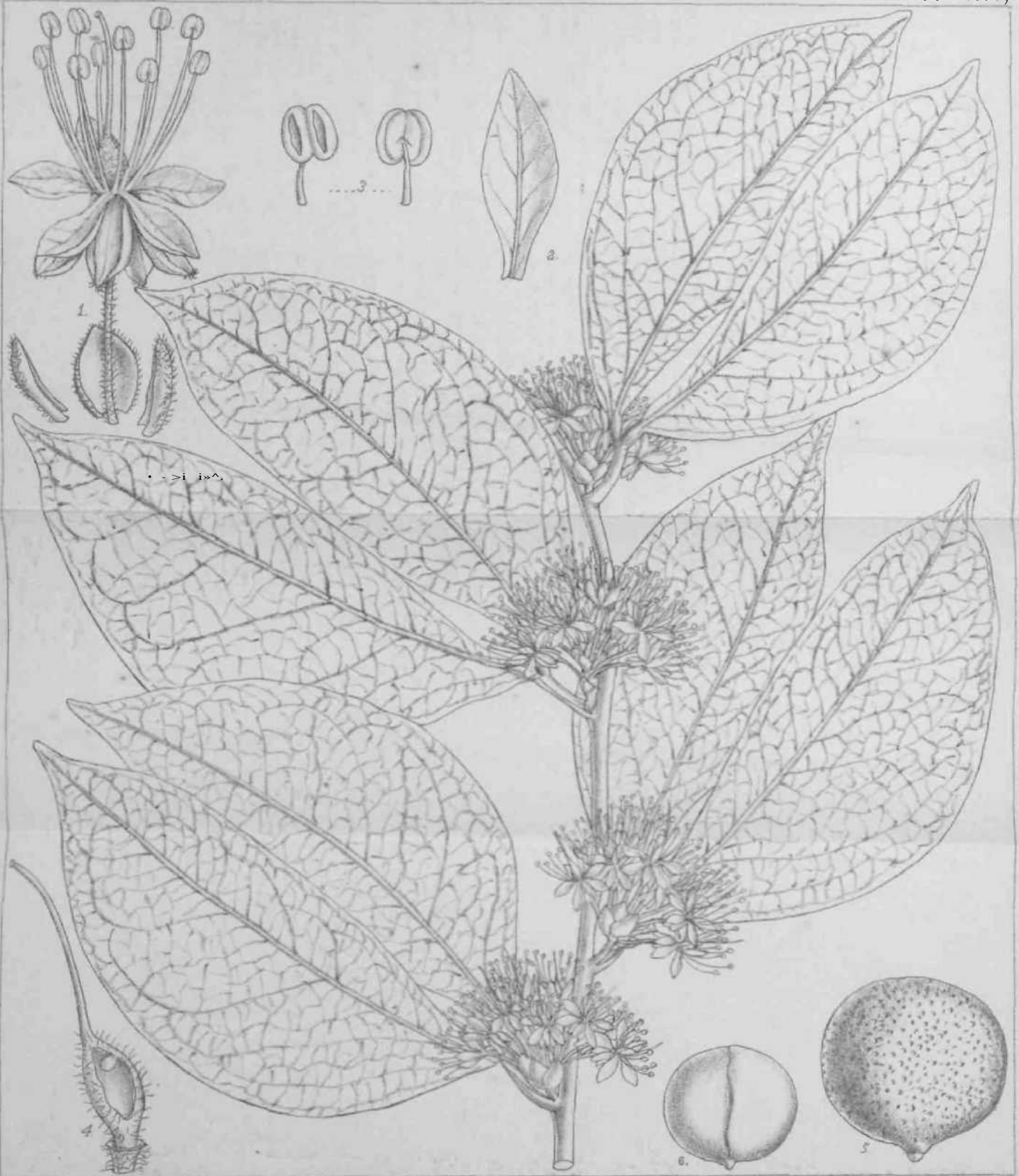
T. pauperulus, *Stapf* (*sp. nov.*); annuus, nanus, glaber, culmis tenuibus, foliis spiculas superantibus vel aequantibus, vaginis infimis laxis plus minusve patulo-erectis summis arctis striatis, ligulis membranaceis ovatis obtusis, laminis angustissimis Betaceo-involutis acutis tenuiter proininulo-nervosis nervis circiter 11, spiculis 3-2 plus quam longitudine sua inter se remotis vel solitariis in culmorum apicibus, 4-1-floris, gluma i. symmetrica anguste lanceolata uninervi acutissima, gluma ii. simili sed dimidio longiore aristulata, glumis florentibus 4-1 (summis 2-1 vacuis minoribus additis) explanatis oblongis 3-nervi-bus inter lobos setaceo-aristatos arista subgeniculata infra genu contorta instructis, paleis oblongis in carinis ciliatulis, antberis 3 minutis subglobosis, caryopsi angustissime cylindrica.

HAB. India : Crest of the Western Ghauts near Poona, on old stems of *Ficus glomerata* with mosses and *Utricularia orbiculata*, *Woodrow*.

Gramen 2-2 | poll, altum. *Spiculce* aristis exceptis circa 4 lin. longae; gl. i. 2 lin., gl. ii. ad 3 lin., gl. iii. 2*5-3 lin. (ad aristae basin) longa, arista ad 5 lin. longa.

Evidently allied to *Tripogon capillatus*, *Jaub.* and *Spach*, but distinct in the symmetrical outer glume, and the different armature of the spikelets, particularly the much stouter and shorter middle awn of glume iii. Like *T. capillatus*, it seems to grow in moss.—O. STAPF.

Fig. 1. Ligule. 2. Spikelet, with two lower florets. 3. Flowering glume, side
T^e w. 4. Same, back view. 5. Palea. 6. Stamens. 7. Caryopsis. *All enlarged.*



M. S. del et lith.

Cylometra trinitensis, Oliv.

PLATE 2443.

CYNOMETRA TRINITENSIS, *Oliv.*

LEGUMINOSJE. Tribe CYNOMETRE-E.

C. trinitensis, *Oliv.* (*sp. nov.*); foliolis unijugis plus minus coriaceis valde imequilateralibus oblique ovato- v. oblongo-ellipticis obtusiuscule apiculatis glabris, fiorum fasciculis axillaribus sessilibus multifloris, bracteis late ovatis concavis striatis fusco-puberulis caducis, pedicellis pilosulis bractea longioribus, calycis segmentis 4 longitudinaiter venosis inequilateralibus, petalis 5 calycem superantibus subsequialibus subcymbiformibus acutiusculis 1-nerviis penniveniis, staminibus 10, filamentis glabris, ovario brevissime stipitato compresso parce pilosulo 1-ovulato, legumine subgloboso v. leviter compresso, pericarpio tenuiter crustaceo obscure papilloso-verrucoso subhevi.

HAB. W. Indies : Trinidad, *Crueger, Prestoe, &c.*

Arbor mediocris, corona densa ; ramulis glabratis crassitie penne corvinse, ultimis pendulis. *Foliola* brevissime petiolulata 3-4 | poll, longa, 1 [-2 poll, lata', petiolus 4-6 lin. longus. *Fasciculi florum* 1- $\frac{1}{2}$ poll. diam. *Calycis* tubo brevissimo. *Stamina* alternatim breviora; antherse parvse, versatiles, late ellipticse. *Legumen* 1-1[^] poll. diam.

This fine species has long been in the Kew Herbarium, but not hitherto satisfactorily determined, and the recent receipt of excellent specimens from Mr. Hart has again brought it under notice. It was regarded by Dr. Grisebach (*ex descr.*) as *C. crassifolia*, Benth. (described from specimens in the Paris Herbarium), but Mr. Bentham did not confirm this, and thought it might prove to be *C. americana*, Vog. Dr. Schumann some years ago kindly compared a specimen for us with Vogel's type, and found it 'quite different.' It resembles *C. ramiflora*, L., of India, but the fruit is entirely different.—D. OLIVER.

Fig. 1. Flower, with bract and bracteoles. 2. Petal. 3. Anther, front and back views. 4. Carpel, the ovary laid open. 5. Fruit. 6. Embryo. *Except 5 and 6, enlarged.*



M.S. del. et lith.

Xymalos monospora, Baill.

PLATE 2444.

XYMALOS MONOSPOBA, BaUl.

MONIMIACEÆ.

Xymalos, Baillon in *Bull. Soc. Linn. Par. i.* 650 (1887) : (char, hic emend.). *Flares* dioici. *Perianthium* fl. § 4-6-partitum, segmentis rotundatis ovatis v. lanceolatis, inaequilateralibus, extus hirtis. *Stamina* 6; antherje sessiles late ellipticse v. obovatae, inappendiculatse, biloculares, longitudinaliter dehiscentes. *Ovarii* rudimentum 0. *Perianthium* fl. J, 4- v. 3-fidum v. -lobulatum, segmentis rotundatis; *staminodia* non vidi. *Ovarium* obovoideum v. turbinatum, glabrum, 1-loculare; ovulum solitarium, pendulum, anatropum; stigma erasum, sessile, discoideum v. subhemisphwricum. *Fructus* subglobosus v. oblique obovoideus, stigmatate coronatus; pericarpio tenuiter coriaceo, loevi. *Semen* compressum, ellipsoideum, albuminosum; embryo parvus, radícula crassa, obtusa, cotyledonibus rotundatis planis oblique applicitis sequilonga.—Frutex v. arbuscula ramulis teretibus foliisque glabris. Folia subepposita, tenuiter coriacea, ovali- v. oblanceolato-oblonga acuta v. obtusa, basi in petiolum anyustata, Integra v. apicem versus repando- v. distanter serrato-dentata sub lente minutissime pellueido-punctata, costa subtus et nervis primariis validis. Flores in racemos axillares petiolo longiores pybescentes dispositi; bracteae ovatas v. oblonge; flores ♂, sasse 1-2-bracteolati.

X. **monospora**, Baillon, *I.e.*; *Xylosma* ? monospora, Harv. *Thes. Cap. ii.* 52. tab. 181; *Toxicodendron acutifolium*, Benth. in *Journ. Linn. Soc.* xvii. 214.

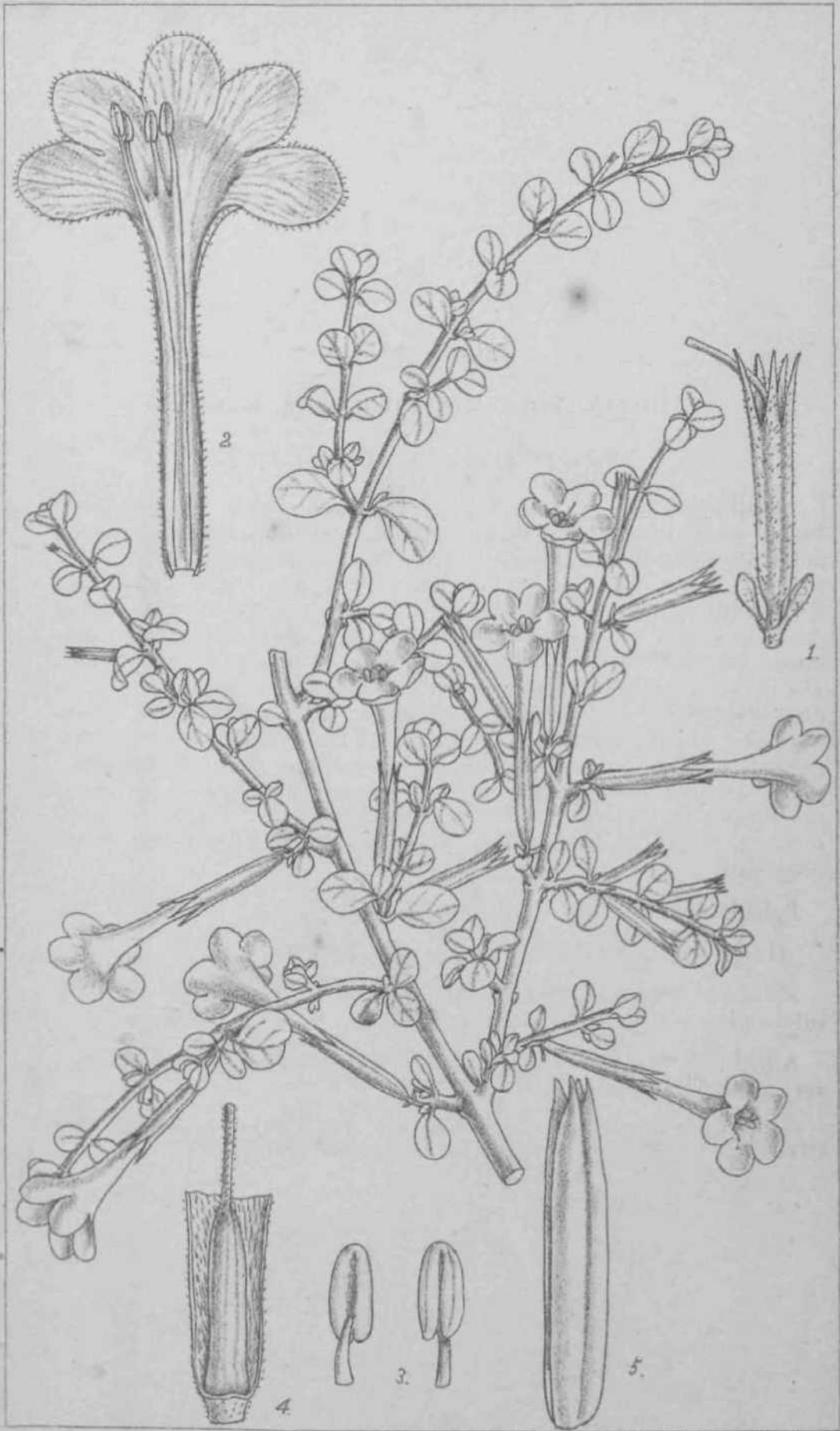
HAB. South Africa: Natal, Cooper, Gerrard, Wood; Transvaal, Nelson; Orange Free State, Cooper; Kaffraria, Barber; Victoria East, Tyson; Amatola range, lib. MacOwan.

Folia 4-4½ poll, longa, \-\ poll, lata; *petiolus* \-\ poll, longus.

Of this anomalous plant, originally published by Prof. Harvey with doubt as a species of *Xylosma*, seeds were received last year from Prof. Macowan of Gape Town, which complete our knowledge of it, and confirm my original impression, noted upon Mr. Cooper's specimens received many years ago, that its affinity is rather with *Jfonimiaceae* than with either *Flacourtiaceae* or *Euphorbiaceae*, with which it has been hitherto associated. Its nearest ally known to me

is my genus *Piptocalyx* from New South Wales (vide /c. *PL t* 2367). Whether *Xymcdos* with *Piptocalyx*, and perhaps also *Trimenia*, should be separated from *Monimiacece* and regarded as a natural order apart, I am not prepared to say. The leaves of *Xymalos*, though pellucid-punctate, are, in the dry state, quite destitute of the bitterness so intense in those long-dried of *Piptocalyx*. Dr. Warburg, in his review of the *Flacourtiacece* in Engler and PrantFs *Natiirl. Pflanzfamilien* (*Flacourtiacece*, 53), enumerates *Xymalm*, with certain other genera which he excludes from *Flacourtiaceew*, as either surviving members of groups now lost, or as belonging to other orders which only further investigation may determine.—D. OLIVER.

Fig. 1. Male flower. 2. Anthers, back and front views. 3. Female flowers. 4. Vertical section of ovary. 5. Seed. 6. Longitudinal section of seed, showing divergent cotyledons. *All enlarged.*



M. S. del. et lith.

Phillip si a fruticulosa. Ralfe

PLATE 2445.

PHILLIPSIA FRUTICULOSA, Rolfe.

ACANTHACEJB. Tribe RUELLIEFI.

Phillipsia, Rolfe in *Kew Bulletin*, 1895, 223. *Calyx* anguste tubulosus, 5-angulatus, 5-dentatus, dentibus tubo brevioribus sequalibus, subulatis, primum conduplicatis. *Corolla* tubus longe et anguste cylindraceus, calyce subduplo longior, apice in faucem leviter ampliatus; limbus subrequalis, patens, lobis 5 rotundatis restivatione contortis. *Stamina* 4, fere sequilonga, ad medium faucis affixa, subexserta; filamenta gracilia; anthera oblongae, loculis jequalibus parallelis muticis. *Discus* inconspicuus. *Stylus* gracilis, apice crassiusculus. *Ovula* in quoque loculo 2. *Capsula* calyce clauso inclusa, lineari-oblonga, acuta. *Memina* 4, plano-compressa, retinaculo brevi fulta.—Fruticulus *ramosus*, *Tamulis* 8mpiu8 *alternis divaricatis tetragonis atquefoliis crispule canopube8centibu8*. Folia *parva, opposita, carnomla, brevissime petioJata, wuborbictdaria) interdum obscure crenato-lobulata*. Flores *axillares, 8olitarii) subsessiles, bibracteolati, bracteolis minimis carnosulis lineari-lanceolatis*.

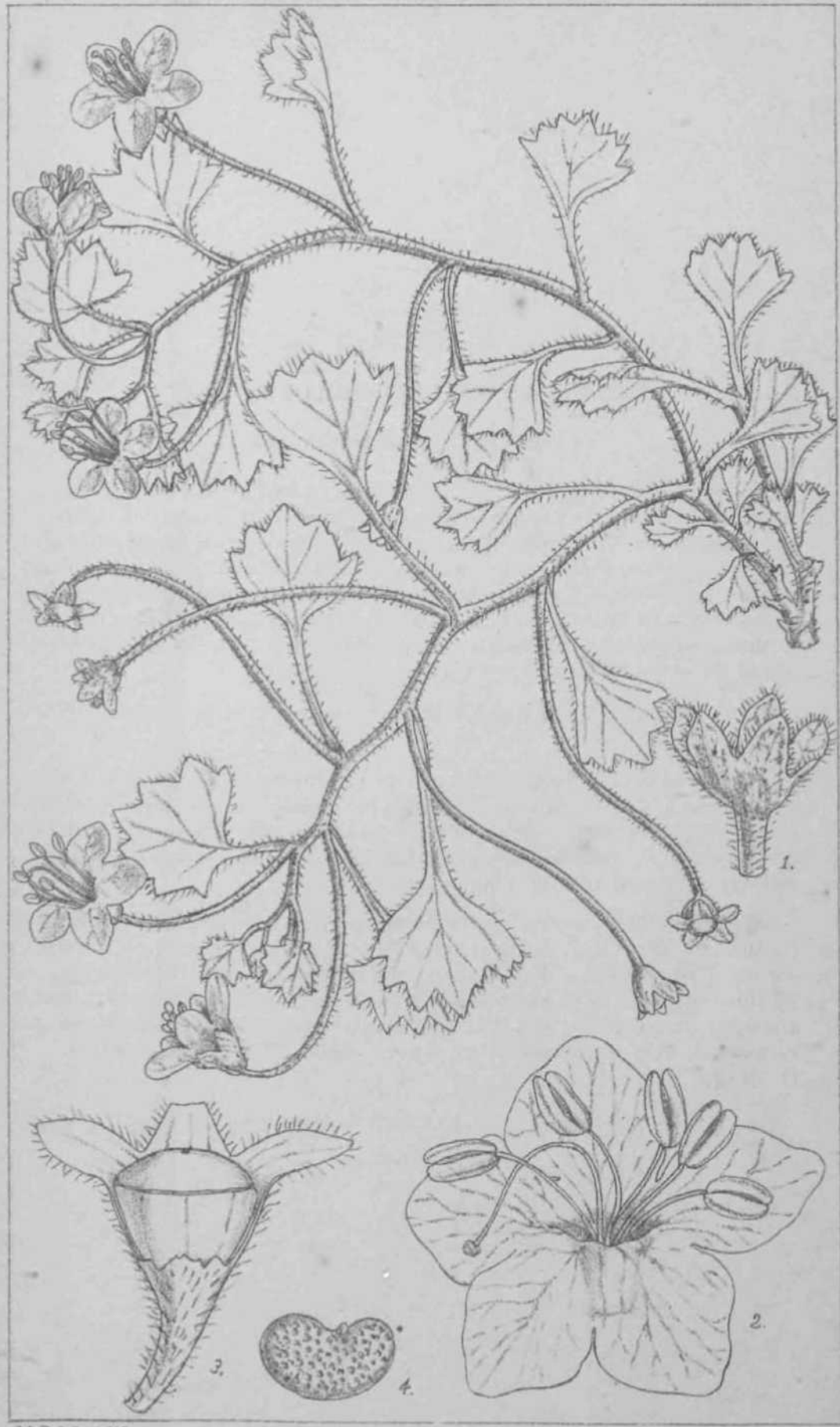
P. fruticulosa, Rolfe, *Ix.* (*sp. unica*).

HAD. Somaliland: Golis Range, Mrs. Lort Phillips.

Folia 2-5 lin. longa, 2-4 lin. lata. *Calyx* 5-7 lin. longus. *Corolla* tubus 9 lin. longus; limbus £-5 poll. diam. *Capmla* 5-6 lin. longa.

Allied to the African genera *Satanocrater* and *Physacanthus*, but very distinct in habit.—R. A. ROLFE.

Fig. 1. Calyx and bract coles. 2. Corolla laid op^on. 3. Anther, back and front views. 4. Ovary with base of calyx-tube. 5. Capsule. *All enlarged.*



M.S. del, et lith.

Hyoscyamus leptocalyx, Stapf.

PLATE 2446.

HYOSCYAMUS LEPTOCALYX, *Stapf*.

SOLANACEAE. Tribe HYOSCYAMEJE.

H. leptocalyx, *Stapf* (*sp. nov.*); pérennis, a basi pluricaulis, caulibus flaccidis anfractuosus papilloso-hirsutus, foliis longipetiolatis deltoideis vel sabreniformibus grosse dentatis ciliolatis, floribus solitariis axillaribus longipedunculatis, calyce cupulari tenui ad medium 5-lobo lobis ovatis obtusis ciliatis, corolla subrotata aurea tubo basi breviter cylindrico deinde in faucem cupularem latum ampliato lobis latissime ovatis, antheris exsertis, pyxidio turbinato e tubo exserto calycis lobis brevioris, seminibus seriatim granulatis.

HAB. Kurdistan : in fissures of rocks near Mardin, *Sintenis* (No. 1000 of 1888).

Planta ad 6 poll, longa. *Folia* 6-8 lin. longa, 8-12 lin. lata ; exsiccata tenuissima, ghuca, 5-7-dentata; petiolus papilloso-hirsutus sursum srepe plus minusve dilatatus, 6-12 lin. longus. *Pednnculi* tandem ad 2 poll, longi, curvati. *Calyx* ad 3 lin. longus atque latus, lobis demum reflexis. *Corolla* 7-9 lin. diam.

A very distinct species, representing an isolated type, characterised by the very short and delicate calyx-tube and the short and rather flat corolla. // *Jlaccidus*, Wright, from the Dhofar Mountains, South-East Arabia, with which it was compared (see *Kew Bulletin*, 1895, 184), has a similar flaccid habit, but it is an annual, having the flowers in slender racemes, a long obconical calyx and a corolla typical of the genus.—O. STAPF.

Fig. 1. Calyz. 2. Corolla. 3. Calyx-tube laid open, showing capsule. 4. Seed. *All enlarged.*



M.S. del. et lith.

Woodrowia diandra, Stapf

PLATE 2447.

WOODBOWIA DIANDRA, Stapf.

GBAMINEJE. Tribe AOROSTIDEJE.

Woodrowia, Stapf (*gen. nov.*) *Spiculae* 1-dorse, secus ramos inarticulatos paniculae solitarise, cum pedicello apice dilatato articulatae, a latere compressae, flore hermaphrodito. *Gluminae* 3; 2 exteriores vacuae*, dorso plus minusve incrassatae vel carinatae ceterum pertenues, obscure 1-nerves vel i. sub apice sub-3-nervis, ii. brevior angustiorque; iii. florens, secundae subaequilonga, hyalina, 1-nervis, apice biloba, arista inter lobos tenui, geniculata; palea hyalina. *Stamina* 2. *Styli* distincti, stigmatibus anguste plumosip, lateraliter exsertis. *Caryopsis* tenuiter cylindrica, glumis inclusa, libera.—*Ora*men *annuum*, *foliis plants*. Panicula *terminalis, contracta, pedunculata, rhachi brevi, ramis gracillimis simplicibus*. *Spiculae basi pilis brevibus nitidis cinctae*.

W. diandra, Stapf (*). *nnica*); culmis ramosis gracilibus ad nodos pilorum annulo adpressorum ornatis laevibus, internodiis intermediis longe exsertis, vaginis arctis glabris vel inferioribus superne hirsutis summis interdum dilatatis apertisque, laminis anguste linearibus, setaceo-attenuatis summis admodum redactis vel omnino suppressis hirsutis in margine asperis, ligula brevi truncata ciliolata, panicula ramis circiter 4, spiculis virescentibus vel violascentibus, gluma i. in dorso plus minusve pilosa in marginibus ciliolata, ii. in carina dense ciliata, iii. cum arista secundum spiras columnae brunnesae ciliata supra genu flavescens, palea plicata explanata obovata enervi minute ciliolata, lodiculis latis inaequaliter lobulatis, caryopsi flavescens glabra.

HAD. India : Poona Distr., Mawal, *Woodrow*.

Gramen 1|-2 ped. altum. *Foliorum* lamina inferiorum 3-4 poll, longa, 1-2 lin. lata. *Panicula* 2 poll, longa; rhachis communis 3-4 lin. longa; pedicelli ad \ lin. longi. *Spiculce* 3 lin. longae; aristae columna 2 lin. longa, seta 3-4 lin. longa. *Caryopsis* 3-3*5 lin. longa.

Woodrowia is allied to *Garnotia*, Brongn., and it particularly resembles weak forms of *G. polypogonoides*, Oliv. The principal differences are in the structure of the panicle and in the nervation of the glumes, which are moreover laterally compressed in a very marked degree. The thickening of the dorsal portion of the glumes i. and ii. varies remarkably from a slightly coriaceous texture to a stout spongy keel,

which is generally obtuse and semicircular in transverse section, but sometimes also acute and transversely triangular. The margins are always very thin, whitish, and almost hyaline. The dorsal nerve is very faint. In glume i. also a faint lateral nerve is distinguishable on each side and below the apex ; it diverges rather suddenly from the middle nerve and disappears very soon as it descends. The 2 stamens are placed in the median plane, one corresponding to the anterior and the other to the 2 posterior stamens of the typical diagram of a triandrous grass.—0. STAPF.

Fig. 1. Ligule. 2. Branch of inflorescence and podicel. 3. Diagram of spikelet. 4. Spikelet with keeled outer glume. 5. Transverse section of outer glume of same. 6. Spikelet with keelless outer glume. 7. Section of outer glume of same. 8. flowering glume. 9. Part of awn of same. 10. Falea. 11. Lodicules and pistil. 12. Lodicule. 13. Garyopsis. 14. Base of same, more enlarged. *All enlarged.*



M.S. del. et lith.

Halopyrum mucronatum Lura, Stapf-

PLATE 2448.

HALOPYRRTM MUCRONATUM, Stapf.

GRAMINEJE. Tribe FESTUCEJB.

Halopyrum, Stapf (*gen. nov.*). *Spieulas* multiflorae, paniculate, rhachilla inter ilores articulata, articulis cito solvendis, sericeo-pilosa, floribus hermaphroditis. *Glumes* 2 inferiores vacuae, subaequales, florentibus breviores, carinatae, inferior 3-, superior 5-nervis; florentes rigidae, carinatae, 3-nerves, mucronatae; palea glumae aequilonga, 2-carinata. *Stamina* 3. *Styli* distincti, breves, stigmatibus plumosis. *Caryopsis* ambitu rotundato-elliptica, antice late sulcata, gluma paleaque laxe inclusa, libera.—Gramen *perenne, elatum*. *Panícula stricta, contracta, ramis racemosis*. *Spiculae pedicellate vel imcramorum subsessiles, 10-15 flnrrp, oMonffa*, a latere compressce, plance, glumis eximie distichis.*

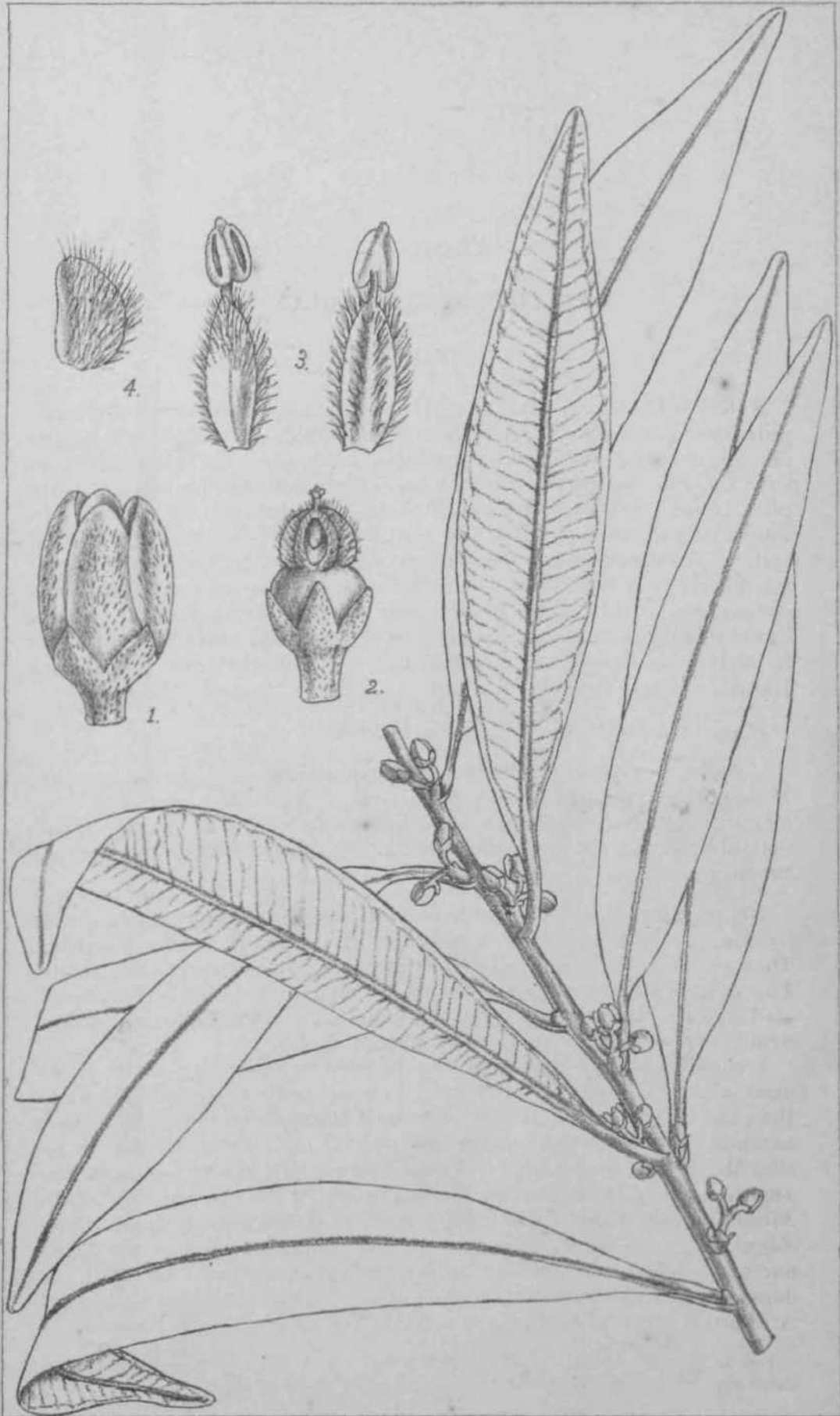
H. mucronatum, Stapf (*sp. unica*); rhizomate repente cataphyllis ovatis acuminatis duris oblecto fibrillas crassas emittente, culmis fasciculatis simplicibus vel ramosis duris, foliorum vaginis arctis striatis, laminis longis convolutis setaceo-acuminatis tenacibus glabris, ligulis ad lineam pilorum redactis.—*Uniola mucronata*, L. *Sp. Plant*, ed. i. 104 (*ex descr.*); *Triticum repens*, Thwait. *Enum. Pl. Zeyl.* 376, non L.; *Desmazeria unioloidea*, Defl. *Voy. Yemen*, 220; *Brizopyrum mucronatum*, Nees in Wall. *Cat. Herb. Ind. n.* 8898; *Eragrostis* (§ *Sclerostachya*), sp. *Benth. et Hook. Gen. Plant*, iii. 1187.

HAB. Coast of Western India from Sind to Ceylon : Sind, *Stocks* (No. 567); Guzerat, Purbonder, *Dr. Lisbon's collector*; Cape Comorin, *Dr. T. Turston*; Tinnevely, Tuticorin, *Wight* (No. 1094 in hb. prop.) (*Wight Cat.* 2386, *Wall Cat.* 8898); North Ceylon, *Gardner* (*Thwaites*, C.P. 924). Coast of Arabia, from Hedjas to Aden : ° Arabie heureuse, endroits salés, janv., févr., 1831, *Bové*; Isthmus of Aden, *ScJwveinfurth*, *Mem. Forsk.* No. 112. Coast of East Africa, from the Rovuma to the Zambesi: Mouth of Rovuma River, Quillimane and Mouth of Luabo, *Kirk*; * Raza Island/ *Forbes*.

The systematic position of this grass, which seems to have been known since the days of Linnseus, has hitherto been very unsettled, as will be seen from the synonyms quoted above. Its proper place is

near *Eragrostis*, and not in *Enfestuceas*. The essential characters which separate it from *Eragrostis* are the more numerous nerves of glumes i. and ii., the very rigid texture of all the glumes, and the large, broadly grooved caryopsis. Most of these characters occur in *Triodia*, from which genus *Halopyrum* differs mainly in the 3- and 5-nerved empty glumes and in the entire flowering glumes. The two remaining species which were referred to the section *Sclerostachys* of *Eragrostis* have very little in common with the plant figured here.—0. STAPP.

Fig. 1. Ligule. 2. Spikelet. 3. Lower outer glume. 4. Upper outer glume. 5. Floret. 6. Flowering glume. 7. Falea. 8. Lodicule. 9. Pistil. 10. Caryopsis, anterior, and] 1, posterior view. 12. Transverse section of same. *All enlarged.*



M. S. del. et lith.

Samadera Bidwillii, Oliv.

PLATE 2449.

SAMADERA BIDWILLII, *Oliv.*

SIMARUBEJS.

S. Bidwillii, *Oliv.*; ramulis rectis teretibus appresse et minute cano-pubescentibus, foliis subcoriaceis anguste ovalibus utrinque angustatis obtusiusculis v. interdum emarginatis, venis obscuris subparallelis in vena intramarginali confluentibus supra glabris subtus prsecipue in costa pilis niinutis appressis sparsis instructis v. glabrescentibus, floribus in fasciculis paucifloris axillaribus sessilibus v. brevissime pedunculatis, pedicellis alabastro haud longioribus, floribus 4-5-meris, sepalis parvis fere liberis ovato-deltoideis crassiusculis, petalis late ovato-ellipticis dorso parce hirsutis, filamentis liberis late dilatatis intus fere ad apicem ligula hirsuta instructis apice abrupte angustatis, ovariis hirtis apicibus in stylum confluentibus, stigmatibus breviter 4-5-lobulato.—*Hyptiandra Bidwillii*, *Hk.f. in Gen. PL* i. 294; *Benth. Fl. Austral.* L 374.

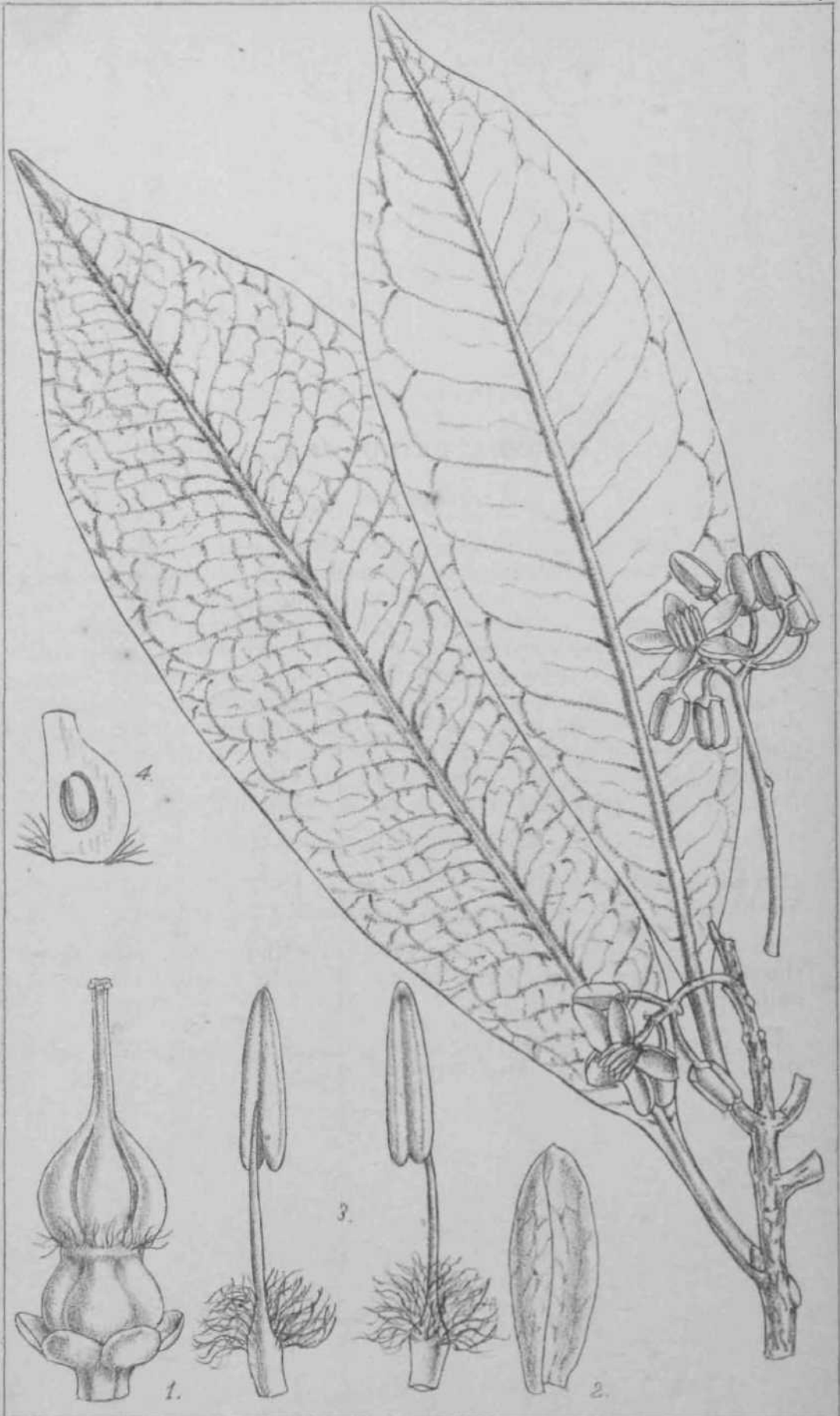
HAB. Queensland: Wide Bay, *Bidwill*

Arbuscula verosimiliter, ramulis ultimis crassitie pennse corvinrc. *Folia* alterna, petiolata, 3-4[^] poll, longa, 6-9 lin. lata; petiolus 2 lin. longus. *Alabastra* ovoidea v. subglobosa; flores c. 2 lin. diam. *Petcda* aestivatione coutorta v. interdum petalo unico omnino incluso. *Antherce* breviter oblongse. *Discus* crassus.

Representing the fruit, we have two detached carpels communicated by Sir F. v. Mueller, from Endeavour River, under the above name. They are about 5 lines in length, with a broad basal scar of attachment. The outer pericarp is pubescent, thin; endocarp thinly crustaceous; seed solitary, with papery testa, exalbuminous; radicle short, exserted, ovoid; cotyledons obovoid, plano-convex, fleshy.

I should scarcely have ventured to reduce this rare plant to *Samadera* (although in floral structure I find no more important difference than the height on the filament to which the characteristic hairy ligule extends, and its abrupt constriction just below the anther), were it not that Mr. Bailey, Queensland Colonial Botanist, has kindly communicated a specimen from the Bellenden-Ker region, under the name of *Hyptiandra BidwilHi*, var. *grandiuscula*, Bail. & F. v. M. (*Synops. Queensl. Flora*[^] *Suppl* iii. 12), which agrees with our plant in having the leaves narrowed into their petioles unlike typical *Samaderfe*, but with inflorescence and flowers characteristic of the Indian species of that genus. A figure is given of this plant on the following plate.—D. OLIVER.

Fig. 1. Flower, petals and[^] stamens removed. 2. Petal. 3. Stamens, inner and outer views. 4. Vertical section of a lobe of ovary. *All enlarged.*



M.S.del.eUiDi.

Oamadera baileyana, 01 iv.

PLATE 2450.

SAMADERA BAILEYANA, *Oliv.*

SIMARUBEIÆ.

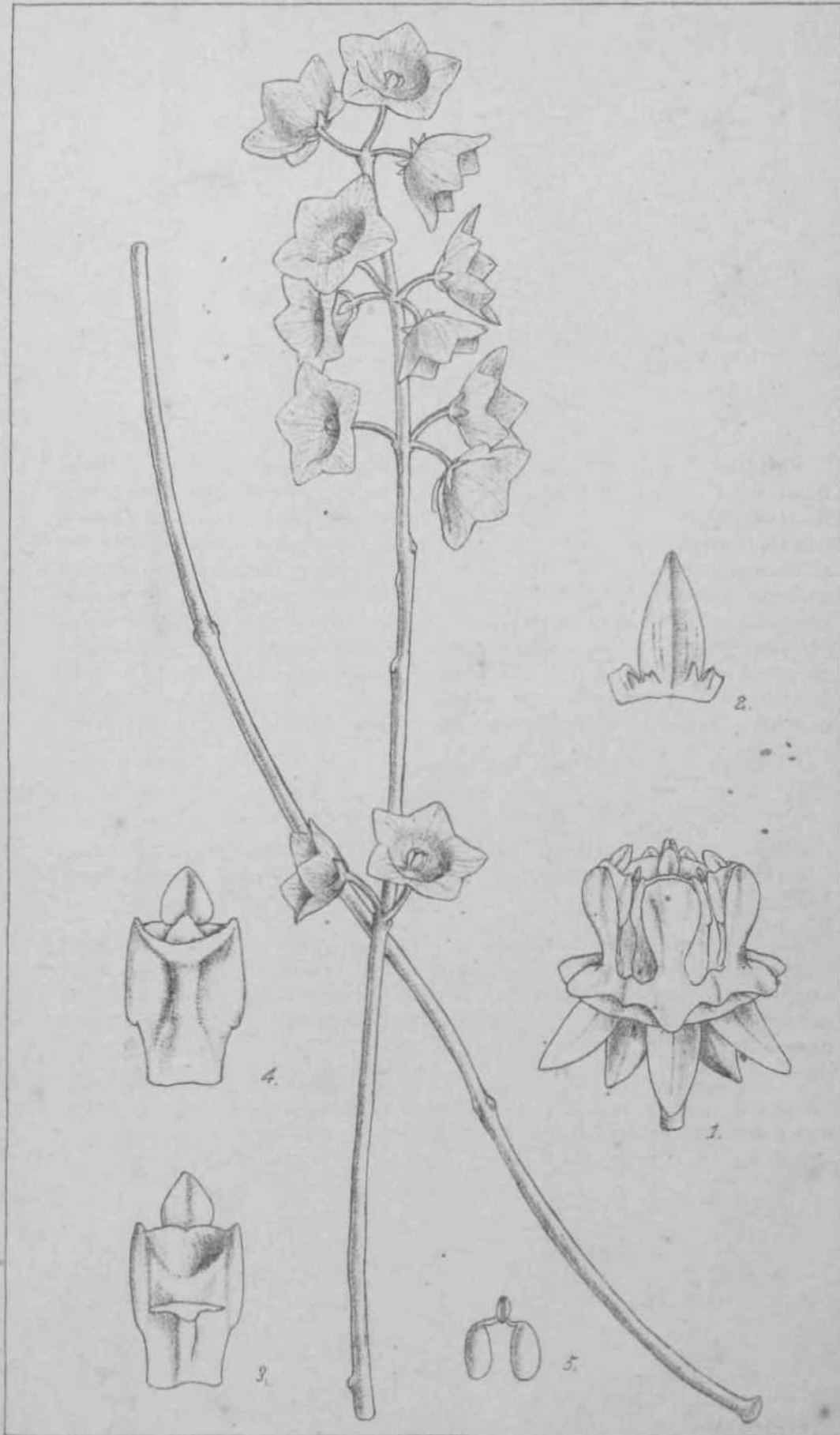
S. baileyana, *Oliv.*; arbuscula glabra, foliis coriaceis oblanceolatis breviter obtusiuscule acuminatis cuspidatisve basi in petiolum angustatis, costa subtus valida, supra venis subparallelis (in sicco) conspicuis glabris, inflorescentia pedunculata axillari, floribus quasi umbellatis pedicellatis, pedicellis incurvis, calycis 5-fidi parvi coriacei segmentis concavis ovato rotundatis, petalis calyce 8-10-plo longioribus oblongis obtusis genitalia superantibus, filamentis gracilibus basi intus ligula dense hirsuta instructis, antheris oblongis, disco camoso sulcato, ovario glabro v. basi hirto, carpellis inferne liberis apice in stylum coalitis, stigmate parvo 5-lobulato.—*Hyptiandra Bidwillii*, var. *grandiuscula*, *Bail, et F. v. M.* in *Synops. Queensl. Fl. v. M.* in *Synops. Queensl. Fl. v. M.* *Suppl.* iii. 12.

HAB. Queensland: Mt. Bellenden-Ker, 4000 ft. alt., *Bailey*.

Folia in ramulis floriferis 5-9 poll, longa, H-2J poll, lata; petiolo 6-9 lin. longo. *Flores* 6-9 lin. diam.; pedicelli 4 lin. longi.

From the description and figure given herewith it will be plain that this plant is specifically distinct from *S. Bidwillii* figured on the preceding plate.—D. OLIVER.

Fig. 1. Flower. 2. Petals and stamens removed. 3. Stamens, inner and outer views. 4. Detached lobe of ovary. *All enlarged.*



M.S. del. et lith.

Platykeleba iri signis N.E. Br.

PLATE 2451.

PLATYKELEBA INSIGNIS, *IT. E. BR.*

ASCLEPIADEAS. Tribe CYXANCHEJE.

Platykeleba, *N. E. Br. in Kew Bulletin*, 1895, 250. *Calyx* brevis, 5-partitus. *Corollae* limbus late rotato-campanulatus, breviter angulato-lobatus. *Corona* duplex; exteriore carnosula, breviter cupularis, basi corollas inserta, margine late deltoideo-lobata, lobis medio gynostegii adnatis; corona interior 5-lobata, lobis ovatis rotundatisve obtusis gynostegio paullo brevioribus leviter concavis v. mox fere planis cum coronae exterioris lobis continuis. *Stamina* prope basin corollae affixa; antherae breves, apice membrana inflexa appendiculatae; pollinia in quoque loculo solitaria, oblonga, pendula. *Stigma* breviter rostratum.—Fruticulus aphyllus, ramis bracteiferis erectis, simplicibus v. parce ramosis gracilibus glabris, cortice carnosulo. Umbellae pauciflorae, ad nodos sessiles? Flores majusculi, purpureo-venosi.

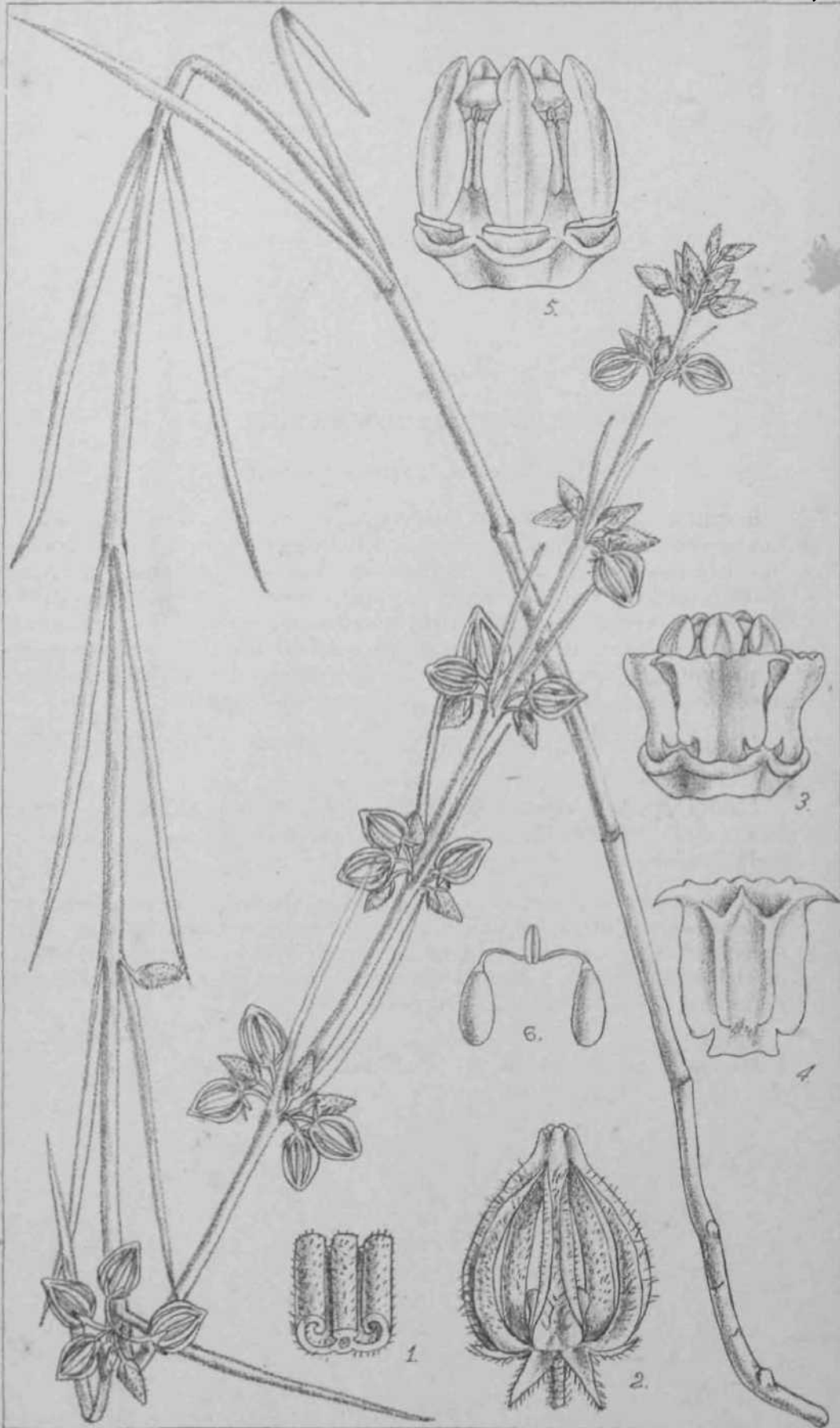
P. insignis, *N. E. Br. l.c. (sp. unica)*.

HAB. Central Madagascar, *Baron* (No. 973).

Rami in spp. exsiccatis circa 1 lin. diam., 8-12 poll. longi. *Pedicelli* 1-3 lin. longi. *Calyeis* segmenta ovata, obtusiuscula. *Corolla* circa 6-8 lin. diam.

The flowers of this interesting plant are very similar to those of *Oxytelma*; in our specimens they are all expanded, but would appear as though in aestivation the corolla were either very narrowly imbricate or valvate. The corolla is prettily pencilled with radiating purple lines.—D. OLIVER.

Fig. 1. Flower from which the corolla has been removed. 2. Sepal seen from within with basal glands. 3. Anther, dorsal view, coronal lobe removed. 4. Anther seen from within. *All enlarged.*



M. S. del. et lith.

Schizoglossum connaturci. N. E. Br.

PLATE 2452.

SCHIZOGLOSSUM CONNATUM, N. E. BR.

ASCLEPIADEJB. Tribe OYNANCHEA.

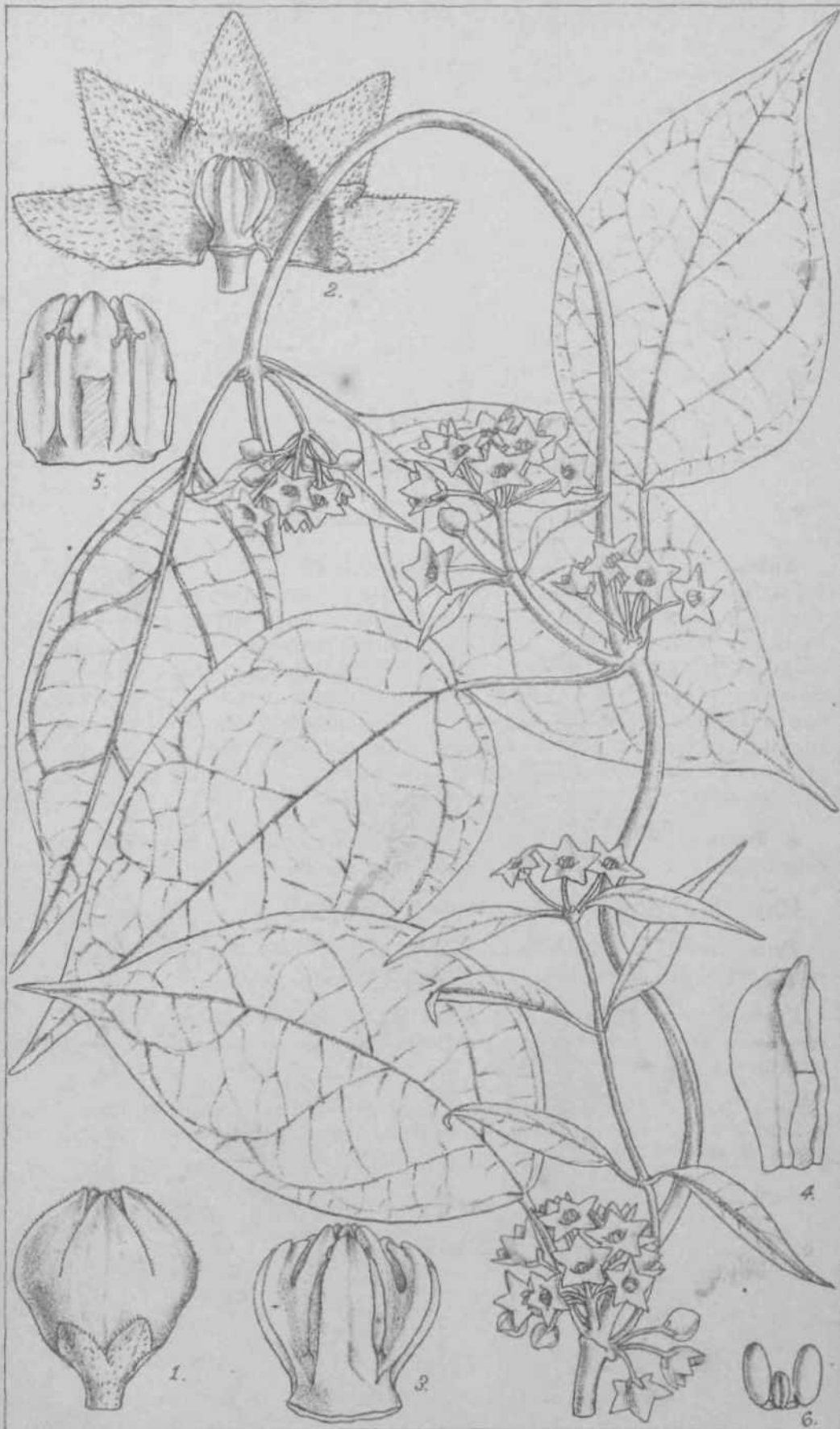
S. connatum, N. E. Br. in *Kew Bulletin*, 1895, 69 ; caulibus gracilibus erectis strictis simplicibus atque foliis erectis subsessilibus anguste linearibus acuminatis marginibus revolutis crispule pubescentibus, umbellis sessilibus 6-10-floris hirtis, corolla; fere 5-partite lobis anguste lineari-lanceolatis falcatis incurvis lateribus replicato-revolutis apicibus coalitis utrinque hirtis v. intus glabris, corona; lobis erectis gynostegio fere requilongis cuneato quadratis apice truncatis denticulatis, antheris membrana rotundata terminatis, gynostegio apice mutico.

HAD. South Tropical Africa : Fwambo, south of Lake Tanganyika, Carson (No. 17).

Catdia bipedalis, circa 1 lin. diam. *Folia* 2-2 J poll, longa, | - 1 lin. lata. *Pedicelli* 1[^]-2 lin. longi. *Sepala* lanceolata, acuminata, patentia, 1-11 lin. longa. *Corolla* lobi 3 lin. longi.

Mr. Brown points out the resemblance in the habit of this plant to *S. interruptum*, Schlecht., and *S. angustissimum*, Schum., differing from these and other known species of the genus in the cohesion of the tips of the corolla-lobes; a feature characteristic of some species of *Ceropegia* and *Brachystelma*.—D. OLIVER.

Fig. 1. Section of leaf. 2. Flower. 3. Corona. 4. Inner view of corona. 6. Staminial column, corona removed. 6. Pollinii. All enlarged.



M.S. del. et lith.

Amsopus Mannii, N.E.Br.

PLATE 2453.

ANISOPUS MANNII, *if. E. Br.*

AscLEPIADEiE. Tribe MARSDENIOS.

Anisopus, *F. E. Br. in Kew Bulletin*, 1895, 259. *Calyx* parvus, 5-partitus. *Corolla* rotata, 5-fida, sestivatione angustissime imbricata. *Corona* duplex; exterioris lobi brevissimi, tuberculiformes, carnosi, hirti, sub sinibus corollas affixi; interioris squanue 5, lineari-oblongse, carosae, triquetrise, medio per totam longitudinem gynostegio adnatse. *Stamina* prope basin corolla? affixa; anthera apice membranaceo-appendiculatae; pollinia erecta, in quoque loculo solitaria. *Stylus* breviter exsertus; stigma bilobum.—Frutex *volubilis*, *fere omnino glaber*. Folia *petiolata*, *opposita*, *membranacea*. Umbellse *axillares*, *scepe opposite*, *altera pedunculata altera sessilis*.

A. Mannii, *If. E. Br. l.e. (sp. unica)* foliis ovatis v. late ellipticis subito acuminatis basi rotundatis, umbellis plurifloris.

HAB. W. Tropical Africa: Corisco Bay, *Mann* (No. 1862).

Frutex volubilis, 12-15 pedalis. Folia 2^{^-}3 poll, longa, 1^{^-}1} poll, tata; petiolus 6-9 lin. longus. *Pedicelli* 2-4 lin. longi.

Probably a near ally of *Marsdenia*, which, Mr. Brown points out, it resembles in its inner corona, while it has the outer corona of *Leptadenia*.—D. OLIVER.

Fig. 1. Bud. 2. Corolla laid open, revealing the staminal column. 3. Corona. 4. Lobe of corona from the inside. 5. Staminal column, corona removed. 6. Pul-
lioia. All enlarged.



KS.del.stilh

Stauranthera chiritaeflora Oliv.

PLATE 2454.

STAUBANTHEBA CHIBIT[^]SFLOBA, *Oliv.*

GESNERACE[^]E. Tribe CYRTANDREA:.

S. chiritoflora, *Oliv. (sp. nov.)*; herba oppositifolia, folio altero nano stipuliformi, folio majore tenuiter membranaceo sessili ovato-oblongo oblique inwquilaterali acuminate serrato supra pilis brevibus sparsissimis instructo subtus glabro, pedunculis axillaribus folio brevioribus pubescentibus, floribus racemoso-cymosis, pedicellis ssepius geminatis ebracteatis, corolla rosea tubuloso-ventricosa bilabiata labio superiore bilobato inferiore trilobato lobis omnibus ovato-rotundatis obtusis, ovario ovoideo glabro plane biloculare placentis bifidis undique ovuliferis, capsula globosa apice tarde bivalvatim dehiscente, pericarpio tenui.

HAB. China : Mongtse, Yunnan, ('in a dark, damp glen under shady precipices, rare,' *Hancock* (No. 51).

Folia 5-7 poll, longa, U-2£ poll, lata, basi late rotundata v. semicordata. *Fedicelli* ebracteati 6-9 lin. longi, pubescentes. *Calyx* late campanulatus, 5-fidus, segmentis subeequalibus ovatis, obtusiusculis sinibus haud plicatis. *Corolla* uncialis, calyce 8-10-plo longior. *Stamina* perfecta 4, iiclusa, basi corollae inserta ; antherse in coronulam cohserentes, loculis coniluentibus divaricatis. *Discus* annularis, parvus. *Stylus* longiusculus, gracilis, persistens, post fructus dehiscentiam basi fissus; stigma bilobatum. *Fructus* globosus, vix exsertus; semina numerosissima, ovali-oblonga.

It is not without hesitation that I refer this fine plant to *Staurantkera*. It has indeed the anthers and globose capsule of that genus, but the corolla is that of some species of *Chirita* ; the ovary and capsule are genuinely bilocular, and the dehiscence of the latter is, at least in one example, which may, however, have been split in drying, by two valves from above. Besides there is no tendency to a spur at the base of the corolla, as in *S. grandiflora*, and the style, though included, is long and slender. The leaves, excepting that they are sessile, are similar to those of *Staurantliera*, and the inflorescence resembles that of *S. umirosa*.

The alternative would be to erect this plant into a new genus, but in view of the artificial character of many already described and the influx of two forms from Eastern Asia I prefer to leave it as above.—
D. OLIVER.

Fig. 1. Calyx laid open ami pistil. 2. Corolln laid open. 3. Views of aether. 4 Section of ovary. 5. Capsule in calyx from which one lobe has been cut off. 6. Seed. *All enlarged.*



MS. del. et. lith.

Creaghia purpurea, Staph.

PLATE 2455.

CBEAGHIELLA PTJRPUREA, *Stapf*.

MELASTOMACEAE. Tribe OXYSPORAE.

Creaghella, *Stapf* (*gen. nov.*). *Flares* 4-meri. *Calycis* dense hirsuto-tomentosi tubus campanulatus, lobis triangulari-lanceolatis acutis. *Petala* parva, obovato-oblonga, acuminata, seta decidua terminata. *Stamina* 8, inaequalia; antherae episepalae majores e basi lanceolata longe tenuiterque acuminatae, curvatae, antice bilobatae, connectivo postice vix gibbosulo; antherae epipetale lanceolatae, acutissimae, subfalcatae, basi breviter bilobae, connectivo postice basi gibboso, omnes fertiles, apice poro dehiscentes. *Ovarium* ad medium ope septorum 8 tenuium tubo adnatum, 4-loculare, vertice glabro crasso exsculpto coronula denticulata cincto, stylo longiusculo sigmatoideo, stigmatibus punctiformi. *Capsula* vertice concava, valvis 4 crista denticulata ornatis dehiscentibus. *Semina* minuta, oblique obverse pyramidata, testa tenui, raphi angusta; embryo rectus.—Frutex *undique dense hirsuto-tomentosus*. *Folia* petiolata, ovata, breviter acuminata, denticulata[^] 7-nerviis, transverse venosa. *Umbellae* terminatae, multiflorae.

C. purpurea, *Stapf* (*spec. unica*) | ramis ramulisque crassiusculis, hisce cum inflorescentiis saepe vivide purpurascens, foliis crassiuscule membranaceis, supra flavido-viridibus velutinis subtus canescentibus nervis saepe purpurascens, umbellis breviter vel longiuscule pedunculatis primo |alde contractis globosis tandem laxioribus, alabastris breviter conicis calycis lobis superatis vel subsuperatis, antheris majoribus purpurascens, minoribus flavis, capsula calyce diu persistente cincta tandem a medio libera.

HAB. British North Borneo: Maruda Bay, Tanjong Batu, Sandakan, *Governor Creagh*.

Folia 4-6i poll, longa, 3-4[^] poll, lata; petiolus 1-3 poll, longus. *Pedunculus* 1/2-1 poll, longus; pedicelli tandem ad 6 lin. longi. *Calycis* tubus 1 1/2-2 f lin. longus, lobi 1-1 1/2 lin. longi. *Petala* vix 2 lin. longa. *Antherae* majores 4 lin. longae, minores 2 lin. longae. *Capsula* matura 2 lin. longa, vix 2 lin. diam.

Creaghella is nearest allied to *Anerinclaistus*, although the unequal stamens and the strictly terminal inflorescence would bring it nearer to *Bredia*. The foliage closely resembles that of *Antrinclaistus Oriffithii*,

Hook, fil, which, however, has a very different inflorescence and flowers. The dense umbels, which in a young state form compact and often sessile balls, are quite singular in the Oxysporeae. The pedicels seem to grow longer only during anthesis; a portion of the buds or flowers dropping at the same time whence the inflorescence becomes considerably laxer. The capsule is at first enclosed in the subpersistent calyx; but as this finally decays and breaks away it becomes more or less exposed. In *Anerinckleistus*, on the other hand, the valves are exerted from the calyx as soon as the capsule is mature. The stamens are like those of *Bredia*, but the general habit of this genus is quite different. The beautiful purple colouring of the tomentum of the young branches, peduncles, inflorescences, and of the nerves of the leaves is very striking in some specimens, but quite absent in others.—0. STAPP.

Fig. 1. Flower-bud. 2. Expanded flower. 8. Fetal. 4. Large anther. 5. Small anther. 6. Immature capsule in longitudinal section. 7. The same seen from above. 8. Transverse section of ditto. 0. Mature capsule partly invested by the decaying calyx-tube. 10. Hair from the calyx. 11. Seed. *All enlarged.*



M S del. et lith

Baphia bomeensis, OUV

PLATE 2456.

BAFHIA BOBWEEWSIS, *Oliv.*

LEGUMINOSJE. Tribe SOPHOREJE.

B. borneensis, *Oliv.* (*sp. nov.*) 3 ramis teretibus, novellis fulvo- v. ferrugineo-tomentellis, foliis tenuiter coriaceis oblongo-ellipticis obtuse apiculatis apice costa saepius breviter mucronatim productis supra glabris subtus pnccipue in costa nervisque pubescentibus, floribus 4 8 aggre^atls fasciculato-racomosis racomis brovibus axillaribus vel supremis nphyllis racemoso-paniculatia, bractcolis parvis oblougis alabastro multo brevioribus, filamentis hirtis, ovario oblongo tomentoso, ovulis 7-10, stylo decurvo.

HAB. North Borneo : Limbang River, *Haviland* (No. 57), Sandakan, *Creagh*.

Folia tenuiter coriacea, minute reticulata, 3-4^ poll, longa, 1J-2 poll, lata; petioli 6-9 lin. longi; stipulse parvce, lanceolatae, caducoe. *Pedicelli* 6-10 lin. longi, pubescentes. *Bracteolce* patentes v. recurvee, 1-H lin. long*. *Calyx* spathaceo-fissus, per anthesin reflexus, apice ssepius 2-3 dentatus. *Vexillum* orbiculatum, vix unguiculatum. *Alee* oblique oblanceolatae, brevissime unguiculata?. *Carina* petala oblanceolata, obtusa, alis sequilonga, medio quasicohaerentia. *Antherce* lineari-oblonga?, basifixse. *Legumen* non vidi.

Hitherto, so far as I am aware, this genus, of which there are now at least ten described species, has been known solely from Tropical Africa and Madagascar: its extension eastward to Borneo is of considerable interest. The young legumes are usually deflected at about right angles to the pedicel.—D. OLIVER.

Fig. 1. Calyx and genitflia. 2. Standard. 3. Wing-petal. 4. Keel-petal. 5. Section of pistil. *All enlarged.*



M. S. del. et lith.

Lithospermum hancockianum, 01 IV.

PLATE 2457.

LITHOSPEBMUM HANCOCKIANUM, *Oliv.*

BORAGINEJS. Tribe BORAGEJS.

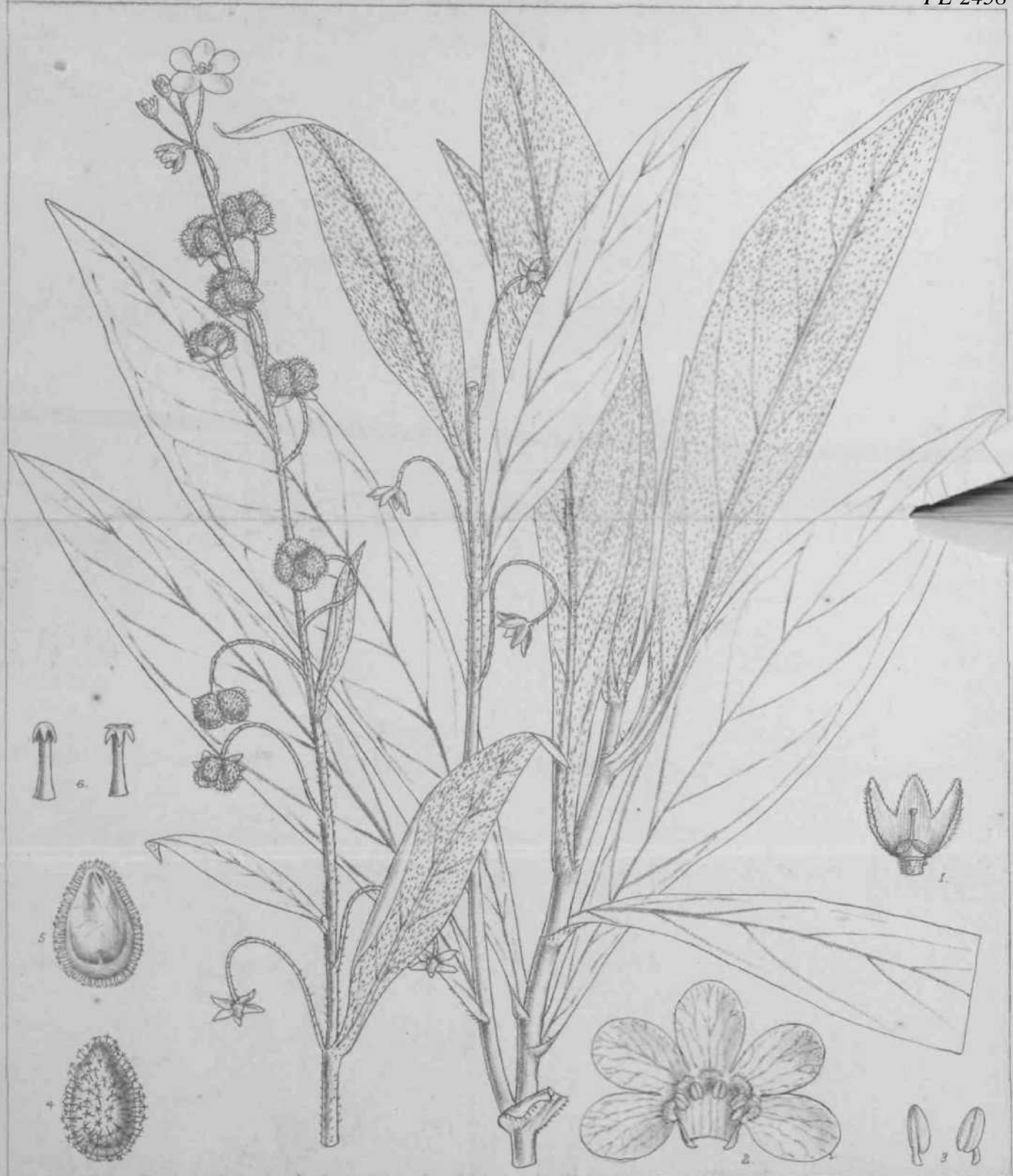
L. hancockianum, *Oliv. (sp. nov.)*; frutex caulibus dense foliosis internodiis omnino obtectis, foliis patentibus deflexisve anguste ovali-linearibus acutis basi in petiolum vaginantem leviter aut vix angustatis supra nitidulis setulis albidis rigidis arete appressis conspersis subtus molliter argyreo-tomentosis, cymis racemiformibus axillaribus bracteatis plurifloris, bracteis lineari-lanceolatis, pedicellis calyce multo brevioribus, corollae hypocrateriformis tubo calyce 2-3-plo longiore lobis limbi obovato-rotundatis, fauce nuda, puberula, antheris inclusis fere ad apicem tubi insertis, nuculis (juvenilibus) oblique ovoideis parce hirtis.

HAB. China: Mongtse, Yunnan, Limestone crags at 6000 ft.; observed at one spot only, *Hancock* (No. 28).

Folia 3[^]-5 poll, longa, 3-4 lin. lata. *Braeteae* 6-9 lin. longae. *Calyx* 5-partitus, segmentis linearibus subsequilongis erectis. *Corolla* tubus cylindricus, superne leviter gradatim dilatatus, 10-12 lin. longus; limbus caesius $\frac{1}{2}$ -1 poll. diam. *Antherae* oblongae, inappendiculatae. *Stigma* capitellatum, bilobulatum.

This fine addition to a widespread and familiar genus in habit reminds one of the South European *L. rosmarinifolium*, of which it may be regarded as a glorified representative, worthy of the Celestial Empire, as well as worthily commemorating the important service rendered to our knowledge of the botany of China, which we owe to Mr. Hancock.—D. OLIVER.

Fig. 1. Pistil and part of calyx. 2. Corolla-tube laid open. *Both enlarged.*



M. S. del. et lith.

Cynoglossum trianaeum, Wedd.

PLATE 2458.

CYNOGLOSSUM TRIANJEUM, *Wedd.*

BORAGINEÆ. Tribe BORAGES.

C. trianaum, *Wedd. Chloris Andina*, ii. 90; caulo florifero erecto folioso inferne glabrato, foliis elongato-ovalibus basi in petiolum alatum semiamplexicaulem angustatis inferioribus plus minus decurrentibus apice acuminatis supra margine excepto glabratis subtus appresse strigosis, racemis ssepe simplicibus inferne bracteatis elongatis laxis, floribus longiuscule pedicellatis, pedicellis demum infra apicem recurvis ebracteatis v. inferioribus extra-axillaribus, calycis strigosi segmentis ovatis, corollae tubo calycem subrequante limbo quam tubo longiore, profunde 5-fido segmentis obovato-rotundatis, fornicibus brevibus obtusis, nuculis dorso undique glochideo-echiuatis.

HAB. South America : Colombia and Ecuador, in various localities at an elevation of 9000-10,000 feet, *Triana*; *Purdie*; *Spruce*; *Jameson*; *Goudot*; *White*.

Herba 1-2-pedalis. *Folia* cum petiolo alato 4-8 poll, longa. *Racemi* terminales v. laterales; pedicelli fructiferi 1-1½ poll, longi. *Flores* 4-6 lin. diam., 'pterulei fauce lutescentes*' (*Spruce*); 'pallide violacei roseo tincti' (*White*). *Fructus* maturus | poll. diam.

A number of specimens of this plant have been many years in this herbarium without specific determination, but a pencil-note in the handwriting of the late Mr. Ball suggests comparison of this plant with the *Cynoglossum* described above; and I think there can be no doubt of the identity of our specimens with the plant described by Dr. Weddell, as pointed out to me by Mr. C. H. Wright, of the Herbarium staff. It is interesting as presenting much in common with well-known species of the Old World to which it would seem to be more nearly allied than to species known to us from North or South America.—D. OLIVER.

Fig. 1. Pistil and part of calyx. 2. Corolla laid open. 3. Views of anther. 4. Nutlet, dorsal view. 5. Inner face of the same. 6. Stellate appendages of nutlet. *All enlarged.*



M. S. del. et lith.

Carat ia1bo:'ne'nsis, Oliv.

PLATE 2459.

CARALLIA BORNEENSIS, Oliv.

RHIZOPHORKJE. Tribe LEGXOTIDEA.

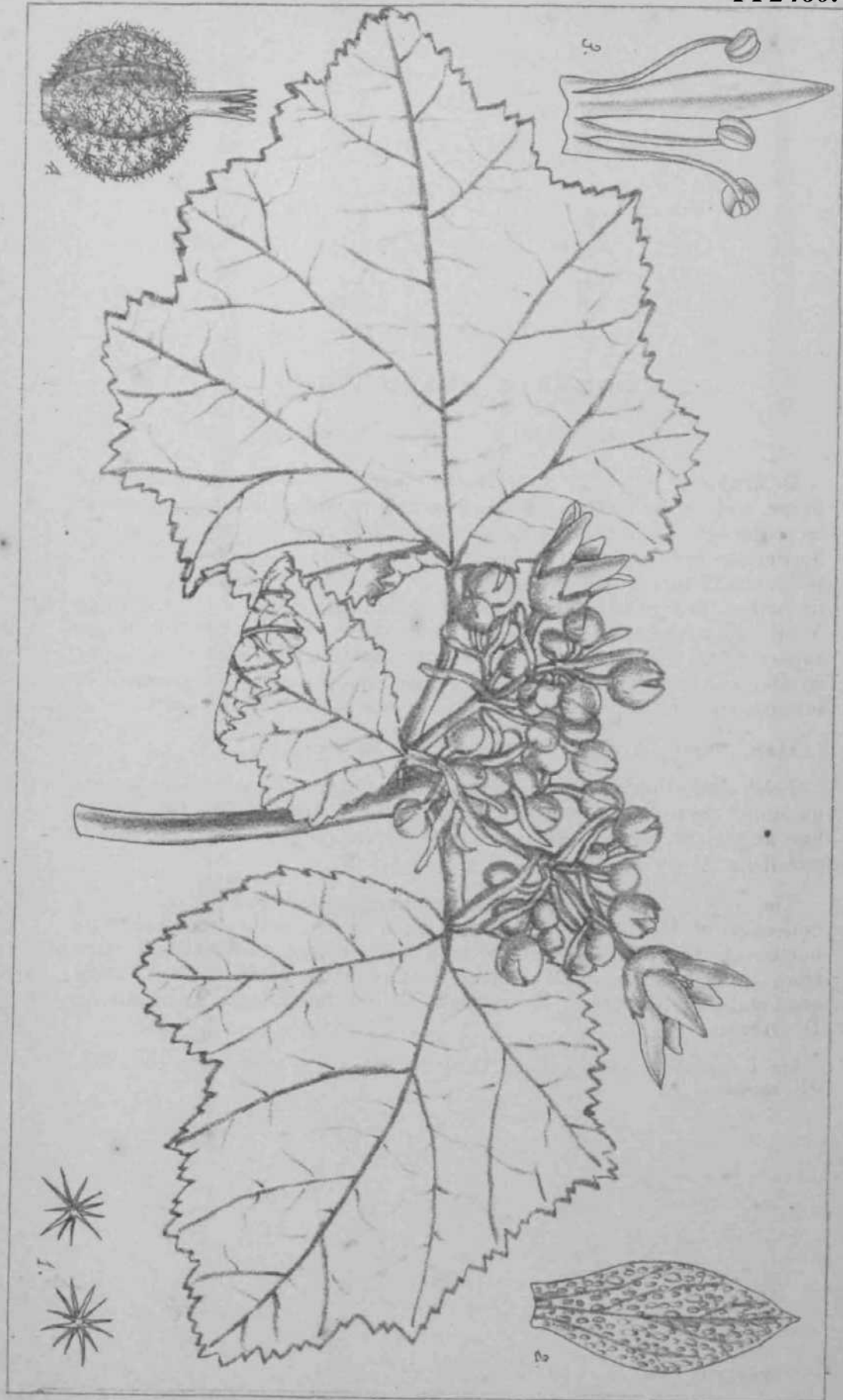
C. borneensis, Oliv. (*sp. nov.*); foliis ellipticis breviter cuspidatis supra medium obscure serrulatis, glaberrimis nervis primariis utrinque 7-9, cymis paucifloris (sepius 3-floris) in axillis foliorum superiorum pedunculatis, floribus breviter pedicellatis, calycis campanulati 6-fidi lobis ovato- v. deltoideo-lanceolatis acutis erectis, petalis calycem paulo superantibus late unguiculatis, lamina subreniformi v. late deltoidea plus minus fimbriata basi utrinque auriculata auriculis arete inflexis conduplicata stamen antepositum amplectente, staminibus biseriatis atque petalis extra discum camosum sulcatum omnino positis, ovario omnino infero G-loculare (v. dissepimentis interdum tenuissimis v. imperfectis), ovulis 12 geminatim circa axin dispositis.

HAB. North Borneo : East coast, *Creagh* ; Labuan, *Motley*.

Folia 2½-3 | poll, longa, 1-2 } poll, lata, epunctata; petiolus 3-4 lin. longus. *Stipula** 4-5 lin. longis, lanceolate, caducae. *Flores* 3 lin. diam. *Antherce* parvæ, ellipticæ, inappendiculatæ, dorso affixæ. *Stylus* simplex, petala superans ; stigma terminate, capitellatum.

The above description rests upon excellent specimens presented by Governor Creagh. Mr. Motley's specimens I believe to be identical. The leaves of the latter are irregularly and darkly blotched on the under surface. Those of *Carallia celebica*, Blume, with which Mr. Bentham identified Mr. Motley's specimens in his 'Synopsis of Legnotideae' (*Journ. Linn. Soc.* iii. 75), are pretty uniformly black-punctate. His identification, now that we possess the type, unknown to Mr. Bentham, I cannot coincide in on other grounds. Blume's *C. multijlora*, moreover, from Borneo, if rightly represented by a garden specimen determined by Miquel, is a different plant from the present. The cymes in *C. borneensis* all arise from the axils of the uppermost pair of leaves only, and so are quasi-terminal.—D. OLIVER.

Fig. 1. Part of inflorescence with an expanded flower. 2. Vertical section of a flower. 3. Petal. 4. Views of anther. 5. Ovary in cross-section. All enlarged.



M.S. del. et lith.

Domb'eya arabica, Baker

PLATE 2460.

DOMBEYA ARABIC A, *Baker.*

STEBCULIACEJE. Tribe DOMBEYEA.

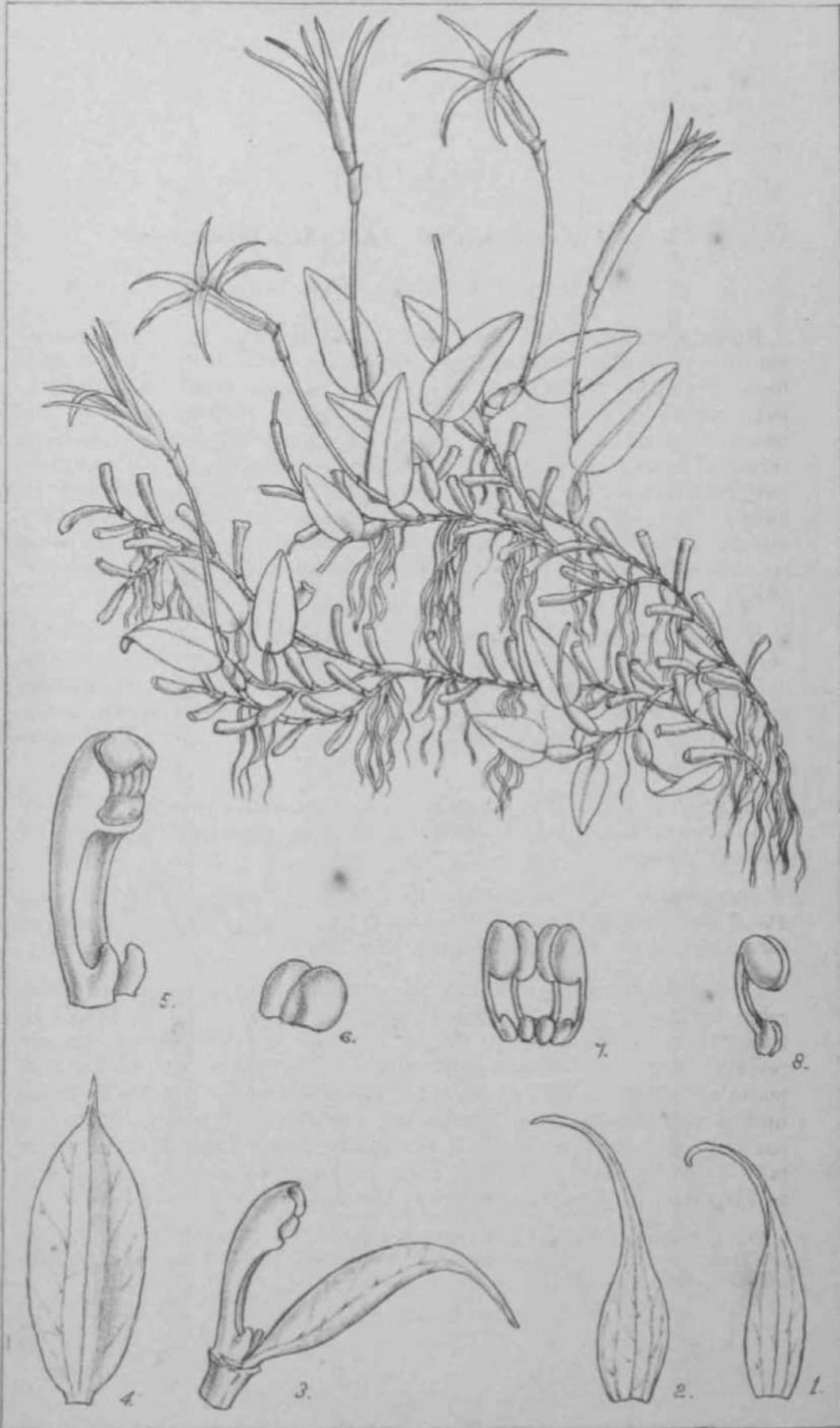
D. arabica, *Baker in Kew Bulletin*, 1895, 315 ; novellis foliisque dense stellato-tomentosis, foliis cordatis repando-lobatis inaequaliter eroso-dentatis subtus prominenter quinquenerviis lamina in ramulis floriferis petiolo longiore, inflorescentia in axillis superioribus breviter pedunculata dense tomentosa, cymis irregulariter fasciculatis, bracteis linearibus, pedicellis inferioribus alabastris longioribus, calycis profunde 5-fidi segmentis ovato-lanceolatis acuminatis, petalis calycem duplo superantibus ellipticis apice plus minus caudato-acuminatis, staminibus, circiter 15 basi brevissime coalitis glabris, staminodiis anguste ovalibus integris stamina superantibus, ovario globoso stellato-tomentoso.

HAB. South Arabia : Hadramaut, *Dr. Hiraeh* (No. 170).

Folia synanthia 2|-3£ poll, longa atque lata. *Inflorescentia* petiolo longiore. *Bracteolae* calyce dimidio breviores, lineari-lanceolatae. *Petala* basi angustata, fere sequilatera. *Antheras* rotundatae, dorsifixae, loculis parallelis.

The only specimen seen by us, and here figured, was included in a collection of Hadramaut plants entrusted by Dr. Schweinfurth to this herbarium for comparison with collections recently received at Kew from other sources. The flowers, unfortunately, are not in a very good state for analysis. The stipules also I must leave uncertain.—
D. OLIVER.

Fig. 1. Stellate hairs of leaf. **2.** Fetal. **3.** Stamens and staminode. **4.** Pistil.
All enlarged.



MS del. et lith.

Homaltopelma jamaicense Rolfe.

PLATE 2461.

HOMALOPETALUM JAMAICENSE, *Rolfe*.

ORCUIDE.E. Tribe EPIDENDREA.

Homalopetalum, *Rolfe* (*gen. nov.*). *Sepala* aequalia, libera, conniventia. *Petala* sepalis conformia, tequalia. *Labellum* petalis subconforme, liberum, indivisum. *Columna* clavata, semiteres, incurva, basi utrinque in auriculas falcato-oblongas producta, apoda, clinandrio warginato, rostello ovato-oblongo descendente. *Anthera* terminalis, opercularis, convexa, loculis 2 distinctis, septo longitudinali imperfecte 2-locellatis; pollinia perfecta 4, cerea, per paria in loculis segregata, parallele compressa, appendiculis lineari granuloso-viscosis a basi marginibus applicita connexa, additis in quoque loculo polliniis 2 parvis v. imperfectis, ab apice appendicularum descendentibus.

H. jamaicense, *Rolfe* (*sp. unica*); rhizomate repente, pseudobulbis oblongis v. obovato-oblongis truncatis monophyllis, foliis sessilibus oblongis y. ovato-oblongis subobtusis carnosis, pedunculis terminalibus gracilibus, bracteis tubuloso-spathaceis subacutis carinatis, sepalis petalisque lineari-lanceolatis acuminatis concavis, labello subconformi marginibus involutis, disco laevi.

HAB. Jamaica : Blue Mountains, in woodland, above Abbey Green coffee plantation, at 4000-5000 ft., growing sparingly on trunks of trees, *W. Harris*.

Pseudobulbi 2-3 lin. longi. *Folia* 4-6 lin. longa, 2-2½ lin. lata. *Pedunculi* 1 poll. longi. *Bracteae* 1 lin. longae. *Sepala*, *petala* et *labellum* 6-7 lin. longa. *Columna* 2 lin. longa.

A remarkable little plant with creeping rhizomes, but in other respects closely resembling the Brazilian *Pinelia hypophyta*, Lindl., in habit. The structure of the flower, however, is quite different, the six perianth segments being nearly alike in shape, and the anther and pollinia almost as in *Tetramicra*. The staminodes, instead of being united with the median petal and forming the side lobes of the lip, are partially united to the base of the column, where they form a pair of falcate-oblong, erect auricles or teeth. The genus may be placed next to *Tetramicra*. The name refers to the similar perianth segments.

Fig. 1. Sepal. 2. Petal. 3. Lip and column. 4. Lip flattened out. 5. Column still more enlarged. 6. Anther-cap. 7. Group of pollinia. 8. One pair of pollinia. *All enlarged.*



M.S. de. et. h. 0.

El3socarpus hamanensis, O liv.

PLATE 2462.

EL2E0CABPUS HAINANENSIS, *Oliv.*

TiLiACEiE. Tribe ELJEOCARPE^.

E. (Monocera) hainanensis, Oliv. (sp. nov.); arbuscuia glabrata foliis apices ramulorum versus aggregates anguste ovalibus acutis basi in petiolum gradatim angustatis serrulatis, racemis axillaribus folio brevioribus ssepius 2-3-floris conspicue bracteatis, bracteis sessilibus ovatis parce serratis persistentibus, pedicellis longiusculis brae tea 2-4-plo longioribus, sepalis anguste lineari-lanceolatis acuminatis atque petalis cuneato-obovatis multifidis fere sequilongis, toro incrassato tomentello, antheris apice longe aristatis, ovario 2-loculare, fructibus elongato-ovalibus lsevibus apice productis 1 -spermis.

HAB. China: Island of Hainan, *A. Henry* (No. 11); Chinese collector employed by *C. Ford* (No. 439).

Rami teretes, glabrescentes. *Folia*, 3-4| poll, longa. f-1 poll, lata; petioli 6-9 lin. longi. *Bracteae* 4-6 lin. longae. *Pedicelli* 1-1 £ poll, longi. *Flores* || poll, diaxn. *Sepala* 9 lin. longa. *Petal a* inferne extus sericea, intus basi tomentosa. *Stamina* tilamentis brevibus, arista terminali loculis sequilongis. *Fructus* 1-1^ poll, longus, 4-6 lin. diam.

A very interesting addition to this large genus; allied to *E. Master8ii*, *Pierre*. Singular in the very few flowers in the racemes and the conspicuous, more or less persistent leafy bracts.—D. OLIVER.

Fig. 1. Petal. 2. Stamen. 3. Pistil. 4. Cross-section of ovary. 5. Seed. All except 5 enlarged.



M.S. del. et lith.

Pterygiella nigrescens, Oliv.

PLATE 2463.

PTERYGIELLA NIGRESCENS, *Oliv.*

SCROPHULARINEJE. Tribe EUPHRASIES.

Pterygiella, Oliv. (gen. nov.) Calyx ebracteolatus, campanulatus, 5-fidus, lobis deltoideo-ovatis acutis, aestivatione reduplicato-valvatis. Corolla bilabiata, subpersonata, calycem superans; labio postico concavo v. subgaleato, apice emarginato, marginibus revolutis; labio antico 3-lobo, lobis rotundatis, subsequalibus, palato bifido tomentello; tubo subtus plicatim bisulcato. Stamina 4, inclusa, infra medium corolla inserta; filamenta inappendiculata, glabra; antherse biloculares, laxe inolliter pilosie, loculis parallelis basi obscure mucronulatis. Ovarium, ovoideum, biloculare, loculis inaequalibus, ovula numerosissima; stylus longiusculus; stigma oblique inaequaliter bilobatum. Capsula (in spec, unic.) nondum maturata.—Herba erecta, parum ramosa, caulis fusco-puberulo, anguste quadrialato. Folia linearia, acutiuscula, Integra, patentia, plus minus puberula v. primum rubiginosotomentella. Flores in racemos terminales dispositi, brevissime pedicellati, bracteati; bracteae lineares, calyce breviores.

P. nigrescens, Oliv. (p. unica).

HAB. China: Mountain wastes, Mongtse, Yunnan, *Hancock*.

Herba 1^{^-}2-pedalis. Folia | -1 poll, longa, 1-1[^] tin. lata. Calyx semipollicaris, lobis intus pubescentibus extus parce puberulus. Corolla 9-10 lin. longa, limbo extus parce hirtello. Stamen posticum 0. Ovarium atque stylus pubescens.

A very interesting addition to a group of *Euphrasies* already represented in Eastern Asia by a few peculiar endemic forms, to none of which does our plant seem to me to be generically related. Mr. Hancock describes the flowers as lurid brown. The whole plant, like some of its allies, becomes dark in drying. In aestivation, so far as I am able to make out, the lateral margins of the upper tip of the corolla are narrowly overlapped by the lateral lobes of the lower lip, the median lobe of which is interior.—D. OLIVER.

Fig. 1. Part of calyx and pistil. 2. Corolla laid open. 3. Views of anther. 4. Cross-section of ovary. All enlarged.



M. S. del. et lith.

Dicellaema quinquenervia, Baker.

PLATE 2464.

DICOMA QUINQUENERVIA, Baker.

COMPOSITE. Tribe MUTISIACEJE.

D. quinquenervia, Baker in *Kew Bulletin*, 1895, 290; herba perennis, caule erecto simplice striato primum parce lanuginoso mox glabrato, foliis anguste ovalibus utrinque angustatis acutis basi caulem longe \aginantibus integris v. obsolete denticulatis 5-7-nerviis supra glabris reticulatis subtus appresse argyreo-lanatis, capitulis, majusculis subsessilibus 5-8 apicem versus caulis aggregatis, involucri albidi campanulato-turbinati squamis rigidiusculis glabris laxe adpressis exterioribus brevioribus et intermediis elongatis disco dimidio longioribus omnibus linearibus gradatim graciliterque acuminatis interioribus brevioribus absconditis disco brevioribus lineari-oblongis acutatis, receptaculo foveolato.

HAB. South Tropical Africa: hills near the Chama River, Mwero, west of Lake Tanganyika, Carson.

Caulis bipedalis, strictus. *Folia* coriacea, inferiora recurva v. **patentia, superiora stricte erecta, cum vagina cylindrica 5-8 poll. longa, inferiora $\frac{3}{4}$ -1 $\frac{1}{2}$ poll. lata. Capitula homogama 1 $\frac{1}{2}$ poll. diam. Involucri squamæ intermediæ longiores, 1 $\frac{1}{4}$ -1 $\frac{1}{2}$ poll. longæ. Corolla tubulosa, 5-fida, segmentis linearibus. Antherce apice connectivo lineari-oblongo acuto products, basi longe sagittate, caudis setis adscendentibus instructis. Ovarium sericeum. Pappus 2-4-seriatis; setae exteriores breviores, interiores corollæ fere aequilongae, sparse plumosae.**

A very fine addition to the genus* conspicuously different from a few species which resemble it at first sight in its deeply sheathing leaves. The capitula in size and disposition on the stem are similar to those of *D. sessiliflora*, Harv.—D. OLIVER.

Fig. 1. Inner bract of involucre. 2. Flower. 3. Pappus-bristle. 4. Anthers. 5. Young stigma. *Ml* enlarged.



US-d* et. hth.

Penladesma butyracea. Sabine

PLATE 2465.

PENTADESMA BUTYRACEA, *Don.*

GUTTIFERJS. Tribe MORONOBEA.

P. butyracea, *Don, Gen. Syst.* i. 619; foliis coriaceis nitentibus petiolatis oblongo-ellipticis oblongis v. oblanceolatis breviter acuminatis v. obtusiusculis, venis primariis numerosis parallelis, floribus amplis speciosis ad apices ramulorum (3-5-7) aggregatis, pedicellis validis Siepius decurvis, sepalis 5 coriaceis 2 exterioribus brevioribus ovatis 3 interioribus petala requantibus ellipticis, petalis oblique obovatis basin versus incrassatis, ^taminibus indetinitis 5-adelphis, filamentis mox liberis gracilibus, superne in connectivo leviter incrassatis, antheris adnatis 2-locularibus elongatis loculis angustissimis, ovario ovoideo in stylum validum sequilongum apice 5-lobatum angustato, ovulis in loculo plurimis superpositis, baccis magnis corticosis ovoideis oligo- v. polyspermis.—OLIVER, *Fl. Trop. Aft.* i. 164.

HAB. W. Tropical Africa: Sierra Leone, southward to the equator, *various collectors.*

Arbor 30-70 pedalis, glaberrima. *Folia* 5-8 poll, longa v. in ramis sterilibus 10-12 poll, longa, 1 }-2| poll, lata; petiolus 3-9 lin. longua. *Floret* 3-4 poll. diam.; sepala exteriora 1J-1J poll, longa; petala 2 poll, longa; stamina petala aequantia; ovarium 9 lin. longum. *Bacca* ad 6-poll. longa, 4-5 poll. diam.

This is the 'Butter and Tallow' tree of Sabine's paper on the 'Edible Fruits of Sierra Leone' in the *Transactions of the Horticultural Society*, v. (1824), 457; the 'Kanya*' of Prof. E. Heckel in his monograph, *Les Kolas Africains*; and the 'Kamoot' tree of the Rev. J. A. Cole, whose excellent specimens in flower, received from the Colonial Secretary of Sierra Leone, are just to hand, and which, with previous material, enable us to give a satisfactory figure of the plant in flower. At the time I described the Guttifere for the *Flora of Tropical Africa* our material as to the flowers and inflorescence was very imperfect, and, quoting a previous writer, I described, in inverted commas, the flowers as 'terminal, solitary'.¹ The fruit, on a reduced scale, a seed and leaf, with some microscopical sections of tissues, are figured by Heckel (/c). The seeds vary in form considerably from mutual pressure as well as in number; indeed, from one or two to an indefinite number; the ovules are, of course, numerous. The fatty matter contained in the seeds affords the vegetable 'Butter,' *beurre de Kanya* of Heckel. - D. OLIVER.

Fig. 1. Stamens. 2. Vertical section of pistil and lower part of andracium. 3 and 4. Sections of the ovary at different levels, the latter the higher. 5. Seeds. *All exctpt 5 enlarged.*



M.S. de laeth

Ischnochloa Paleonem, Hook. f.

PLATE 2466.

ISCHNOCHLOA PALCONERI, Hook./.

GRAMINEAE. Tribe AXDEOPOCONEE.

Ischnochloa, Hook. f. (*gen. nov.*) *Spiculae* minimae, uniflorae, per
 paria in spicam terminalem simplicem dispositae, ambae herm-
 datae, aristatae, altera sessilis callo ciliolato, altera
 compressa 5-6-lin. nervis, apice truncata, hyalina, marginibus incurvis,
 carinis ciliolatis; ii. oblonga, obtusa, truncata, 3-nervis, apicem versus
 truncatum ciliata; iii. brevior et angustior, hyalina, 2-loba, lobis subu-
 latis; arista sinu glumae inserta, capillaris, geniculata, exserta.
Lodiculae 2, cuneatae. *Stamina* 3, antheris oblongis. *Styli* breves,
 liberi, subfusiformis, facie sulcata.—
 Gramen filiforme, caulis elliptico-
 oblonga, vaginae breves; ligula brevis, membranacea,
 longe pilosa. Spiculae gracillimae, pauciflorae, pedunculis vaginis foliorum
 inclusis; rachis filiformis, compressa, marginibus incrassatis, inarticu-
 lata. Spiculae virides, remotae.

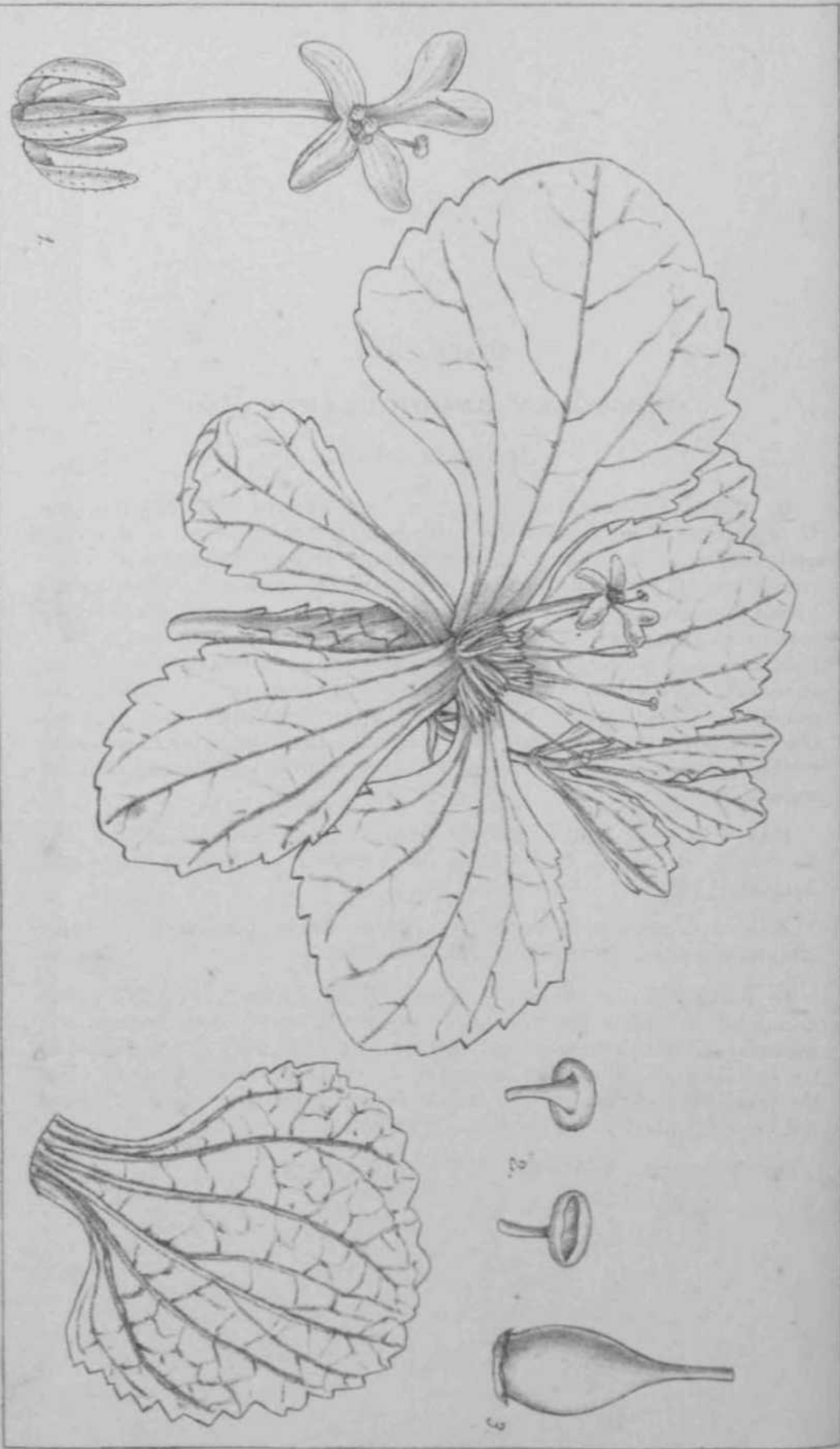
S. Falconeri, Hook. f. (*p. unica).

HAB. Xorth. We. stem Hi, nalaja, growing amongst moss, Falconer.

Caulis 6-8-poll. caeres, subramosi, undique foliosi **Bhli**
 longa plana acuta v. acuminata, nervis nuib. IU a 3-9 lin.
 i-1 poll. long. pedunculo capillari. **GluZ** i. nW ?ft " sulcatis.
 perous, ceteris infra apio^, lI, p evanidis; ii \, tS N lateralibus
 ra apicem glum* cum intermetlio ««-«.««-.*- ' _ teralibus
 ntibus.

A very remarkable grass, with the habit of an *Arthm*, strongly
 memUug 4. *microphyllus*, but differing totolW fTM ^o ? grass
 structure and in the inarticulate flattened X' e ? a*
 in the bisexual awned pedicelld i k d ra ^ of the simple spike,
 flUll e rf that genus, j E S Z ^ and in the absence of the third
 any note of locality, which is presumably the North-western
 ra, where Dr. Falconer travelled extensively and collected
 J. D. H.

* Fig. 1. Ligula. 2. Portion of spike with sessile and pedicelled spikelets. 3. Glume i. of sessile spikelet spread out. 4 and 5. Glumes ii. and iii. of ditto. 6. Anther. 7. Ovary and lodicules. All enlarged.



M.S. del. et lith.

Oreosolen unguiculatus, Hemsl.

PLATE 24G7.

OREOSOLEN UNGUICULATUS, *HemsL*

SCBOPHULARINEJS.

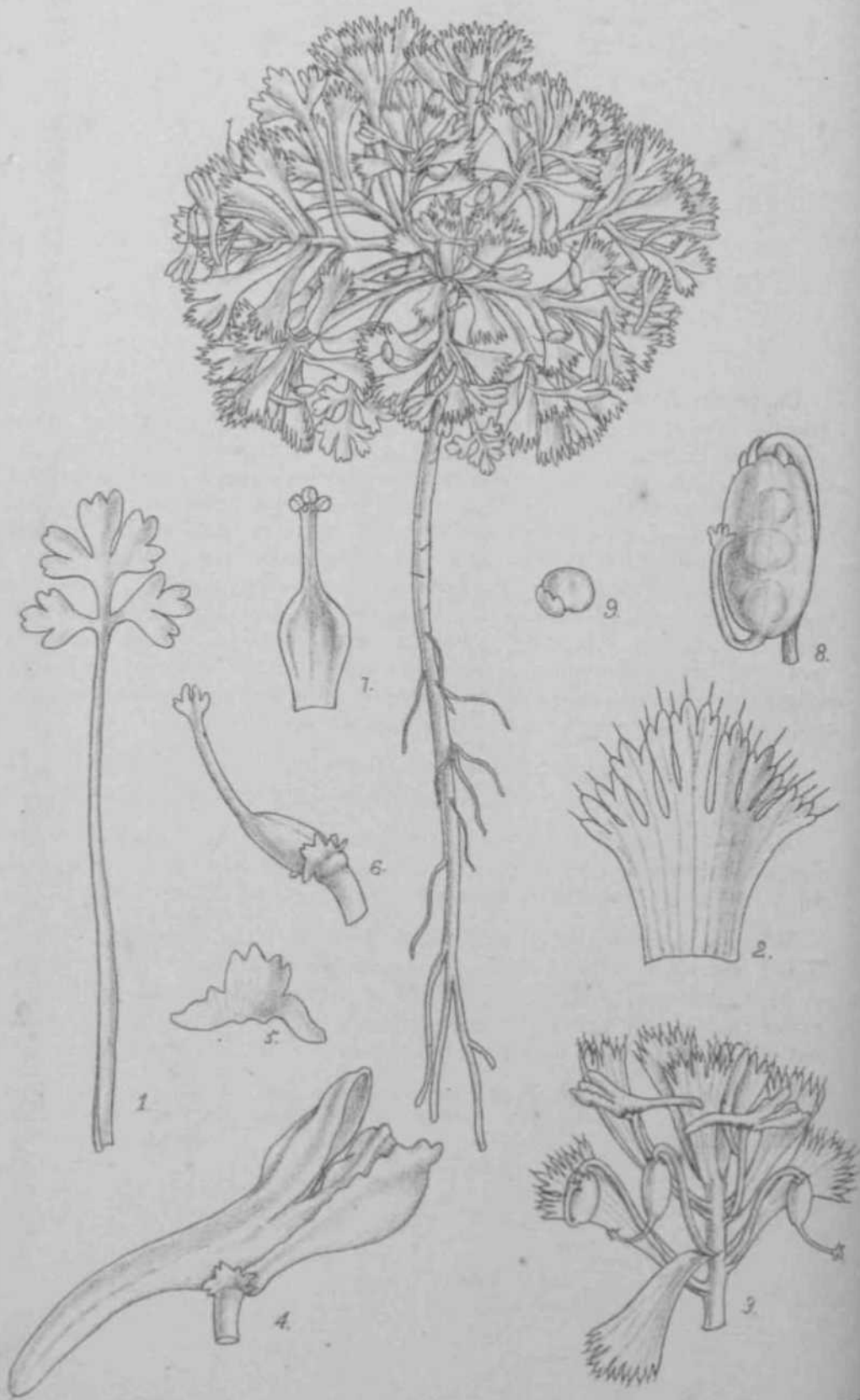
O. unguiculatus, *ffemsl.* (*sp. nov.*); species habitu foliisque *O. Wattii* simillima sed corolla valde inaequaliter bilabiata sat diversa; glabrescens, subacaulis, foliis subrosulatis crassis subcarnosis ovato-rotundatis vel fere orbicularibus inferne subito constrictis subpetiolatis grosse crenato-dentatis a basi 5-7-nervis nervis venisque crassis laxe reticulatis subtus praesertim conspicuis, floribus paucis in axillis foliorum subsessilibus, calycis segmentis brevibus fere liberis lineari-oblongis subacutis, corollae tubo gracillimo vere cylindrico labio superiore unguiculato bitido labio inferiore aequaliter trilobato lobis angustis oblongis obtusis, staminibus 4 vix exsertis, staminodio brevi subulato e labio superiore prope sinum enato, ovario glabro stylo filiformi stamina superante.

HAB. Central Tibet: chiefly from Gooring Valley, 30° 12' N., 90° 25' E, at about 16,500 feet, *St. George R. LMedale*, July and August 1895.

Folia maxima 2 poll, diametro. *Flores* circiter pollicares. *Corolla* labium superius inferius fere duplo superans.

In foliage this is so like *O. Wattii*, Hook. f. (see plate 2271), that it might be taken for the same, especially as of both species the material for comparison is very scanty. But the very unequal lips of the corolla and the almost included stamens are very different. Yet the possibility of their being sexual forms of the same species should not be overlooked.—W. BOTTING HEMSLET.

Fig. 1. A flower. 2. Anthers. 3. Ovary. *Ml* enlarged.



M.S. del. et lith.

Corydalis Boweri, Hemsl.

PLATE 2408.

CORYDALIS BOWEII, *Hemsl.*

FCMABIACI.E.

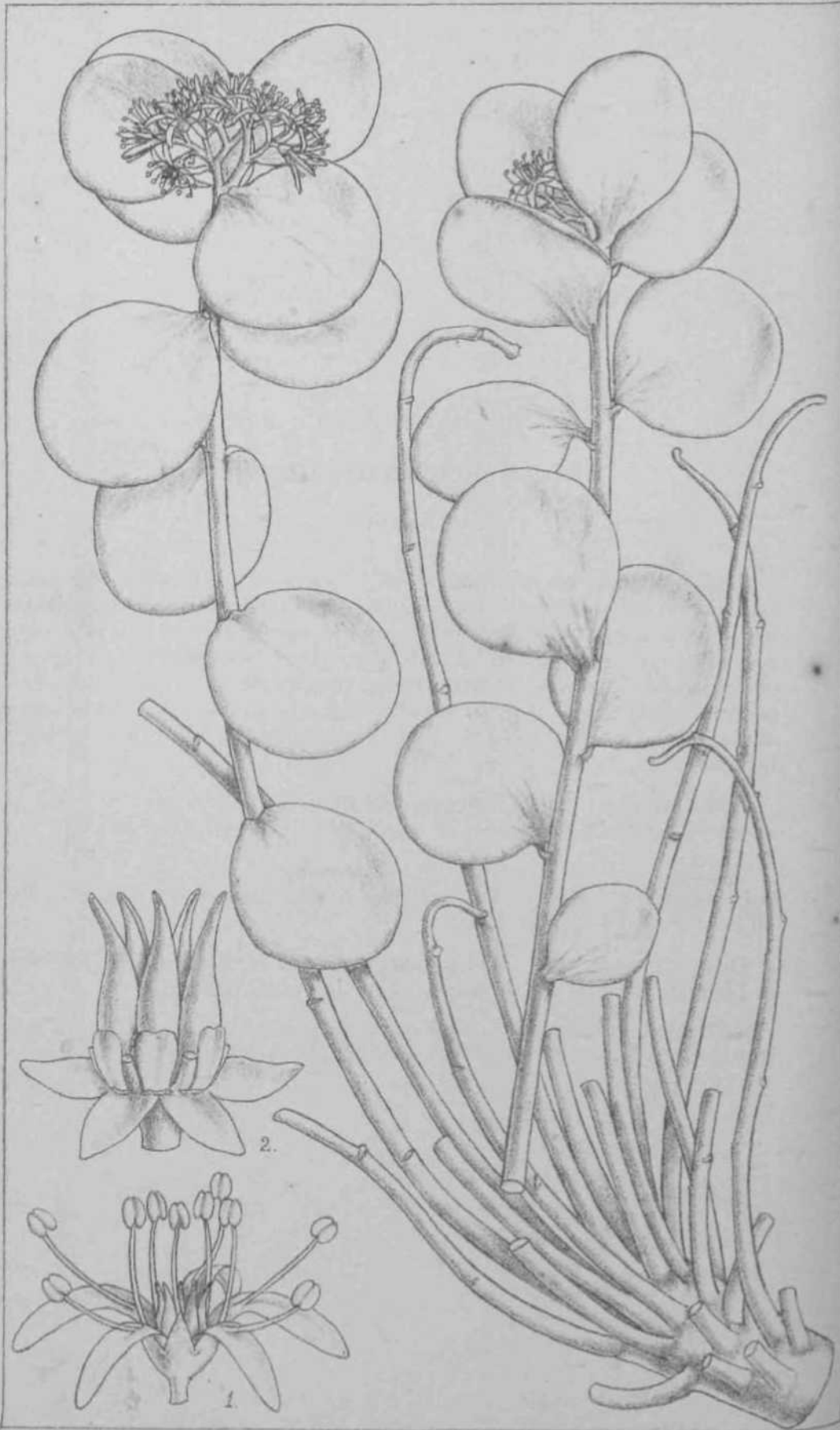
Corydalis Boweri, *Hemsl. in Journ. Linn. Soc.* xxx. 108 ; cespitosa, pusilla, undique glabra, caule dense muoso, foliis radicalibus longe]» tiolatis bi-ternatisectis segmentis ultiinis integris vel einarjrinatis, foliis caulinis spathulato-tlabellatis multilobulata vei alte fimbriatis lobulis angustibi apice seta longiuscula instructs, bracteis foliis simil- Hmis sed ruinoribus, fioribus minutis breviter **pedicellatft**, aepalia HHiutU in;vijualiter trilobulatis lobo intermedio irregulariter pa<ci- dentato, petalo inferiore anguste cochleariformi, petalis lateralibus spathulatis cum su peri ore alte comiatis, calcart lato obtuso quam lamina longiore, stainiDum adelpbia infra medium subho tliktntia ovarium amplectentibus, ovano 4 ovulato stylo stamina **aaquite** stigmatate trilobate, eapsula oblongo-cylindrica stupiua 4-sperma pt dun- culo arete recurvo stylo persistente capsula* arete **reenrvo**.

HAB. Central Tibet: Gooring Valley, 30° 12 \., 00= 2o' E-, at about 16,500 feet, *SL Ueorge R. Littledale*, July and August 1695.

Herba 1-2 poll. **FoRa radicalia** cum petiolo eJongato 12-IS lin. longa ; caulina 4-12 lin. longa. *Flares* circiter 4 lin. longi. *Capvula* 1½-2 UD. longa. *Pedvcelli* fruetiferi c-in-iter li poll, longi

Whan I first described this plant (*Jovm, {',»,>. Soc.* xxx. 108) I noted its close affinity ivith *C mttcroiifera*, Maxim. (*Fl. Tang*, i, P- 51, t. 24, tigs. 19-21), and further investigation inclines me to the In-lief that it will prove the same, though the details of the flower are not the same as those given by Maximowicz.—NV. BOTTIN<; HEMSLEW

fig. 1. Radical leaf. 2 t*pp*r part of rauline leaf. 3. llranch. 4. **Flos**er. *• Sepal. 6. Calys and pistil. 7. Phalange of si&mens. 8. **Caftoln.** \$. **S**eed. *MI mfargrd.*



Sedum rotundatum. Hem si

PLATE 2469.

BEDUM ROTUNDATUM, *Hemsl*

CRASSULACEJE.

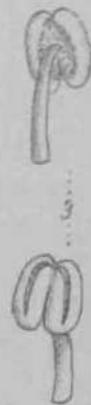
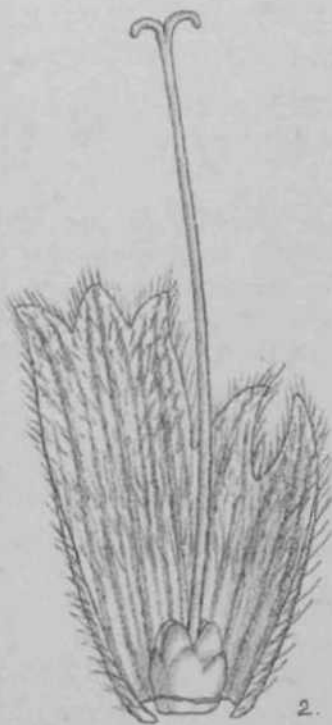
S. (§ *Bhodiola*) rotundatum, Hemsl (*sp. nov.*); glabrum rhizomate crassissimo colorato multicauli, caulibus subcarnosis erectis simplicibus, internodiis quam folia brevioribus, foliis sessilibus carnosis oblongo-rotundatis vel interdum vere orbicularibus integris vel interdum obscurissime lobulatis, cymis parvis paucifloris, floribus (masculinis tantum visis) rubris parvis, sepalis carnosis brevibus ovato-oblongis obtusissimis, petalis linearibus obtusis, filamentis filiformis, carpellis fatuis validis.

HAB. Central Tibet: Goring Valley, 30° 12' N., 90° 25' E, at about 16,500 feet, *St. George & Littledale*, July and August 1895.

Rhizoma 1 poll, crassum. *Caules* circiter 6 poll. alti. *Folia* i-1 poll, diametro. *Cymae* fl. masc. vix 6 lin. diametro. *Sepala* 1 lin. longa. *Petala* 2-2¹/₂ lin. longa.

This is most nearly allied to *Sedum Bhodiola*, from which it differs in having orbicular entire leaves.—W. BOTTING HEMSLET.

Fig. 1. Flower, enlarged. **2.** The same from which the petals and stamens have been removed, much more enlarged, showing the glands and empty carpels.



M.S. del. et lith.

Isfepeta decolorans, Hem3¹.

. PLATE 2470.

NEPETA DECOLOEANS, *Hemsl*

LABIATE. Tribe NEPETEJE.

N. decolorans, *Hemsl.* (*sp. nov.*); fere omnino sericeo-hirsuta, albida, caulibus brevissimis adscendentibus, internodiis 2-3 inferioribus folia excedentibus, foliis radicalibus non visis, caulinis crassis mollibus rugosis venis crassis conspicuis brevissime petiolatis vel sessilibus rotundatis interdum fere orbicularibus grosse crenatis basi nunc subcuneatis nunc subcordatis inferioribus minoribus distantibus superioribus floralibus majoribus confertissimis, pedunculis subtrifloris pedicellisque brevissimis, bracteolis setiformibus, calyce intus extusque villosus insigniter bilabiato, labio superiore dimidio longiore brevissime tridentato, inferiore bifido dentibus omnibus acutis, corollae labio superiore bilobato lobis rotundatis, labii inferioris lobis lateralibus dentiformibus, staminibus 2 posterioribus longioribus labium sequantibus, 2 anterioribus viz e tubo exsertis, nuculis glabris oblongis.

HAB. Central Tibet: Goring Valley, 30° 12' N., 90° 25' E_M at about 16,500 feet, *St. George Littledale*, July and August 1895.

Caules 2-3 poll, longi. *Folia* caulina inferiora 2-4 lin. diametro, maxima 1 poll, diametro. *Calyx* circiter 4 lin. longus. *Corolla* 8-9 lin. longa.

This closely resembles *N. pharica*, Frain (*Journ. As. Soc. Beng. Hz.* p. 306), from the same region, alike in habit, foliage, and the distinctly two-lipped calyx; but the leaves are thinner, less rugose, less coarsely crenate; the flowers are larger, and the upper lip of the calyx is three-toothed, with short deltoid teeth. The flowers when moistened stain a deep blue.—W. BOTTING HEMSLEY.

Fig. 1. Flower. 2. Calyx laid open and pistil. 3. Views of anthers. *All enlarged.*



M.S. del. et lith.

Polygonum tibeticum, HICHTUS!

PLATE 2471.

POLYGONUM (§ ACONOGON) TIBETIUM, *Hemsl*

POLYGONACEJE.

P. tibeticum, *Hemsl* (*sp. nov.*); perenne, nanum, undique glabrum, caulibus erectis gracilibus lignescentibus pauciramosis, internodiis quam folia brevioribus, stipulis amplis tenuissimis truncatis vel obliquis cito ad basin fissis, foliis brevissime petiolatis crassis vix coriaceis obovato-oblongis marginibus (in siccis) recurvis venis immersis inconspicuis, cymis parvis densis terminalibus brevissime pedunculatis, pedicellis brevissimis, perianthii segmentis 5 valde inaequalibus obovato-spathulatis apice rotundatis stamina superantibus, staminibus 8 inaequilongis hypogynis, disco inter stamina et ovarium carnosum 8-lobatum lobis ovoideis, ovario glabro, stylis brevissimis stigmatibus magnis capitatis, nuce ignota.

HAB. Central Tibet: Gooring Valley, 30° 22' N., 90° 25' E., at about 16,500 feet, *St. George B. Little*, July and August 1895.

Caules 1-12 poll. alti. *Folia* cum petiolo 1-1½ poll. long., *Cymae* (2 tantum vix) 6-9 lin. diametro. *Flores* circiter 2 lin. diametro.

In foliage this species comes nearest *P. tortuosum*, Don, and in floral structure nearest to *P. paniculatum*, Blume. There are apparently very few species in which there is a largely developed disc between the stamens and the ovary, as in the present species and in *P. paniculatum*. But this character is not confined to the section *Aconogon*. *P. chinense*, Linn. (§ *Cephalophilon*), is represented with a similar disc. In the genus, or section, *Fagopyrum* the stamens alternate with similar fleshy bodies.—W. BOTTING HEMSLBY.

Fig. 1. Unexpanded flowers. 2. Expanded flower. 3. Perianth, stamens, and disc. 4. Pistil. *AH enlarged.*



M.S. del. et lith.

Liliopsis tibetica, Hemsl.

PLATE 2472.

LITTLEDALEA TIBETICA, *Hemsl*

GRAMINEÆ. Tribe FESTUCEJE.

Littledalea, *Hemsl.* (*gen. nov.*) *Spiculce*. variabiles, 2-8-florse, laxepaniculate, graciliter pedicellate, rachilla inter flores elongata, glabra, juxta floreset supra glumas inferiores articulata. Flores grandes, hermaphroditi vel supremo imperfecto. Glumce 2 inferiores vacua*, inreuales, quam florentes multo minores, ecarinatse, obtusse vel truncate, simul eraarginatae vel erosse, muticse, trinerves, nervis haud excurrentibus lateralibus medium non attingentibus; florentes ample, truncate vel rotundatse, supra medium hyalime, muticae, ecarinatse, demum erosre, basi insigniter callosse, 7-nerves, nervis omnibus vix excurrentibus; palea multo minor, bifida, bicarinata. Stamina 3. Lodiculce 2, tenues, angustse, oblongse, integrae. Styli brevissimi, stigmatibus late plumosis. Caryopsis immatura hirsuta.—Gramen ut videtur perenne, pulckrum, erectum, foliis plantis brevibus. Fanicula terminalis, angusta > ramulis soBpissime geminatis pedicellisque capillaribus. Spicuke scepe geminatce, altera minore pedicello brevior.

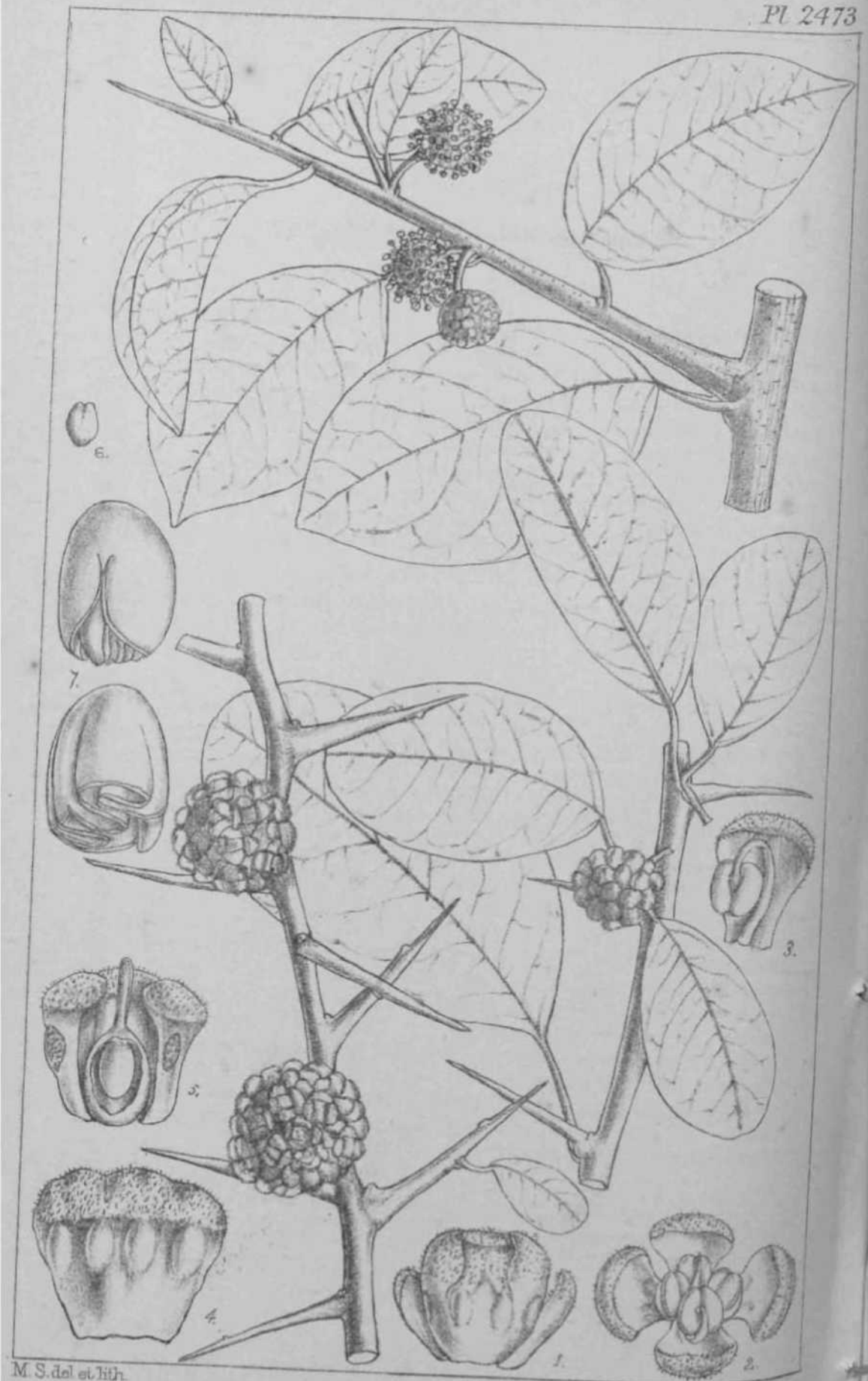
L. tibetica, *Hemsl.* (*sp. unica*); culmis simplicibus graciliusculis glabris lsevibus saepissime (an semper 1) bifoliatis (nodo unico tantum perspicuo) internodio superiore longissime exserto, vaginis laxis glabris vel inferioribus puberulis superioribus apertis, laminis brevibus linearibus subacutis valide striatis utrinque puberulis basi appendice setuliformi utrinque instructis, ligula folii caulini inferioris magna integra vel demum lacerata, folii superioris admodum redacta, paniculse ramulis ssepius paribus 4, floribus puberulis purpureis.

HAB. Central Tibet: Goring Valley, 30° 12' N., 90° 25' E., at about 16,500 feet, *St. George JR.* *LiUledale*, July and August 1895.

Culmi \\-2 ped. alti. *Lamina* foliorum caulinorum 2-poll. longa, radicalium longior sed culmis multo brevior. *Ligula* bene evoluta 2 lin. longa. *Panicula* 4-5' poll, longa, ramulis i-2 poll, longis. *Spiculce* maximae pollicares. *Gluma* exterior circiter 3 lin. longa, secunda 4£ lin. longa. *Gluma fiorens* 6-7 lin. longa, aperta 2 lin. lata. *Palea* circiter 4 lin. longa.

This pretty grass is very near *Glyceria* in structure. Indeed, there are no very decided divergencies; yet the aggregate of the differences seems to fully justify giving it generic rank.—W. BOTTING HEMSLET.

Fig. 1. Portion of leaf with ligule. 2. Spikelet. 3. Flowering glume. 4. Palea. 6* Lodicolcs and pistil. All enlarged.



M. S. del et lith.

Cardiospermum africana, Bureau

PLATE 2473.

CARDIOGYNE AFRICANA, Bureau,

URTICACEJE. Tribe MORELE.

C. africana, Bureau in DC. Prodr. xvii, 233; Baill. Hist. Nat. PL Madag. t. 294; frutex v. arbuscula ssepe alte scandens, spinosus, foliis petiolatis ellipticis obtusis integris v. apice minute emarginatis subtus canovelutinis parce pubescentibus v. glabratis, capitulis axillaribus solitariis v. geminatis rarius ternis, breviter pedunculatis, § perianthii segmentis obovatis, filamentis demum exsertis, % perianthio clauso turbinato apice velutino, ovario late elliptico compresso, stylo recto, perianthio fructifero obovoideo-turbinato glabro sed ore lobulato velutino, pericarpio incluso obovoideo crustaceo lasvi nitente testa separabili papyracea, embryone exalbuminosocotyledonibus reflexis contortoplicatis radiculain superam vaginantibus;

HAD. East Tropical Africa: Zanzibar, Rovuraa, Zambesi, and Shire* Valleys, various localities, Boivin, Sir J. Kirk, and later collectors.

Rami laterales ssepius spinoscentibus, spinis rectis v. brevioribus axillaribus aphyllis interdum plus minus recurvis. Folia in ramis floriferis 1[^]-2[£] poll, longa, 10-15 lin. lata; petioli 3-9 lin. longi. Pedunculi 2-3 lin. longi. Capitula jhrifera globosa, ^ poll. diam.; bracteolse obovatse, v. late oblongie, apice obtusae leviter incrassatse, albido-tomentellae. Capitula fructijfera lignosa, 8-9 lin. diam.

The stamens being inflexed in aestivation removes this interesting plant from the tribe Artocarpeae, under which, in the genus *Cudrania*, it was first referred in this herbarium, and upon this character, associated with free, not consolidated, pistillate flowers (in which latter character it differs from *Plecosperrum*) M. Bureau founded the genus *Cardiogyne*, of which this plant is the only described species. Sir John Kirk first called attention to it thirty years ago in the *Journal of the Linnean Society*, ix. 229, as affording a yellow dye-wood. The ripe heads of fruit are edible; in dried specimens they are indurated and woody. The fruit and seed, unknown to M. Bureau, ?e here figured from Zambesi specimens, which we owe to Sir John Kirk. The figure cited above, although a very artistic one, contains exceedingly little botanical detail.—D. OLIVER.

Fig. 1. Bud, with bracteoles. 2. Male flower. 3. Perianth-lobe and stamen. 4. Portion of female flower—the inflated protuberances are reservoirs of colouring matter. 5. Vertical section of female flower. 6. Seed. 7. Two views of embryo. ^AU except G enlarged.



M.S. del. et lith.

Duthiaea bromoides, Hack.

PLATE 2474.

DUTHIEA BROMOIDES, Hack.

GRAMINEA: Tribe AVEXEJE.

D. bromoides, Hack, in *Verhandl. Zool.-Bot. Ges. Wien*, xlv. (1895), 200; perennis, basi vaginis vetustis crebris vestita, culmis simplicibus 1-2-nodis glabris apice scabris longe e vagina summa exsertis, foliorum vaginis infimis apertis ceteris subarctis, ligulis elongatis apice fissis, laminis innovationum filiformiter convolutis setaceo-acuminatis culmorum linearibus plus minusve planis acutis superioribus abbreviatis, racemo oblongo vel secundo compacto 4-6-spiculato, pedicellis brevibus, ut rhachis, scabris saepe bractea hyalina fultis, spiculis circa 5-floris, rhachillae articulis (imprimis summo elongato) superne pilosis, glumis vacuis late lanceolatis acuminatis vel mucronatis 7-11-nerviis subsequilongis, floriferis vix vel paulo exsertis obovatis obtuse bilobis 7-11-nerviis interlobos aristatis, arista scabra basi torta, paleae carinis setaceo-mucronatis, ovario dense setoso, stigmatibus fuscis tenuiter filiformibus stylo subsequilongis, caroypsi (submatura) lineari-oblonga setosa stylo subpersistente superata.

HAB. Kashmir: Liddar Valley, Sonsal nullah, and above Kainmul, 13,000 feet, *Duthie* (No. 13,155, 13,382).

Culmi 1½-2 ped. alti. *Foliorum* innovationum lamina ad 1 ped. longa, culmorum ad 2 lin. lata; ligula ad 5 lin. longa. *Glumae* vacuae 5-8 lin. longae, floriferae 5-8 lin. longae; arista 1-1½ poll. longa.

Another species of this singular genus is *D. oligostachya*, Stapf. It was described and figured by Aitchison as *Avena* (§ *Critica*) *Hogostachya* Munro, in *Journ. Linn. Soc.* xviii. 108, xix. 193, * 30. In this the spikelets are 2-3-flowered with a glabrous rhachilla, the empty glumes 5-7-nerved with a broad hyaline border, the flowering glumes bilobed to the middle with apiculate lobes, densely covered with long hairs below the lobes. The gynoceum is essentially the same as in *D. bromoides*, but the style is much shorter than the stigmas. The curious hyaline bracts at the base of the pedicels found in *D. bromoides* are also frequently present in *D. oligostachya*. The resemblance of the latter to certain species of *Dantkonion* is so great that it would have to be referred to this genus if it were not for the absence of lodicules and the structure of the gynoceum. This is certainly quite singular in Aveneae; still, I think, *Duthiea* must be placed in this tribe rather than in Festuceae, where Hackel placed it. (Stapf).

Fig. 1. Spikelet. 2. Joint of rhachilla. 3. Sterile floret. 4. Hovering glume spread open. 5. Palea. 6. Pistil. 7. Caryopsis. *Alt. enlarged.*



M. S. del. et lith.

Coleus leucophyllus, Baker

PLATE 2475.

COLEUS LEUCOPHYLLUS, *Baker.*

LABIATÆ. Tribe OCIMOIDEÆ.

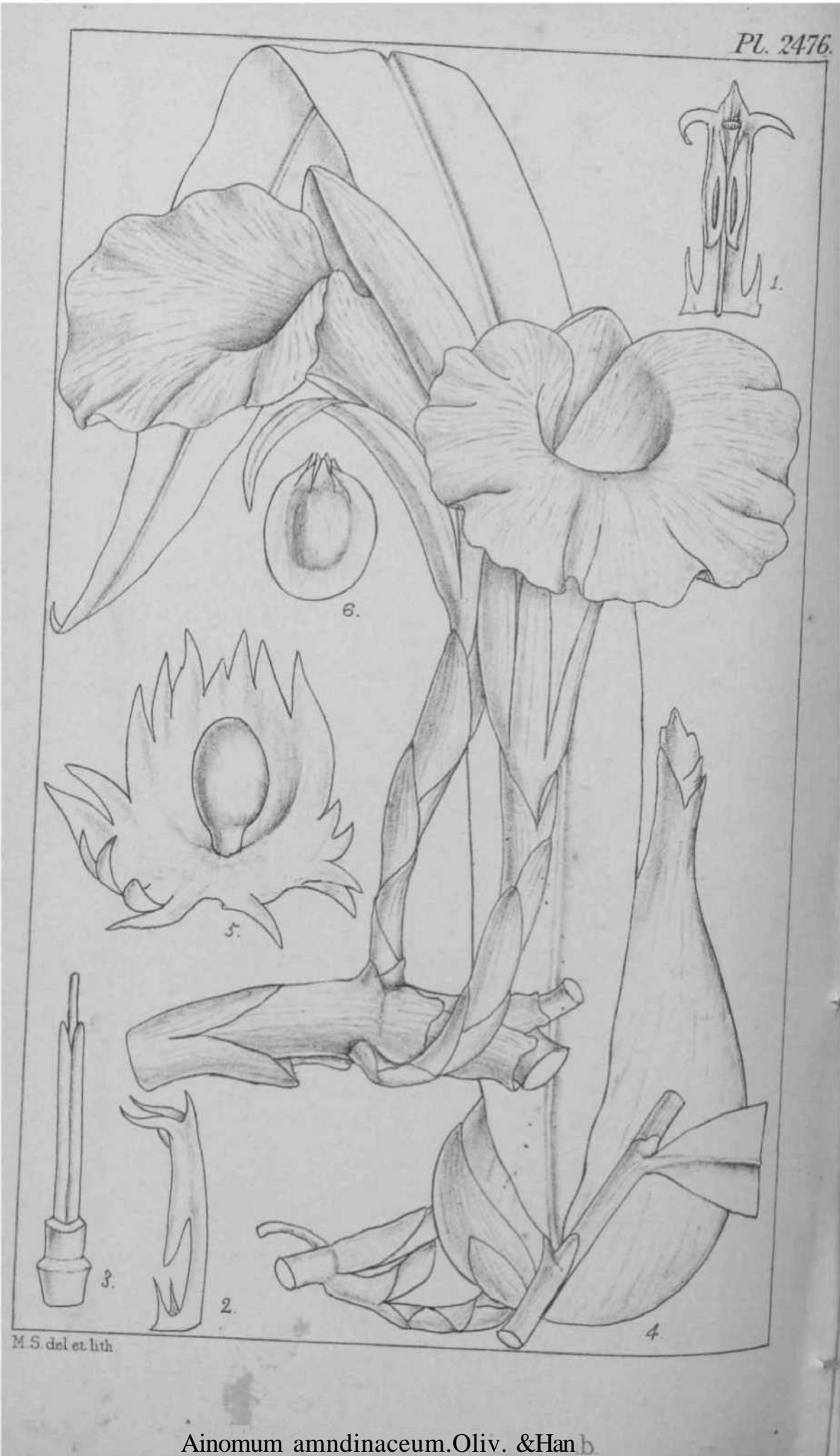
C. leucophyllus, *Baker in Kew Bulletin*, 1805, 292; caule erecto simplice brevissime cano-tomentello, foliis petiolatis subcoriaceis ovato-ellipticis acutis crenato-serratis supra opacis puberulo-tomentellis costa venisque primariis albido-canis subtus albo-tomentosis plus minus reticulatis, cymis pluri- (3-7) floris breviter pedunculatis in paniculam amplam terminalem dispositis, bracteis membranaceis ovatis acutis basi concavis caducis, corollas tubo basi obliquo medio abrupte refracto, labio superioris erecto obcordato brevi, inferiore elongato cymbiformi postico 4-plo longiore.

HAD. South Tropical Africa : near Mwero, west of Lake Tanganyika, *Carson.*

Caulis 3-4 pedalis. *Folia* 2[^]-3[?] poll, longa, H-IJ poll, lata; petiolus 4-6 lin. longus. *Panicula* 10-12 poll, longa. *Calyx* prof undo 5-fidus, segmento postico caeteris ovatis longiore lanceolato acuto, 2 lateralibus acuminatis, 2 anticis paulo minoribus. *Corolla* 12-15 lin. longa. *Stamina* inclusa; filamenta glabra, inferne coalita.

A noble member of a genus rather largely represented in Tropical Africa.—D. OLIVER.

Fig. 1. Portion of leaf showing crowded oil-glunds. 2. Calyx and pistil. 3. Corolla. 4. Views of anther. 5. Fruit with one nutlet removed. 6. Nutlet voen from within. *All enlarged.*



Ainosum amndinaceum. Oliv. & Han b.

PLATE 2476.

AMOMUM ARUNDINACEUM, *Oliv. et Hanb.*

SdTAMINEiE. Tribe ZINGIBERE/B.

A. arundinaceum, *Oliv. et Hanb. in Journ. Linn. Soc. vii. 109* ; rizomate valido late repente, caule foliifero gracili elongato, foliis lanceolatis acuminatis coriaceis utrinque glabris subsessilibus ad basin angustatis ligulis scariosis ovatis obtusis, spicis subsessilibus unifloris, bracteis ovatis obtusis minute mucronatis, corollae lobo dorsali oblongo concavo lateralibus linearibus, labello cuneato rubello undulato lato convoluto, connectivi lobo centrali deltoideo lateralibus linearibus falcatis, fructu ovoideo glabro haud sulcato, seminibus ellipsoideis nigricantibus nitidis.

HAB. West Tropical Africa : Corisco Bay, 1° N. lat., *G. Mann* (No. 1903).

Caulis foliiferus 4-5-pedalis. *Folia* inferiora subpedalia, medio 1 poll. **lata**. *Corolla* lobi 2-3 poll, longi. *Labellum* 3 poll, longum, 2 poll, **latum**. *Fructus* 1 1/2 poll, diam.—J. G. BAKER.

Fig. 1. Stamen with produced connective and style. 2. Side view of the same. 3. Apex of ovary, stylodia, and base of style. 4. Fruit. 5. Seed with aril opened out. 6. Seed enclosed in aril. *All enlarged except the fruit.*



M.S. del. et lith.

Amomum cereum, Hook f.

PLATE 2477.

AMOMUM CEREUM, *Hook, fil.*

SCITAMINEJE. Tribe ZINGIBEREJE.

A. cereum, *Hook. fil. in Kew Journ. Bot.* vi. 295; rhizomate late repente, caule foliifero gracili brevi, foliis lorato-lanceolatis chartaceis utrinque glabris basi cuneatis sessilibus ligulis truncatis, spicis 1-2-floris longe pedunculatis, bracteis ovatis obtusis, corollae lobo dorsali oblongo lateralibus lanceolatis, labello orbiculari-cuneato albo undulato, connectivi lobo centrali parvo deltoideo lateralibus lanceolatis falcatis, fructu ampullaeformi glabro haud sulcato, seminibus angulatis.

HAB. West Tropical Africa : Sierra Leone, *Dr. Daniell*

Folia inferiora pedalia, medio 1|-2 poll. lata. *Corolla* lobi 1[^]-2 poll, longi. *Labellum* 18-21 lin. latum. *Fructus* siccus 2 poll, longus, 8-9 lin. diam.—J. G. BAKER.

Fig. 1. Dorsal lobe of corolla. 2. Lateral lobe of corolla. 3. Labfilnm. *All natural size.* Fig. 4. Stamen with produced connective and style. 5 and 6. Seed. 4 and 6 enlarged.



M.S. del et lith.

Passiflora calycina Vavilov

PLATE 2478.

AMOMUM CITRATUM, *Pereira*.

SCITAMINEJE. Tribe ZINGIBEBEJE.

A. citratum, *Pereira*; *Oliv. et H&nb. in Journ. Linn, Soc.* vii. 110 ;
rhizomate valido late repente, caule foliifero longissimo, foliis lorato-
oblongis cuspidatis utrinque glabris basi inaequaliter late rotun-
datis supra vaginam petiolatis ligulis magnis scariosis ovatis obtusis,
spicis globosis sessilibus multifloris, bracteis latissimis scariosis ovatis
obtusis, corollae lobo dorsali oblongo obtuso concavo lateralibus lanceo-
latis, labello obovato-cuneato pallido rubro valde undulato, connectivi
lobo centrali minuto orbiculari lateralibus linearibus erecto-patentibus,
fructu ovoideo glabro haud sulcato, seminibus obovoideis angulatis.

HAB. West Tropical Africa : banks of the River Gaboon, *Mann*
(No. 1052).

Caulisfoliiferus 10-pedalis. *Folia* inferiora 12-15 poll, longa, 2-3
poll. lata. *Spicee* 3 poll. diam. *Corolla*: lobi 3 poll, longi. *Labellum*
^ poll, longuni, 2 | poll, latum. *Semina* 2 lin. longa.—J. 6. BAKER.

Fig 1. Stamen with produced connective and style. 2. Immature fruit crowned
with persistent calyx. 3 and 4. Seed enclosed in aril. 5. Seed with aril unrolled.
4! wtiytf 2 and 3 enlarpd.



M.S. del. et lith.

Amomum giganteum Oliv & Hamb.

PLATE 2479.

AMOMUM GIGANTEUM, *Oliv. et Hanb.*

SCITAMINE.E. Tribe ZKVGIBERE.E

A. giganteum, *Oliv. et Hanb. in Journ. Linn. Soc.* vii. 109; rhizomate valido late repente, caule foliifero longissimo, foliia oblongis vel lorato-oblongis cuspidatis chartaceis utrinque glabris basi rotundatis supra vaginam breviter petiolatis ligulis magnis orbiculatis, caule florifero valido erecto elongato spicato-paniculato, bracteis ovatis obtusis mucronatis, corollas lobo dorsali magno oblongo concavo lateralibus linearibus, labello obovato-cuneato undulato, connectivi lobis centrali magno quadrato emarginato lateralibus lanceolatis crenatis, fructu ovoideo glabro haud sulcato, seminibus ellipsoideis atrofuscinatis.

HAB. West Tropical Africa: Corisco Bay and banks of the Gaboon River, *Mann* (No. 1051).

Caulis fidiiferus 15-20-pedalis. *Folia* inferiora interdum bipedalia, 6-8 poll. lata. *Corolla* lobi 2½ poll, longi. *Labellum* 3 poll, longum, 2½ poll, latum. *Fruetus* 3 poll, longus. *Semina* 1½ lin. longa.—
J. G. BAKER.

· Fig. 1. Stamen with produced connective and style. 2. Apex of ovary with stylodia and base of style. 3. Fruit with bracts. 4 and 5. Seed. *Illustrations except 3 and 4 uncorrected.*



H.S. dol et lith.

Amomum limbatum, Oliv. & Hanb.

PLATE 2480

AMOMUM LIMBATUM, *Oliv. et Hanb.*

SCITAMINEJE. Tribe ZINGIBEREJE.

A. limbatum, *Oliv. et Hanb. in Journ. Linn. Soc.* vii. 110; rhizomate valido late repente, caule foliifero longissimo, foliis lanceolatis cuspidatis basi inaequalibus dorso obscure ferrugineo-pubescentibus, ligulis scariosis truncatis, spicis trifloris subsessilibus, bracteis scariosis ovatis arete imbricatis mucronulatis, corollas lobo dorsali oblongo concavo lateralibus lanceolatis, labello purpureo obovato-cuneato, connectivo apice truncato lobis lateralibus linearibus ascendentibus arcuatis, fructu ovoideo glabro haud sulcato, seminibus ellipsoideis fuscis nitidis.

HAB. West Tropical Africa : Fernando Po, *Mann* (No. 1171).

Caulis foliiferus 12-15-pedalis. *Folia* inferiora 9-10 poll, longa, 15-18 lin. lata. *Corolla* lobi 2 poll, longi. *Labellum* 2 poll, longum et latum.—J. G. BAKER.

Fig. 1. Stamen with produced connective and stigma. 2. Apex of ovary with etylocidia and base of style. 3 and 4. Seed. *Ak except 3 enlarged.*



M.S. del et lith.

Amomum longiscapum.nook.F.

PLATE 2481.

AMOMUM LONGISCAPUM, *Hook, fil*

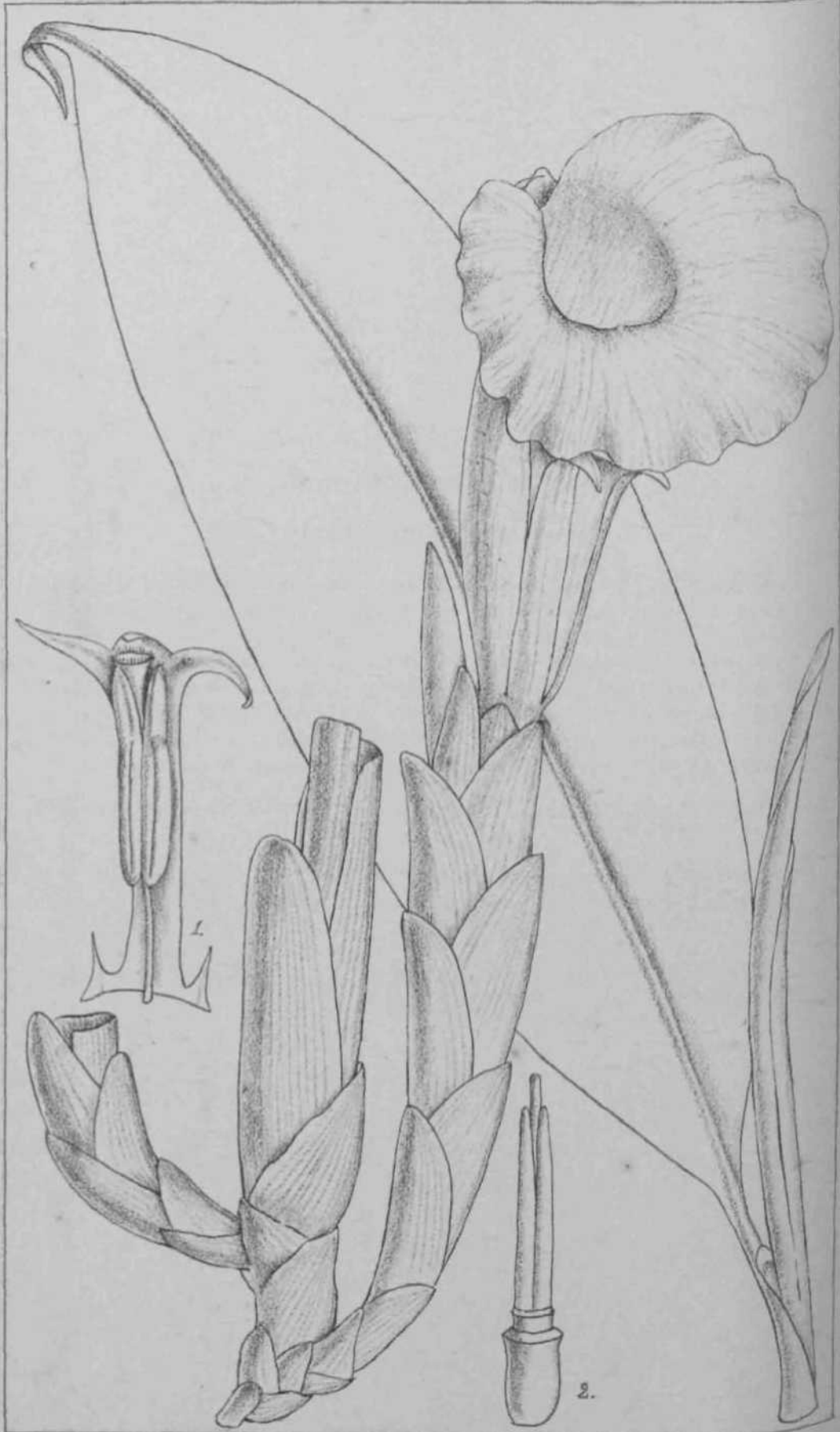
SCITAMINEAE. Tribe ZINGIBEREA.

A. longiscapum, *Hook fil in Kew Journ. Bot.* vi. 296 ; rhizomate late repente, caule foliifero elongato, foliis lorato-lanceolatis cuspidatis utrinque glabris basi cordatis sessilibus ligulis brevissimis truncatis, caule ilorifero elongato 1-4-cephalo, spicis paucifloris, bracteis oblongis obtusis, corolla* lobo dorsali oblongo concavo lateralibus lanceolatis, labello obovato-cuneato, connectivi lobo terniinali parvo rotundato lateralibus lanceolatis falcatis, fructu ampulheforini glabro baud sulcato, seminibus angulatis.

HAB. West Tropical Africa : Sierra Leone, *Dr. Daniell.*

Folia pedalia, medio 2 poll. lata. *Pedunculus* floriferus 1-2-pedalis. *Corolla* lobi 2 poll, longi. *Labellum* 2 poll, longum. *Fructus* siccus 2 poll, longus.—J. O. BAKEE.

Fig. 1, Stamen with produced connective. 2. Apex of ovary bearing stylodia and base of style. 3. Stigma and upper part of style. 4. Seed. *All enlarged.*



M.S.dflLetJth.

Amomum Marmii, Ohv. & Han^b.

PLATE 2482.

AMOMUM MANNII, *Oliv. et Hanb.*

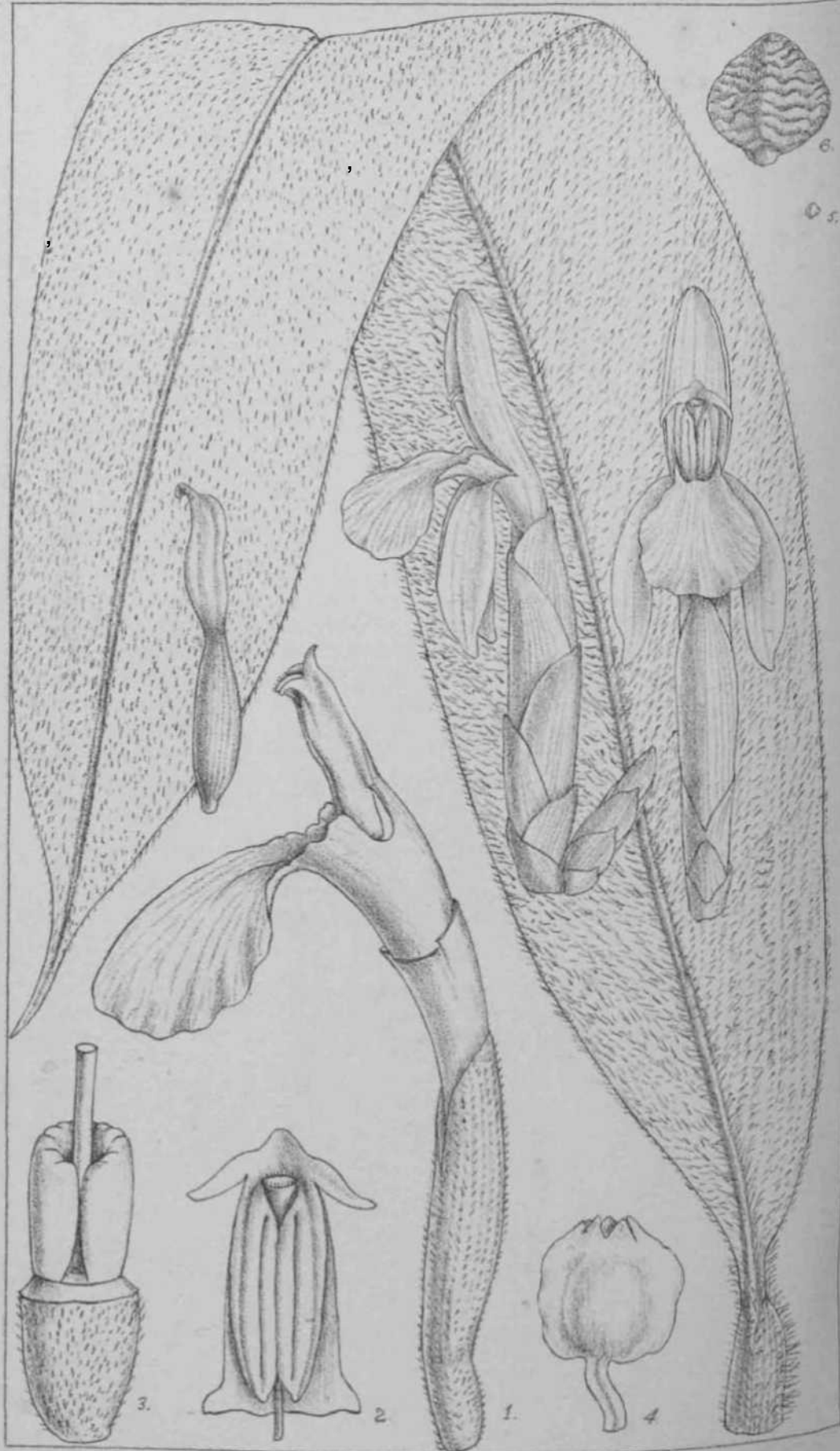
SciTAMINEiE. Tribe ZINGIBEREJB.

A. Mannii, *Oliv. et Hanb. in Journ. Linn. Soc.* vii. 110; rhizomate valido late repente, caule foliifero elongato, foliis oblongis cuspidatis chartaceis utrinque glabris basi intequilateraliter cuneatis supra vaginam breviter petiolatis ligulis parvis scariosis truncatis, spicis subsessilibus 2-3-floris, bracteis obtusis viridibus purpureo-maculatis, corollae lobo dorsali oblongo obtuso concavo lateralibus linearibus, labello obovato-cuneato rubello, connectivi lobo centrali late ovato minuto lateralibus patulis linearibus, fructu seminibusque ignotis.

HAB. West Tropical Africa : Corisco Bay, 1° N. lat., *Mann* (No. 1902).

Caulis foliiferus 4-5-pedalis. *Folia* 6-8 poll, longa, medio 2-2J poll. lata. *Corolla* lobi 2-2^ poll, longi. *Labellum* 2\ poll, longum, 2 poll, latum.—J. G. BAKER.

Fig' 1. Stamen with produced connective and style. 2. Apex of ovary bearing tylochia and base of style. *Both enlarged.*



M.S. del. et lith.

Amomum pilosum, Oliv. & Hanb-

PLATE 2483.

AMOMUM PILOSUM, *Oliv. et Hanb.*

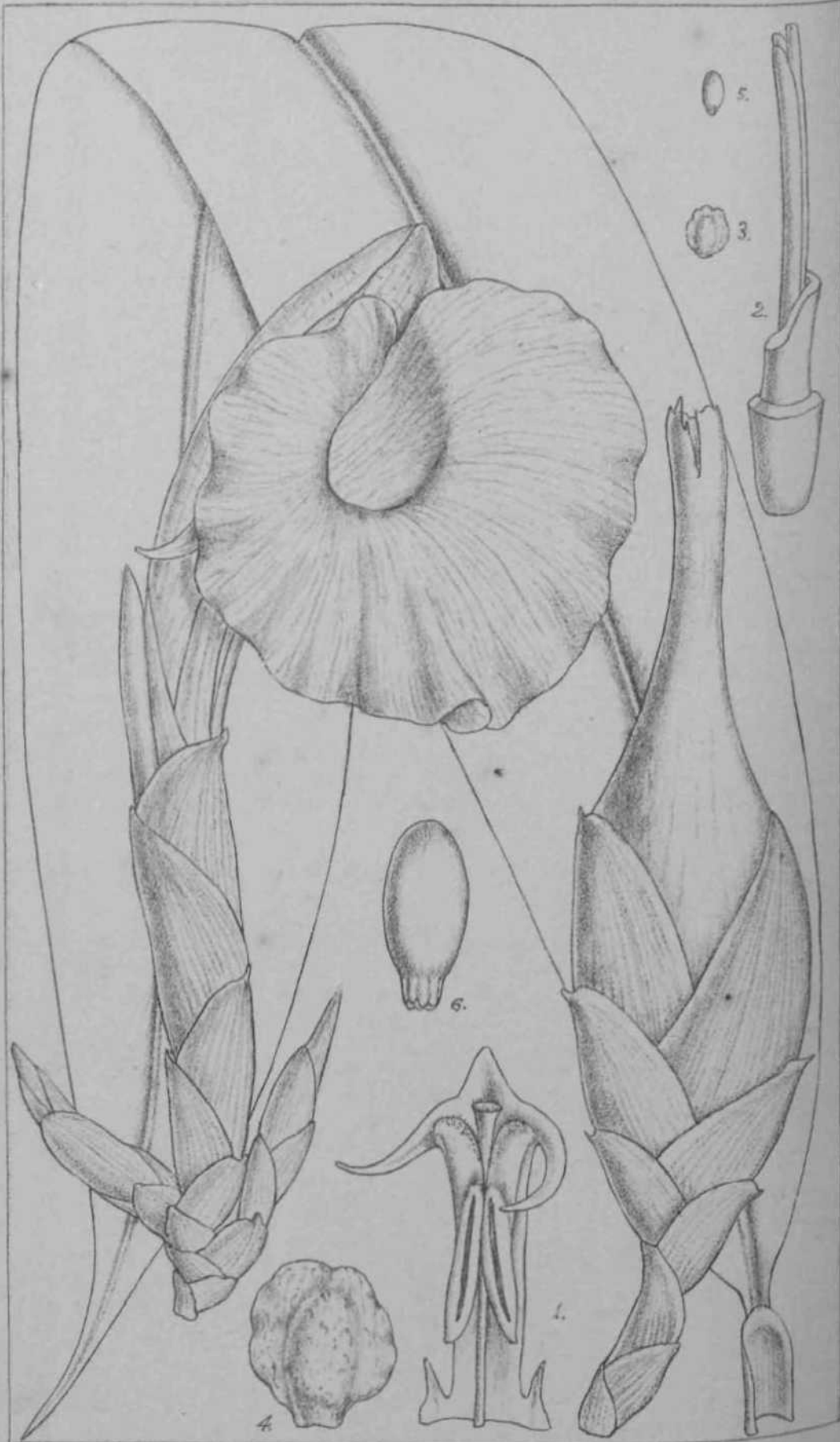
SCITAMINEJE. Tribe ZINGIBERIE.

A. pilosum, *Oliv. et Hanb. in Journ. Linn. Soc.* vii. 110; rhizomate valido late repente, caule foliifero orgyali, foliis oblongo-lanceolatis cuspidatis membranaceis utrinque praesertim ad faciem inferiorem laxe pilosis basi valde inaequaliter cuneatis vel rotundatis supra vaginam brevissime petiolatis ligulis parvis dense pilosis, spicis angustis sessilibus paucifloris, bracteis oblongis glabris scariosis cuspidatis, corollae lobis parvis dorsali oblongo lateralibus lanceolatis, labello obovato-cuneato luteo parvo, connectivi lobo centrali deltoideo minuto lateralibus linearibus deflexis, seminibus immaturis globosis lineis horizontalibus undulatis notatis.

HAB. West Tropical Africa : Fernando Po, *Mann* (No. 1415).

Caulis 6-8-pedalis. *Folia* inferiora subpedalis, 2-2J poll. *Jnta. Caro* lobi 9 lin. *lonri. Labellum* 1 poll, latum.—*J. O. BAKER.* *

Fig. 1. A flower. 2. Anther with produced connective and style. 3. Ovary bearing disk-like stylodium and base of style. 4. Seed enclosed in aril. 5 and 6. Seed dehiscent of aril. *All except 5 enlarged.*



MS I. col. et lith.

Anomixm subsenceum, Oliv.**& Hanb.

PLATK 2484.

AMOMUM SUBSERICEUM, *Oliv. et Hanb.*

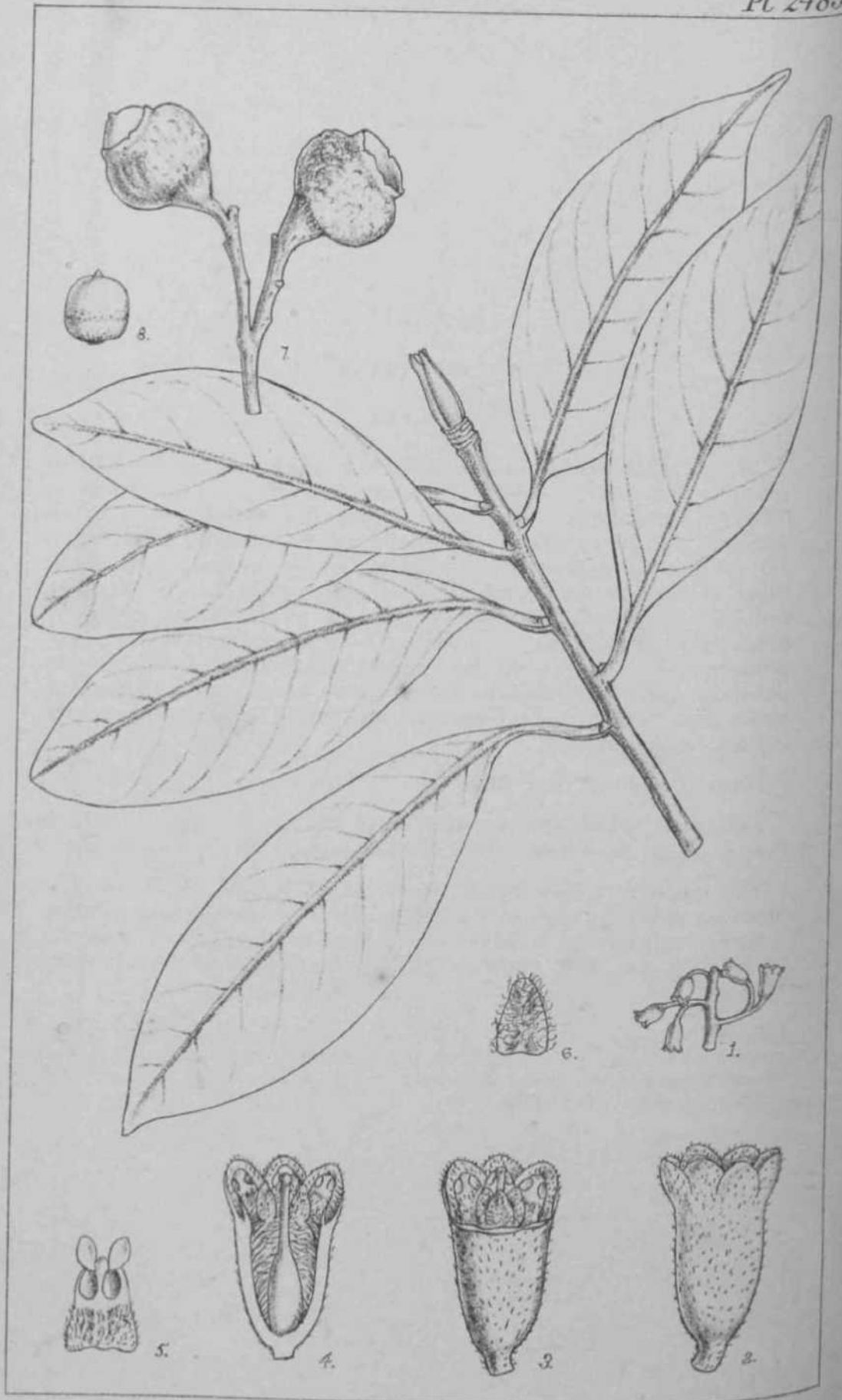
SCITAMINEJE. Tribe ZINGIBEREJE.

A. subsericeum, *Oliv. et Hanb. in Journ. Linn. Soc. wii. 110*; rhizoma valido late repente, caule foliifero longissimo, foliis oblanceolato-oblongis acuminatis ad vaginam sensim attenuatis dorso obscure pubescentibus ligulis parvis rotundatis, spicis subsessilibus bifloris, bracteis scariosis apice rotundatis emarginatis mucronulatis, corollas lobo dorsali oblongo cucullato lateralibus lanceolatis, labello lato convoluto, connectivi lobo terminali deltoideo lateralibus linearibus aequalibus, fructu ampullaeformi glabro haud sulcato, seminibus ellipsoideis nitidis.

HAB. West Tropical Africa: Gaboon River and Corisco Bay, Mann (No. 1904).

Caulia foliifera 10-12-pedalis. *Folia* subpedalia, medio 2-2½ poll. *Corollas* lobi 2 poll, longi. *Labellum* convolutum 2-2½ poll, longum. *Fructus* siccus 2½ poll, longus. *Semina* 2 lin. longa.—J. G. BAKER.

Fig. 1. Anther with produced connective and style. 2. Style, stylodia, and apex of ovary. 3, 4, 5, 6. Sceded 3, 4, 5, 6. 5, 6 without anther. 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. *enlarged.*



M. S. del. et lith.

Aniba perutilis, Hemsl.

PLATE 2485.

ANIBA PERUTILIS, *Hemsl*

LAURINEJE.

A. perutilis, *Hemsl. in Kew Bulletin*, 1894, 7; ramulis ultimis graciliusculis cortice cinereo primum puberulo cito glabrescente, cataphyllis numerosis ovato-oblongis obtusis fusco-sericeis, foliis parvis distincte petiolatis coriaceis lanceolatis vel oblanceolatis obtusissimis rotundatis basi cuneatis adultis glabris subtus glaucis vel opacis supra vix nitidis venis primariis utrinque circiter 7-9 inconspicuis, pedicellis incrassatis, inflorescentiae ramulis pubescentibus, perianthii pubescentis lobis crassis brevissimis rotundatis, tubo cylindraco-campanulato intus densissime villosa, staminibus staminodiisque puberulis, antheris bilocellatis, ovario glabro, bacca matura ellipsoideo-conica basi fere truncata perianthii tubo valde incrassato corrugato ^upuliformi fere inclusa.

HAB. Colombia: near Medellin, *W. Gordon*.

Folia cum petiolo circiter semipollicari 2J-2£ poll, longa. *Pedicelli* 3*4 lin. longi. *Bacca* cum cupula circiter semipoll. longa et diametro.

This was sent to Kew by *W. Gordon, Esq., H.B.M. Vice-Consul at Medellin*, under the name of *Laurel Comino* and described as producing timber valuable for building and cabinet-making. Particulars will be found in the *Kew Bulletin*, 1894, p. 7 and p. 197.-*W. BOTTING HEMSLEY.*

^g. 1. Flowers, *natural sUe*. 2. A flower. 3. The same, with some of the *Penanthiobe8* removed, revealing some of the *sUmens*. 4. The same in vertical section, showing the ovary. 5. A stamen. 6. A staminode. *All enlarge**. ^Fruit 8. Seed. *Natural*i~*



M.S. del. et lith.

Gironniera nitida, Bentiv

PLATE 2486.

OIBOKVIEBA KITIDA, Benth.

URTICACEJE. Tribe CELTIDEJ.

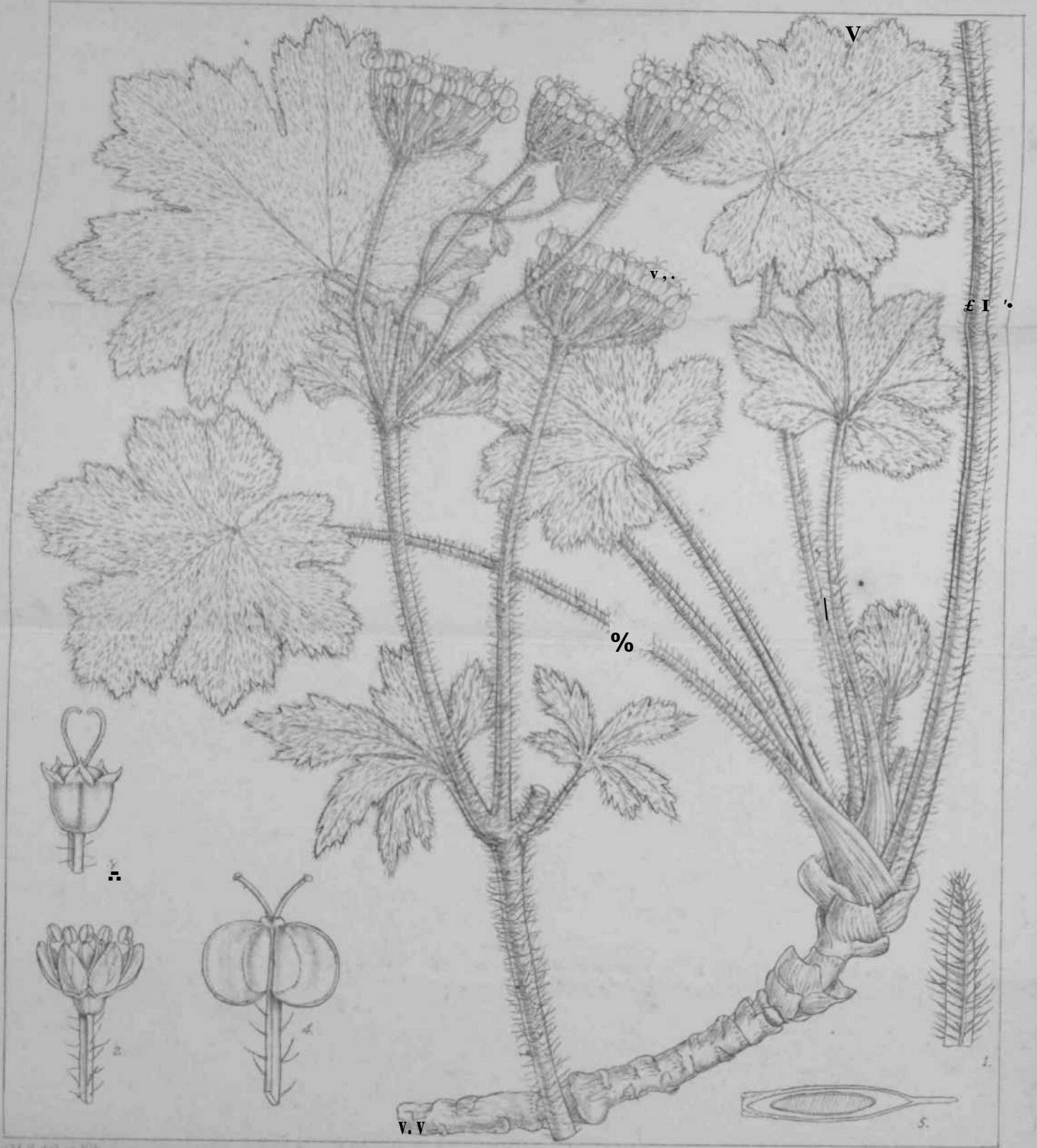
G. nitida, Benth. *Flora Hongk* 325; arbor 40-pedalis glabra, foliis breviter petiolatis ovato-ellipticis saepius breviter acuminatis basi rotundatis supra nitidis reticulatis venis primariis utrinque 6-7 incurvis, axillis <j> oxillaribus multifloris congestis petiolo saepius longioribus, pedicellis brevissimipedicellatis, perianthiisegmentis 5 obovatis concavis, sepalis axillaribus solitariis ovoideis apiculatis pedunculo semper decurvo longioribus.

HAB. China : Hong Kong, *Champion*, Happy Valley, *Mr. Ford* 9
" < * t i v e collector; island of Lantao, *Tutcher*.

folia coriacea, in sicco cinnamomea, juvenilia parce pubescentia mox glabra. 2-4 poll. longa. 1-2 poll. lata. 5 petiolus 3-5 lin. longus; stipulae lanceolatae, caducae. Filamenta subulata, parce hirtella. Antherae, inappendiculatae. Ovarii rudimentum, in fl. hirtum. Infructus, cum apiculo 5-6 lin. longa; endocarpio osseo, mesocarpio J. a. PP' exsicc.) punctis resinosis copiosis scatente. Albnwen inter cotyledones parvum. Embryonis radícula teres incurva; m. ii. Ones crass. «i carnosw. ut videtur concavw 'externo internum cucullatim amplectente.'

Un. *f *? recentfc rece V^{fc} of excellent specimens with male flowers and others in fruit, from Mr. Ford, to whom we owe so many interesting Chinese plants, Champion's specimens, described by Mr. Benthams (/c.) and ref. rred wifc h doubt to *Gironniera*, were the only examples known to us. Only Mr. Benthams is cited by Planchon (*DC. Prodr.* xvii. 207), who gives our plant as 'specks non satis wofo/and by Maximowicz (*Diag.* Pl. Nov. xiii. 29 in *Melanges Biol* ix. (1872)). - D. OLIVER.

Fr. 4. Sl. V¹ § ^ J l e flowep mfl IU(IB « 2 « Front fln(ub) « views p. stamens. 3 F i f u .
"on of seed showing embryo. Ml enlarged.



M.S. del. et lith.

Trachymene celebica, Hemsl.



M. S. del. et lith.

Plectranthus esculentus, N. E. Brown

PLATE 2488.

PLBCTRANTHUS ESCULENTUS, Jt. E. Brown.

LABIATJE. Tribe OCIMOIDEJB.

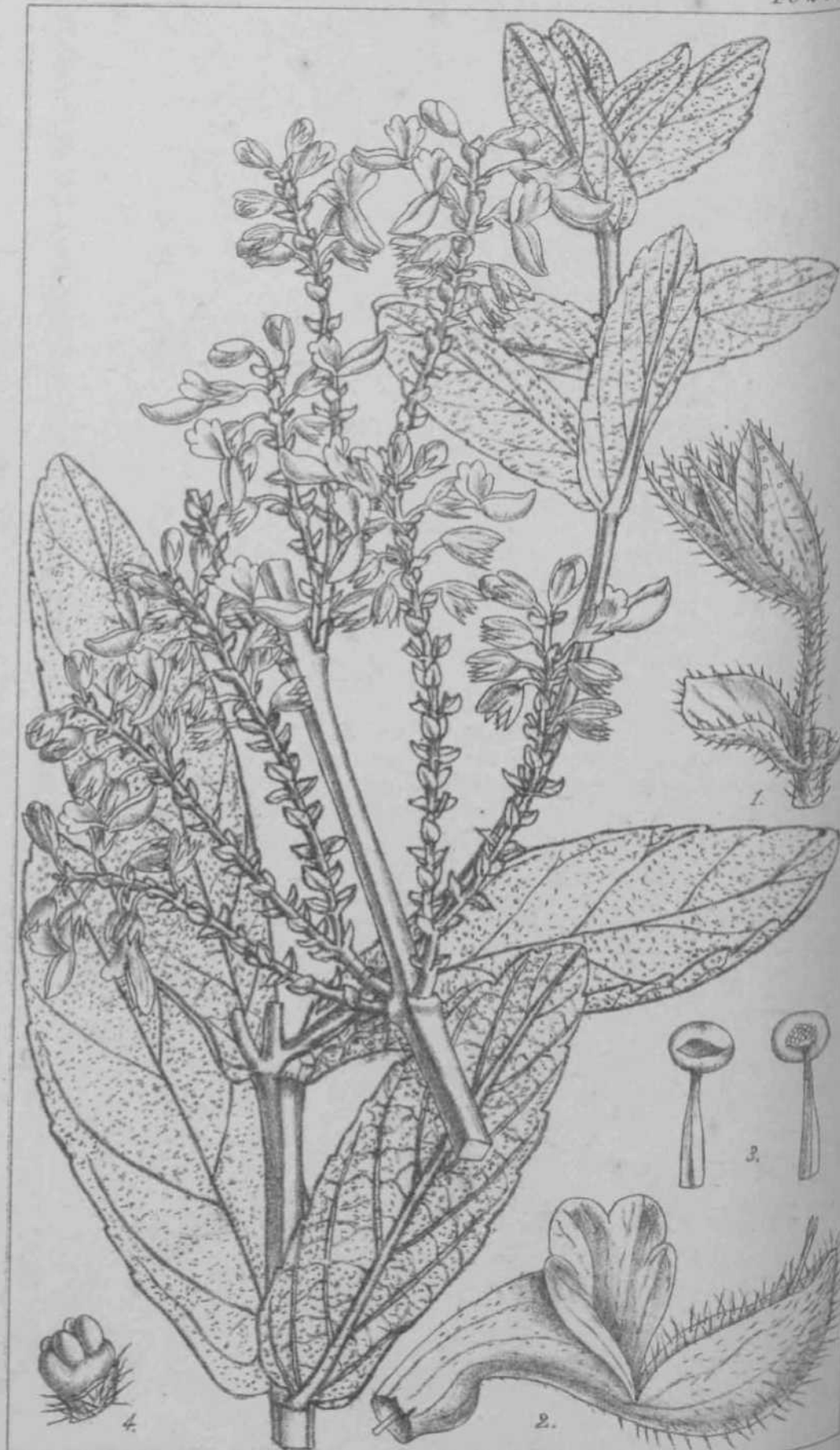
P. esculentua, *N. K Brown in Kew Bulletin*, 1894, 12; radice tuberosa esculenta, caulibus demum decumbentibus pubescentibus, foliis (tempore florentis omnino delapsis) sessilibus oblongis obtusis basi cuneato-angustatis utrinque minute pubescentibus venis primariis subtus raro prominentibus racemis solitariis vel fasciculatis simplicibus scabridis bracteatis ex axillis foliorum delapsorum enatis, bracteis oppositis ellipticis obtusis scabridis pedicellum aequantibus vel brevioribus, calyce campanulato scabrido inaequaliter quinquefido dente postico elliptico-ovato obtuso reliquis lanceolatis acuminatis, corolla calycem plus duplo excedente lutea compressa inaequaliter bilabiata tubo basi brevissime gibboso labio superiore brevissimo 4-dentato labio inferiore falcato-cymbiformi subacuto pubescente, staminibus liberis.

HAB. Natal, Wood (No. 3633.)

Caules subpedales. *Folia* 1|-3 poll, longa, ^-1 poll. late. *Raceniil*-*l* Ppll. longi. *Bracteae* Min long» et late. *Pedkdli* 1-2£ lin. longi. *c*<*dyx* 1 £-2 lin. longus. *Corolla* 7 lin. longa.

This plant is known in Natal as the • Umbondive or Kaffir Potato,¹ the tuberous root-stock being much appreciated as food by the Kaffirs. It was first sent to Kew by Mr. J. M. Wood, the Curator of the Botanic Garden, Durban, in 1886.—N. E. BROWN.

. % I. Calyx attached. 2. Corolla. 5. Front and back views of stamen.
*• long nutlets. *Alltnforgcd*.



M. S. del. et lith.

Plectraauius floribundus, N.E. Brown, J

PLATE 2489.

PLECTRANTHUS FLOBIBUNDUS, ff. E. Brown.

LABIATÆ. Tribe OCIMOIDEÆ.

*. floribundus, IT. E. Brown in *Kew Bulletin*, 1894, 12.; caule elato erecto sublignoso pubescente, foliis (tempore florentis omnino delapsis; sessilibus oblongis obtusis basi obtuse rotundatis margibus SUD-crenatis utrinque subscabridis venis subtus prominent[^] reticulatis, racemis solitariis vel fasciculatis elongatis multifloris simplicibus vei 'amosis scabridis bracteatis ex axillis foliorum delapsorum enatis, ei Paniculam elongatam nudam simulantibus, bracteis oppositis obovato-ellipticis subacutis scabridis pedicellum scabridum sequantibus, calyce campanulato scabrido inaequaliter quinquefido dente postico me elliptico obtuso reliquis lanceolatis acuminatis, corolla calycem plus duplo excedente lutea compressa inaequaliter bilabiata, tubo uasi uevissime gibboso, labio superiore brevissime 4-dentato, labio mterioie felcato-cymbiformi subacuto pubescente, staminibus libens.

HAB. Natal: Inanda, 1,800 ft., Wood (Nos. 646, 3843).

Caulis 2-4-pedalis, parte florifera 1-H P^{ed}-1TM&- J^{i?} 2 fi^{poll.} n^{poll.}
longa, | - | | poll, lataf *Baerni* U-2 | poll, longj. *Bradm* 1, to.
 W-1-1 { i/n. i^{atsB}. F^{SiMKf} 1[^]-2 lin. longi. *Calyx* 3 lm. longus.
Corolla 7 lin. longa.

^TWs species is closely related to *P. esulentus* (PI. 2488), but, < ; isa
^{lap}ger plant, with decidedly sessile leaves, having broader and more
 funded bases and more prominent venation.—N. E. BROWN.

^Fi^e. 1. Calyx attached and bracteole. 2. Corolla. 3. Back and front views of
 B[«]nen. 4. Young nutlets. *Ml enlarged*.



M.S. del. et lith.

Luffa batesii, C. H. Wright

PLJLTJS 2490.

LUPPA? BATESII, C. // *Wright*

UUCUKBITACKJK. Tribe CUCUMERINEJE.

Batesii, C. H. *Wright* (*sp. nov.*); suffruticosa, scandens, caulibus striatis, foliis petiolatis subcoriaceis profunde cordatis acuminatis sinuato dentatis puberulis venis ultimis utrinque conspicuis aensissime reticulatis, cirrhis lateralibus bifurcatis, racemis t quam *oha paulo longioribus, calyce extus pubescente infundibuliformi aentibus 5 subulatis tubo inferne inflata, petalis 5 luteis ovatis acuminatis breviter unguiculatis venis primariis 3 basi apiceque convergentibus, staminibus 5, filamentis latis calycis fauce insertis, antheris omnibus sinuatim bilocularibus, floribus ? et fructu non visis.

719) AB. West Tropical Africa: Cameroons River, G. Mann (No. Amb ^ Batanga, G. L. Bates (No. 338); Angola, 70 miles from nz, on the road to Bembe, Monteiro.

late CW_e << 20 ped. longi (fide G. Mann). Folia 7 poll, longa, 5-6 poll. G 0 { Petioli 1-2 poll, longi. Racemi 9 poll, longi. Cafycis tubus 0 un. longus. Corolla 3 poll. diam.

ste Thi * di^ers from the typical species of *Luffa* in having suffrutescent cl^ms >> subcoriaceous leaves, and 5 bilocular anthers, which last s^aracter, as well as the eglandular petiole, separates it from the genus bW^TM^8^08, Ho<>k. U to which its inflorescence bears some resem- <i d^ce>] A knowledge of the female inflorescence and fruit, at present item! Geratum >> may cause this to be elevated to the rank of a distinct specie * as P^roP^sed in manuscript by Dr. Schweinfurth, for an allied specie Elected by himself in Central Africa.—C. H. WRIGHT.

Pi tube ^ fl^ i^ A-bud with hmetoole on pedicel. 2. Calyx and andrajcium, the hollow <>rmer in vertical section. Both enlarged.



M.S. del. et lith.

Senecio Pratii, Neesl

PLATE 2491.

SENECIO (§ CREMANTHODIUM) PBATTII, *Uemd.*

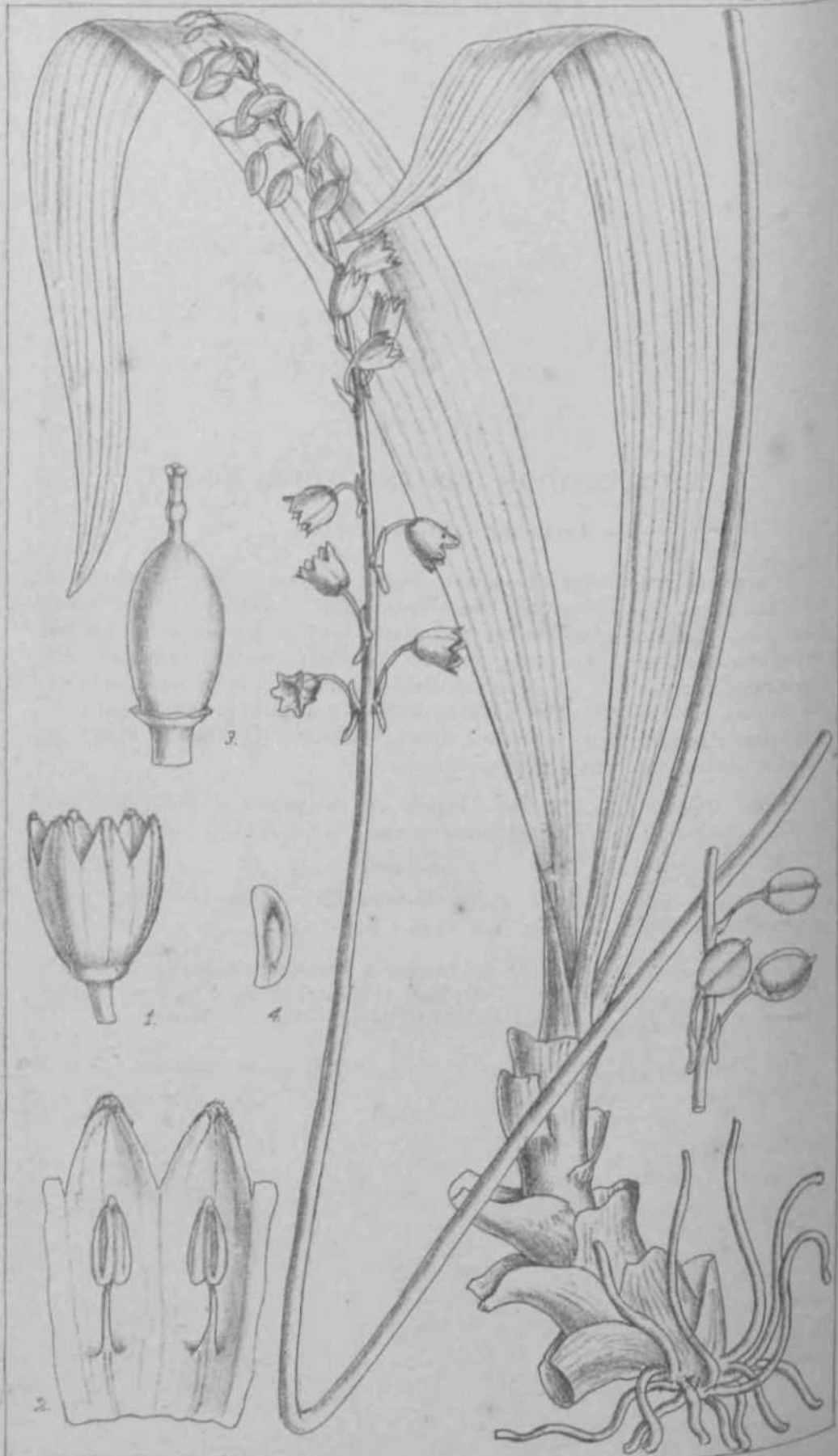
COMPOSITE. Sub-order SKNECIONIDEJ.

S. Pratt * *H***L* (*P, no0>) *l* scaposus praeter inflorescentiara
l^{at}8^{r*} *^o |^a omnibus radicalibus crassis subcarnosis longissime petio-
d^{enti} ^{co} TM ^{ic} o-oblongis apice rotundatis obscure remoteque calloso-
i^{pon} ^o ^{halo} ^{va} ^g ⁱⁿⁱ > venis immersis fere obsoletis, scapo ssepe solitario erecto
U^{ianif} ^{op} ^g » 2 subfoliaceis instructo supra medium plus
15 ^{un} ^{ar} aneosis, capitulo amplo nutante, involucri bracteis circiter
acutig ^{Se} ^{la} ⁸ ^{er} ^l ^{ace} ^s araeoso-pilosis mollibus anguste oblongis
C^{oro} ^{ll} ^{gr} o multo brevioribus, radii floribus circiter 15 elongatis,
n^{On} ^{vi} ^{Jimbo} ^{an} ^S ^{usto} s>pius oblique breviter bifido, achaeniis (maturiu
l^{isis} ; glabris inaequaliter pluralatis.

H. B. to ^l ^{ffk} ^{Ay} ⁶⁸ ⁶¹¹¹¹ China : chiefly near Tachienlu, Szechuen, at 9,000
> ^{UU0} ^{fee} ^{Pratt} (Nos. 492, 548, and 593).

Sc ^u ² ⁿ ¹⁵ ^P ^{o11} ^{fit} ^{as} - *Folia* cum petiolo 2J-6 poll, longa, petiolo
lin. C ^{ion} ^{Ca} ^{ptiul} < * 2f-3j poll, diametro. *Bractea* circiter 6
^{ffic} ^{forw} ^{radii} 1 £-2 poll, longi.- W. BOTTING HBMSLBY.

Fig. 1. A. V^{Ay} ^{fl} ^{wer}. 2. A ^{pnpua} ^{bri} ^{Mtle}. 3. A ^{ilwk} ^{flow} ^r. 4. Anthert.
5. Apex of ^{styl} and ^{Htignias}. 0. A ^{yuug} ^{iwlunu}. All ^{mUtryd}.



M.S. del. et lith.

Rhodocodon urfimeoides, Baker

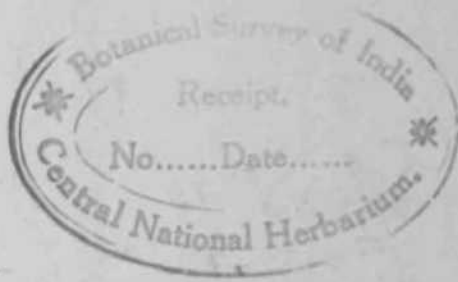


PLATE 2492.

HHODOCODON URGINEOIDES, *Baker*.

LIUACE.E. Tribe SCILLEJ.;

*R**• *urgineoides*, *Baker* (*up. nov.*): bulbo globoso tunic is exterioribus
pallidis, foliis 2-3 aynantluis lunceolatis **gftbru** flacid is, acapo tereti
elon' ^ ^ floribus pturibus in racemum laxum dispositis, pedicellis
J...us floriferis ssepissime cernuis, bracteifi ovatis membranocew
Ca^{ai}wirtitis, perianthii albi campanulati segmeiitis ovatis apice leviter
cucullatis tubo aiqulongis vel brevioribus, staminibus prope medium
tubi insertis filamentis brevibus, fructu oblongo-trigono, eeminibus in
quoque loculo pluribus nigris applanatia.

Central Madagascar : forests of the province of Timala, alt.
4 (inn⁵⁰ 1⁵⁰ Dr⁵⁰ For*⁵⁰y & Major (NOB. 44 and 445). Also *Baron*
(Noa31⁵⁰ 91, 6, 54).

db_m \ poll. (diam. Folia subpe(iu¹¹a) metlio 6 9 lin. lat a.
P< "fwm 3 lin. longum. Capsula 4 lin. longa.

tho^t IS is a second species of an endemic Madagascar genus, of whi< h
/o ^P^c (8- wadaffaacarierutUf Baker) ia described and figured in me
mt*to/thg *Linnean Society*, xviii. 280, L 8.—». *". BAKKR

vjo. I p .
Capsule. 5. Seed. All enlarged. 2. Periiinlh cut open to show the stamens. 3. Pwtil.



M.S. del. et lith.

Stenon elhoti Baker

PLATE 2493.

STENOLIOTON ELLIOTII, Baker.

AMARYLLIDEA: Tribe AMARYLLEIE.

Stenolirion, Baker (*gen. nov.*). *Perianthium* superum, tubo elongato cylindrico, limbi lobis linearibus patulis. *Stamina* 6, ad faucem ^{Insertaj filamenti} liberis filiformibus, antheris obloagis versatis. *Ovarium* inferum, triloculare, ovulis in quoque loculo pluribus; stylus elongatus, filiformis stigmati simplice. *Fructus* bacca tus. *Semina* in quoque loculo plura, testa laxa crassiuscula. ^{Th ^ a ^ a ^ e} *S*^{sea} albumine cartilagineo, embryone recto centrali. *Umbellae* ovoideae tunicis multis membranaceis apice truncatis. *Folia* radicalia, rosulata, synantha, linearia, firmula, marginata. *Pedunculus* brevis, radicalis. *Umbellae* pauciflorae. *Spathae* vacua lanceolatae, membranacea, pedicellis brevibus.

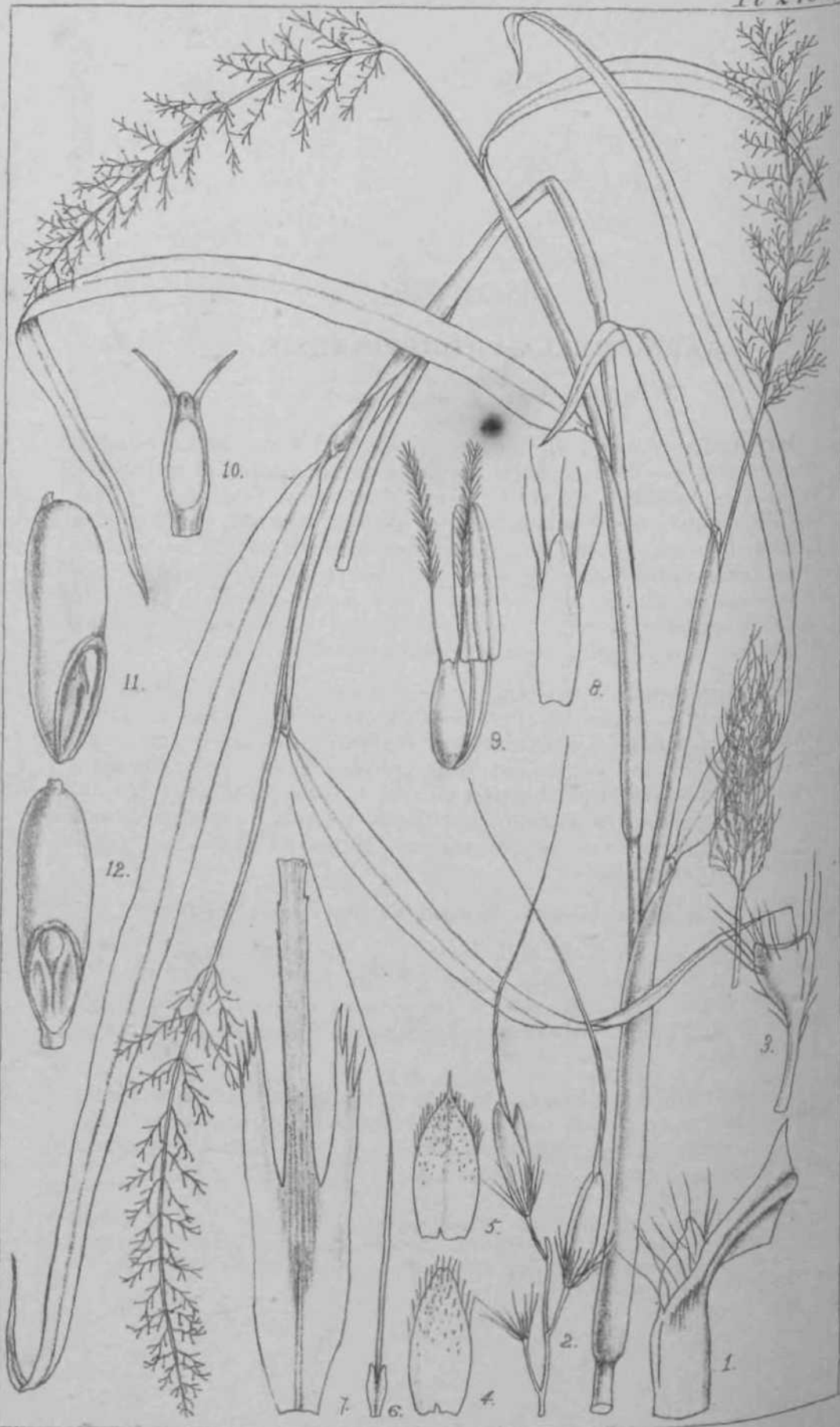
8. *Stenolirion Elliotii*, Baker (*sp. unica*).

Central Africa: Urundi, 4,000-5,000 feet, *Scott Elliot* (No. 8175).

Folia semipedalia, 4-4½ lin. lata. *Pedunculus* 3-5 poll. *Perianthii* tubus 2 poll, longus; segmenta limbi paulo breviora. *Bacca* 12-15 lin. diam.

This interesting new genus resembles *Crinum* in habit, but differs from that genus and *ffasmanthus* in its seeds, which are so numerous in each cell as to be angled by pressure.—J. G. BAKER.

Fls- 1. Margin of leaf. 2 and 3. Seeds. 1 and 3 enlarged.



M.S. del. et lith.

Garnotiella philippinensis, Stapi



M.S. del. et lith.

Aster Boweri, Hemsl.

PLATE 2495.

ASTER BOWERII, *HemsL*

COMPOSITE. Sub-order ASTEROIDEA.

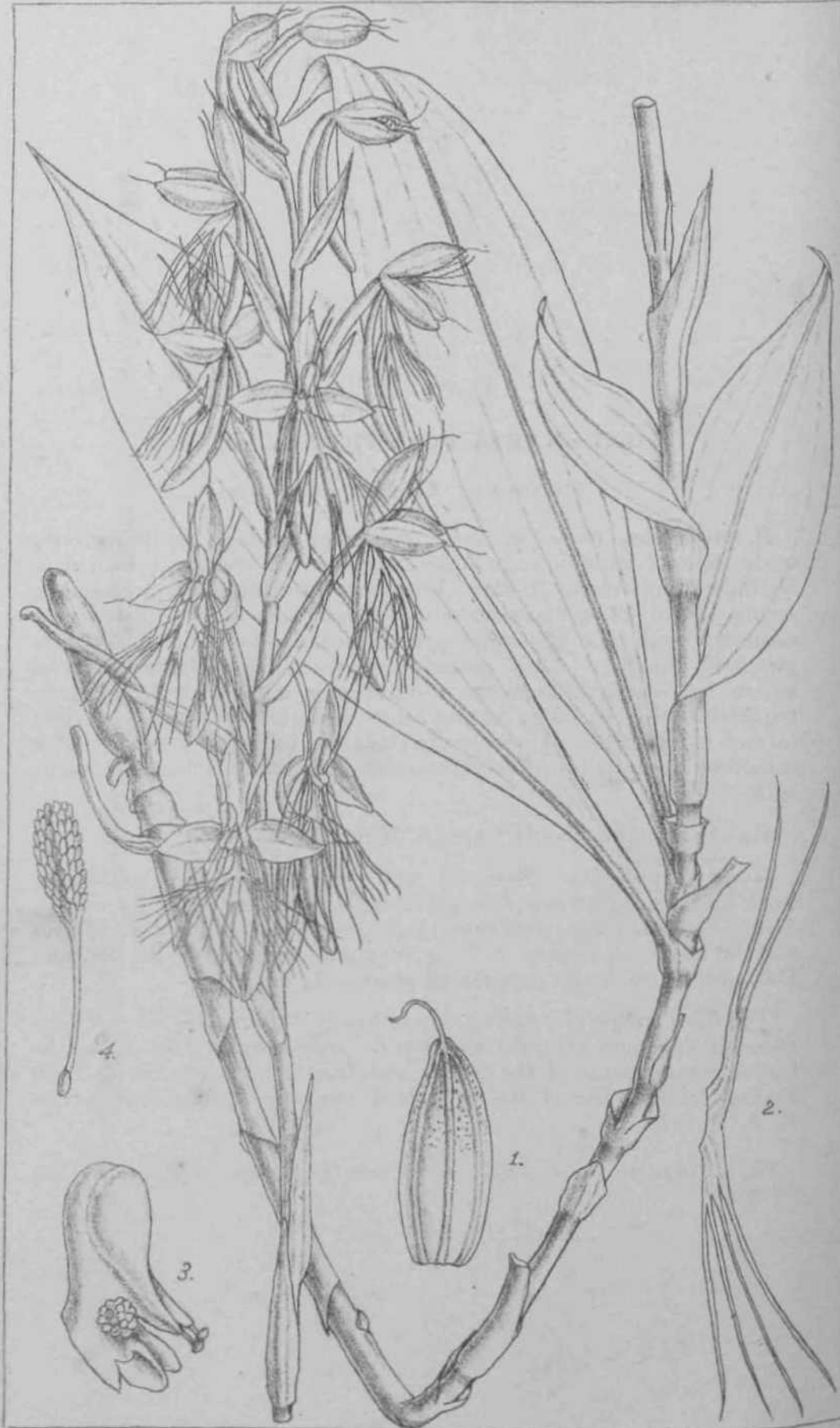
A. Bowerii *HemsL*. *md. in Journ. Linn. Soc.* xxx. 113; perennis, caulis, hispidulo-hirsutus, caule simplice vel e basi pauciramoso monochlocephalo, foliis lineari-spathulatis obtusis vel rotundatis utrinque pilis longis albidis vestitis, capitulis radiatis, involucri bracteis numerosis sub-biseriatis lineari-lanceolatis acutis piloso-hirsutis, acheniis clavatis parce hirsutis simul nigro-maculatis, pappi setis fulvidis leviter scabridis fragilibus.

HAB. Tibet: sandy, gravelly soil on hillsides at 18,000 ft, *Thorom*; Ooring Valley, lat 30° 12' N, long. 90° 25' E., at about 16,500 ft, *Ubdab*.

Plantula 1-5 poll. alta. Folia 3-12 lin. longa. Capitula 9-15 lin. diametro.

This may prove to be specifically the same as *A. flaccidus*, Buoge, a native of the Alatau Mountains, Turkestan.—W. BOTTING HEMSLEY.

Fig. 1. A bract; off the involucre. 2. A ray flower. 3. Pappus bristle. 4. A ray flower. 5. Anther. 6. Apex of style. 7. Achene from which the pappus has fallen. AU enlarged.



M S.del ethth.

Habenaria polytncha. Rolfe.

PLATE 2496.

HABENABIA POLYTRICHA, Rolfe.

ORCHIDEA. Tribe OPHRYDEA.

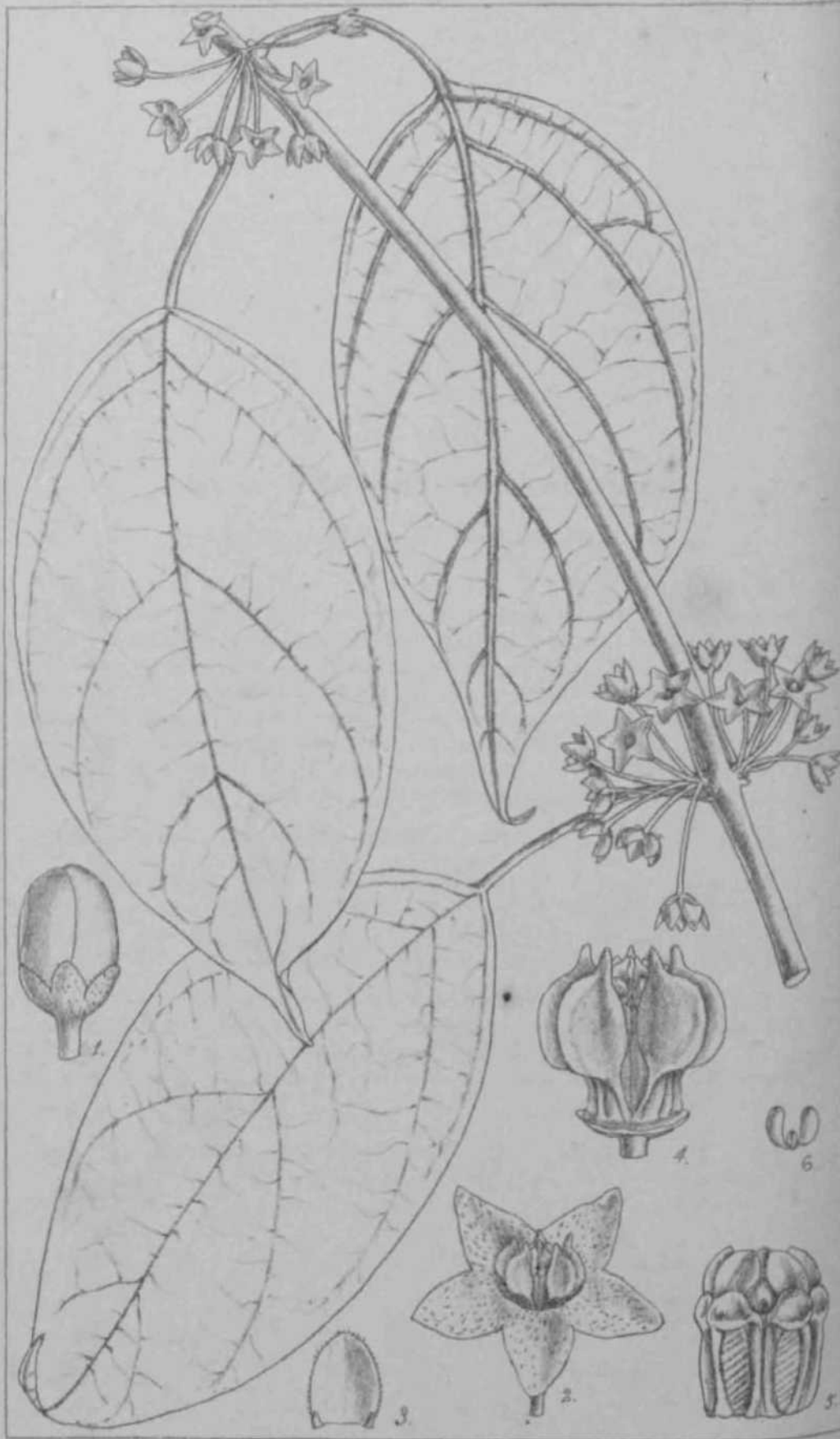
H. polytricha, Rolfe (*sp. nov.*); tuberibus oblongis, caule subelato medio folioso, foliis oblongo-lanceolatis breviter acuminatis basi attenuatis, racemis circa 10-Sons, bracteis ovato-lanceolatis acuminatis, sepalo postico oblongo-lanceolato subconcavo apice subito truncato et setifero lateralibus ovatis apice caudato-acuminatis et deflexis, petalis profunde bipartitis lobis posticis longissimis filiformibus incurvis anticis longissimis in segmenta 4-5 filiformia divis, labello profunde tripartite lobis omnibus in segmenta filiformia numerosa divis, calcar elongato-lineari subclavato incurvo, columna brevi, antherae canalibus porrectis brevibus, processibus stigmaticis oblongis crassiusculis.

HAB. Formosa : South Cape, A. Henry (No. 1246).

Herba 1| ped. alta. *Tubera* 1 poll, longa. *Folia* 2|-5 poll, longa, 9-14 lin. lata. *Racemus* 5-6 poll, longus. *Bracteae* 8-10 lin. longae. *Sepala* 4-5 lin. longa, posticum 1£ lin., lateralia 2£ lin. lata. *Petala* 8-9 lin. longa. *Labellum* 8-9 lin. longum. *Calcar* 8-9 lin. longum. *Columna* 2\ lin. longa. *Stigmatis* processi 1J lin. longi.

The third species of a small group to which Dr. Kränzlin has given the name *Medusceformes*; differing from *H. cindammdca* Hook, f., in the far longer divisions of the petals, and from *H. ternatea*, Bchb. f., in having the front lobe of the lip divided into many filiform segments.—
R. A. ROLFE.

Fig. 1. Dorsal sepal. 2. Petal. 3. Column, side view. 4. Pollinium, All enlarged.



M.S. del. et lith.

Marsdenia efule L. & S., N.E. Br.

PLATE 2497.

MABSDENIA EFULENSIS, *N. E. Brown.*

ASCLEPIADEJE. Tribe MARSDENIEA.

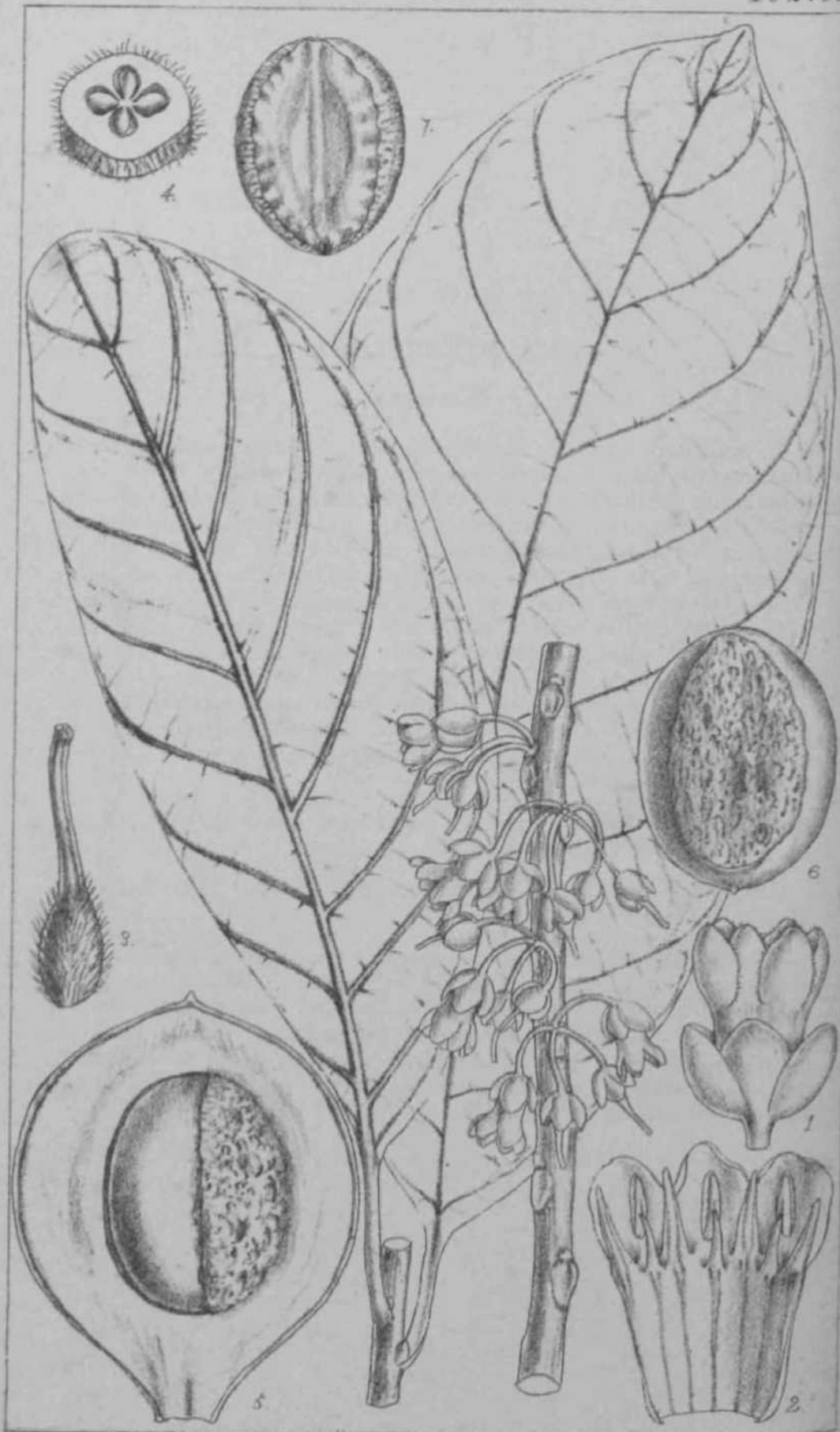
M. efulensis, *K E. Brown (sp. nm\)*; caule suffruticoso voldbili glabro, foliis petiolatis elliptico-oblongis breviter cuspidatis acntis basi rotundatis utrinque glabris, cymis unibelliformibus axillaribus oppositis 10-12-floris sessilibus, pedicellis gracilibus glabris minutissime aspcratis, sepalis ellipticis obtusissimis ciliolatis, corollw tubo brevi campanulato lobis ovatis obtusis patentibus dorso glabris intus putarulis, coronas lobis erectis parte inferiore columns staminum adnata parte superiore liliera basi latis leviter concavis alatis superne dorso compresso-gibbosis apice breviter subulatis, stylo apice valde convexo.

HAB. West Tropical Africa : Efulen, Gameroons, *Bates* (No. 378).

Folium petioli 1-1½ poll, longi, laminae 3-4 poll. longa, 1-2 poll, lata. *Pedicelli* 6-8 lin. longi. *Sepala* 1-1½ lin. longa, 1 lin. lata. *Corollae* tubus 1 lin. longus, lobi 1½-1½ lin. longi, 1 lin. lati. *Coronae* lobi 1½ lin. longi. *Columna staminum* 1 lin. longa.

This distinct and well-marked species, like some other members of the genus, has the pollen-masses somewhat concealed in depressions at or under the margin of the dilated convex apex of the style. The cymes are truly axillary, and arise from both axils of each pair of leaves.—N. E. BROWN.

Fig. 1. Bud. 2. Flower. 3. Sopl from within. 4. Corona and staminol column. A. Ntuminil column with corona removed. 6. Polliuia. All enlarged.



M.S. del. et lith.

Lucuma multiflora, A.D.C.

PLATE 2498.

LUCUMA MULTIFLORA, A. DC.

SAPOTACEA.

L. multiflora, A. DC. *Prodr.* viii. 168 ; arborea ramulis floriferis crassiusculis glabris, cortice cinereo, foliis sparsis vel ad apices ramulorum confertis breviter petiolatis coriaceis glabris obovato-oblongis vel lanceolatis subacutis obtusis vel rotundatis basi cu neat is venis primariis lateralibus utrinque swpius 11-15, floribus distincte pedicellatis inter vel infra folia secus ramulos fasciulatis glabris crassis subcoriaceis, sopalis 4 oblon^o-orbicularibus 2 interioribuH 2 exterioribus, coroliffi lobis 6 rotundatis 3 interioribus i) <\\te< ioribuH, staniinibus 6 petalis oppoaitis inclusis cum stamiiiiodiis subulatis alternantibus filarmentis brevibus antheris extrorsia, ovario hirsute) 4-loculari stylo glabro demum exserto, fructu |>oiiiiifornii vel doprosHO-pyriformi abortu unispermo pericarpio carnosissimo, semi no exalbuminoso subglobooso testa castanea nitida hilo uiaxiino cotyludonibus ajqualibus.

HAD. West Indies : Jamaica, Porto Rico, Dominica, Santa Lucia, St. Vincent, and Trinidad ; various collectors.

Arbor excelsa. *Folia* 3 8 poll, longa. *Floret* 3£ .5 lin. lungi. *Fructus* circiter 2 poll, diametro.

This handsome and apparently widely spread West Tndian tree ia very similar to *L. pauciflora*, A. DC. (*Achras vitellina*, *Tusnac*, *Flores das Antilles*, iv. t. 19), but that has smaller obovate lea VIM, fewer flowers, and the fruit is figured as six seeded, the seeds having a relatively narrow hilum. The bright yellow fruit of *L. inultiloma* bears the name of 'penny-a-piece' or 'penny-piece' in some of the islands.—W. BOTTING HIMHLBY.

Fig. 1. A flower. 2. Portion of Hcorollulni<l open. 3. Pintel. 4. Ovary in tf rrow-
tion. All rii/urtfrd. Fig. i'). Vertical Mivtion of fruit bhowiing the whole uocul.
u. 'Seed. 7. A i*ofylcilou. Ail UUturul </>.



M.S. del. et lith.

Melanophylla crenata, Baker.

TLATE 2499.

MELANOPHTLLA CBENATA, *Baker.*

COBNAC&E.

M. crenata, *Baker (up. nov.)*; suffruticosa, glabra, ramulis teretibus, foliis alternis petiolatis oblongis acutis crenatis penninervis siccitate nigrescentibus basi crenatis, floribus in racemes laxos multifloros terminates dispositis, pedicellis ascendentibus basi bracteis parvis ovatis persistentibus suffultis, ovario turbinato, lobis calycinis parvis ovatis obtusis, petalis oblongis obtusis flora expansa patuhş w " " " *.> staminibus petalis brevioribus antheris oblongis filamentis brevissimis, stylis 2-3 recurvatis apice stigmatoso-capitatis.

HAB. Madagascar : forest* of the province of Tanaln, alt. 4,000-4,500 feet, *Dr. Forgyth Major* (Nos. 118, 296, and 382).

Folia 3-4i poll, longa, medio 18-21 lin. lato ; petiolii 1-1 | poll. long. *Ovarium* 1 IL. longum. *l*bi calycini* | lin. longi. / W « 2 lin. longa. Fructus ignotus.

This genus of Cornace*, which is only known in MaAigascar^{^^was} described in the 21st volume of the *Journal ofll** ^»«*«» *«J^{cty,} p. 352. This is the first time that it has been hgured. Two ^{^pe,} were known previously. The fruit is still a desideratum.-J. u. ^{ics} **BAKER.**

Fig. 1. Expanded flower and tad. 2. Antl.rr. 3. rinlil. 4. Or^{ary} in v.r.i.,1
»*ction. *All eularyed.*



WS del. et lith.

Batesanthus purpureus. N.E. Br.

PLATE 2*00.

BATESANTHUS PURPUBBUS, -V. A\ *Hrown.*

ASCLEPIADE,*.: Tribe PERIPLOCKJE.

Batesanthus, iV. *E. Brown* {gen. wn\}. *Calyx* 5-partitus. *Corolla* rotata, alte .')-loba, lobis sinistrorsum obtogentibus. *Corona* basi corolla* affixa, breviter annularis, indistincta. *Stamina* intra coromm aflixn, filatnentis liberis ; antherw erectn?, anguste oblongn*, apice appendicibiiN cohfcrentibus terminate, glabriu. *Pollen* granulosum. *CorfmMulonnn lamina** bipartita?. *Stylu** apice breviter conious. *Follie.nli* non visi. Frutex voluhilia. Folia opjtotiita, ampin, }>etiolata,nli}>u!ata. Piuiioul:i> axil/area. Flores mcujni.

B. purpureus, JT. *E. Brown* (*ap. nnica*); tflubra, «*ulo subforru^ineo paive verruculoso, foliis distantibus petiolatis oblongis v<l tlliptico-oblongis acute cuspidatis basi cordatis, stipulis interpotiolaribus re II ox in dentatis, panic ulis pedunculatis elongatis lax is quam folia inulto longioribus ramis inferioribus dichotomis superioribus siniplicibus rac<< nioso-floriferis, sepal is ovatis subacutis, corolla inagna purpurea rotata Profunde 5-loba lobis olliptico-oblongis obtusissitnis, corona indistincta annulari lobulis quinque minutis staininibus oinuino adnatis.

° HAB. West Tropical Africa : Efulen, Cameroons, *Bntn* (Nn. °#3).

. *Foliorum petioli* || poll, longi, laminie 6-7 poll, longw, 3 .t\ p>H iat». *Panicula* (pedunculo 4 polh longo incluBo) 1 ped. longa, ramis £-2 poll, longis. *Pedkelli* 3-7 lin. longi. *Sepala* 1 { lin. longa, } lin. «**». *Corolla* 14-11 poll, diam., lobis 9 lin. longis, 5-ftJ lin. latw. *Columna ataminum* 1 lin. longa et lata.

This fine Asclepiad appears to be nearest related to *Chlurocodon*% with w\ich it agrees in habit and stipules ; but the corona, which is not very ev\ident, and the staminal column are entirely different—N. E. BROWN.

Fig. 1. Sepal Been from witrin. 2. Corona and Rtaminnl column. 8. The same partly directed to show the pnBition of the ppilon-cnrriera. 4. Pollen-canier. All enlarpd .