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BOTANICAL SURVEY OF INDIA

GLASS No **582**.....

BOOK No. *Hoo - i V10 ; 1854*

ACC. NO.....

18 1689.

PLATE 1801.

PHIALANTHUS MYKTILOIDES, *Griseb.*

RUBIACEAE. Tribe CROCCEAE.

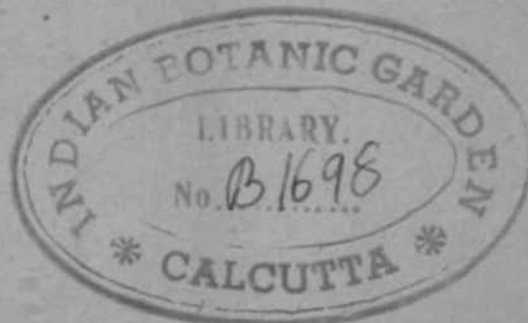
P. myrtioides, *Griseb. Flora Brit. West Ind.* 335; fruticosus, elaboratissimus, foliis breviter petiolatis oblongis obtusis e medio ad basin angustatis margine coriaceis margine revolutis, nervibus subsessilibus paucis glaucis, calycis segmentis oblongis foliaceis ovario longis, corolla tubo campanulato segmentis brevibus ovatis fere patulis.

HAB. Bahamas, Swainson; Acklin's Island, Eggers, 3968- Fortune Island, Eggers, 3858; Cuba, O. Wright, 2724.

Frutex ramosissimus 6-8 pedalia, habitu *Buxi*. Folia 6-8 lin. longa, venis inconspicuis immersis, stipulis in anulum campanulatum coactis. Calyx (cum ovario) 1 lin. longus. Corolla expansa 1 lin. diam. Ovarium biloculare, ovulis solitariis pendulis. Fructus ignotus.

A link between the Cuban and Bahaman floras. The genus is not elsewhere known. There are five species in Cuba, and this is the only one at present known in the Bahaman group.—J. G. BAKER.

Fig. 1. Connate stipules. 2. A flower. 3. Calyx and pistil. All enlarged.





M.S. del et lith.

Mimosa "bahiensis/Benth..

PLATE 1802.

MIMOSA BAHAMENSIS, *Benth.*

LEGUMINOSÆ. Tribe EUMIMOSEJ.

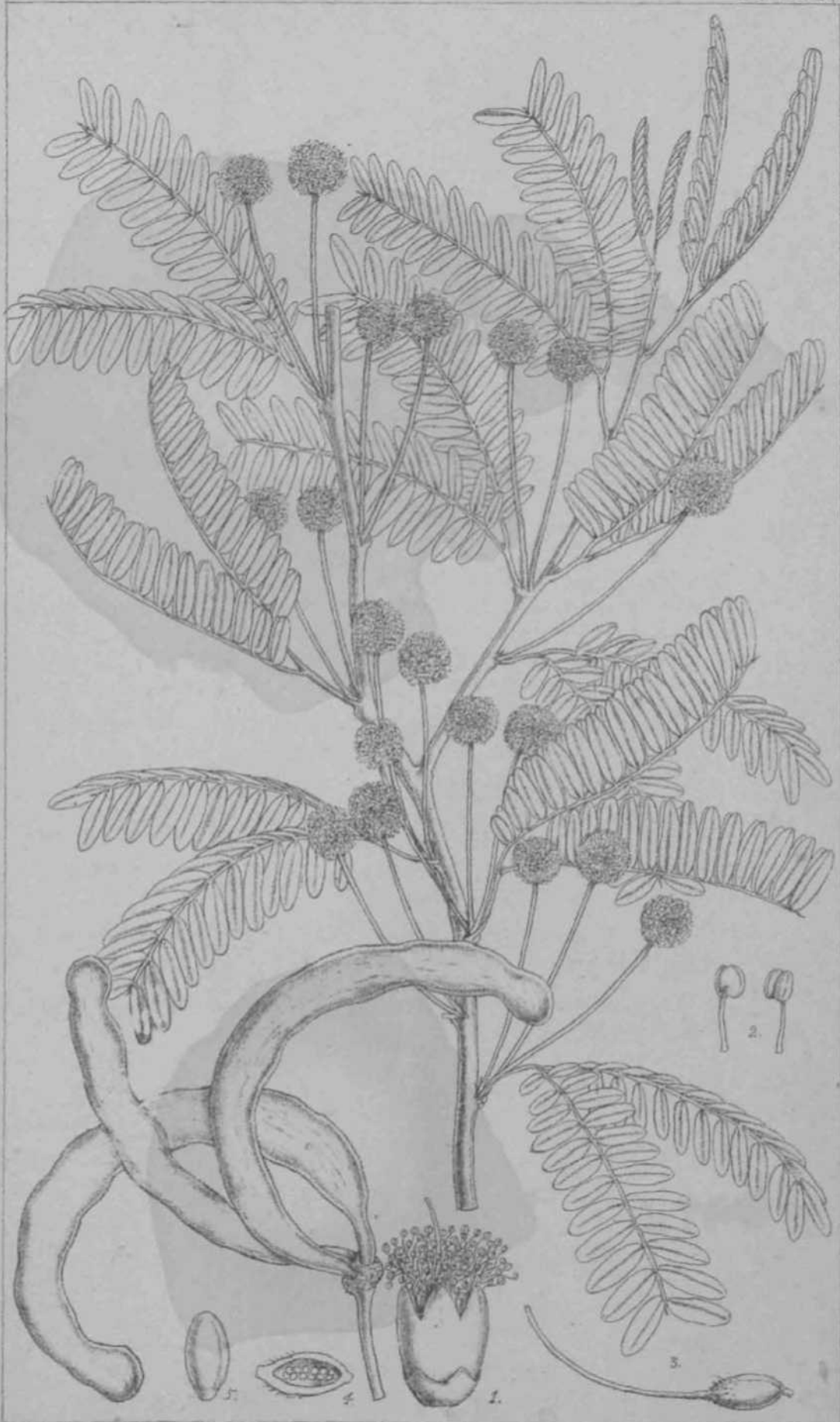
M. bahamensis, *Benth. in Hook. Journ. Bot.* iv. 408; *Trans. Linn. Soc.* xxvii. 422; fruticosa, ramulis ferrugineo-pubescentibus aculeis uncinatis ariliatis, foliorum pinnis 3-4-jugis, foliolis 3-6-jugis obovatis contiguis glabrescentibus, capitulis parvis globosis axillaribus vel ad ramorum apices racemosjs, legumine lineari tenai 6-8-spermo undique alato.—Griseb. *Fl. Brit. West Ind.* 219.

HAB. Bahamas, *Swainson*; Long Cay, *Brace*, 443 ; Fortune Island, *Eggers*, 3806.

Frutex 6-8-pedalis. *Foliola* 2 lin. longa. *Capitula* 3 lin. diam. *Calyx* campanulatus, dentibus parvis. *Gorolla* infundibularis, segmentis tubo brevioribus. *Legumen* 1 i 2 poll longum tenue articulatum ferrugineo-pubescentibus, undique ala cornea denticulata marginatum.

When Mr. Bentham's monograph in the 'Transactions of the Linnean Society' was written, this was known in flower only. Since that time the fruit has been found both by *Brace* and *Eggers*. It is one of the few endemic Bahaman plants.—J. G. BAKER.

Fig. 1. Flower complete. 2. Stamens. 3. Pistil. *All enlarged.*



M.S. del. et lith.

Acacia acunera, Benth.

PLATE 1803.

ACACIA ACUIPERA, *Benth.*

LEGUMINOSJE. Tribe ACACIJSJ.

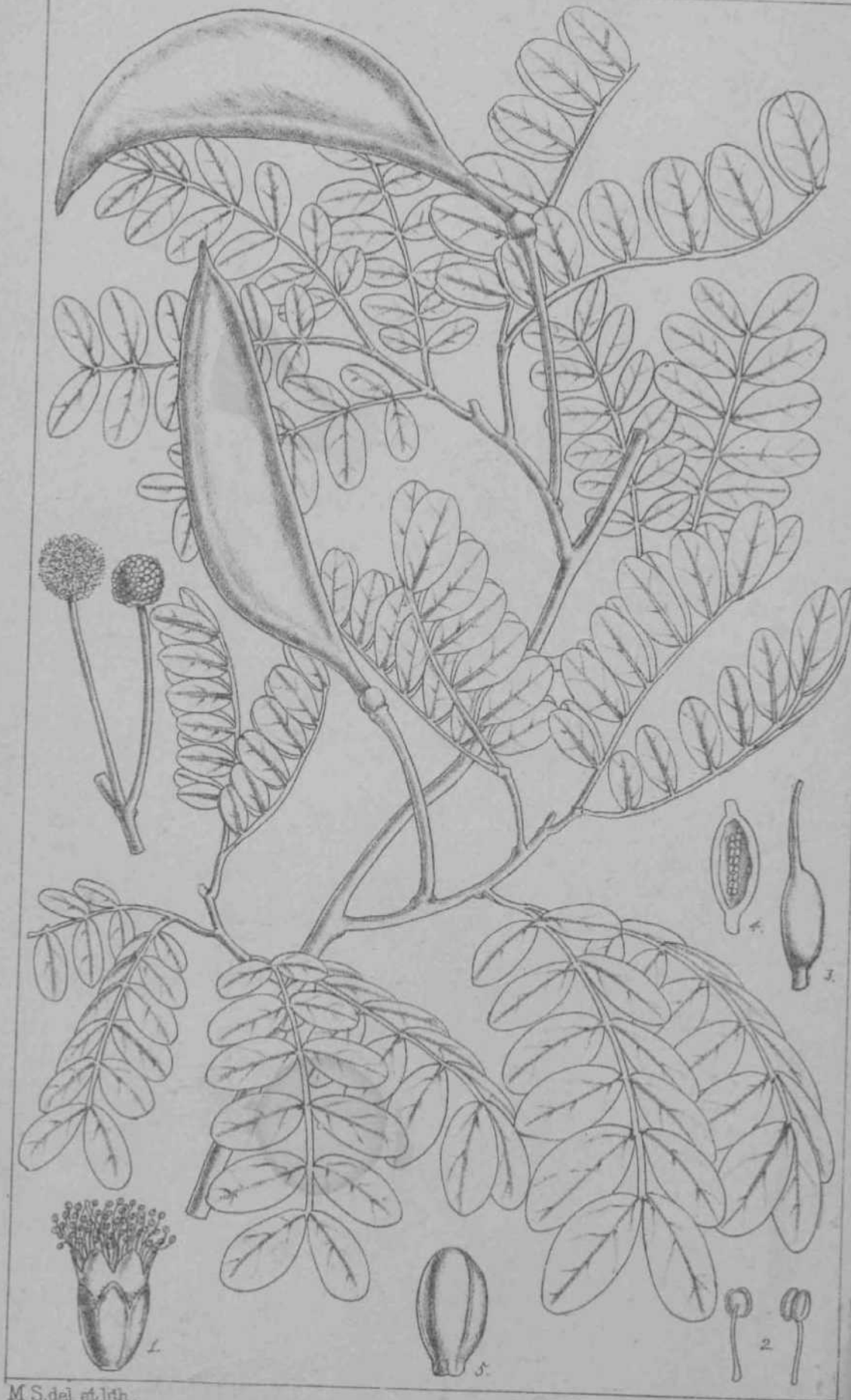
A. acuífera, *Benth. in Hook. Lond. Journ. i. 496; Trans. Linn. Soc. t. xxvii. 503*; arborea, ramulis glabris aculeis ascendentibus subuiatis geminis pungentibus armatis, foliorura pinnis unijugis, foliolis 12-14-jogis lineari-oblongis crebris glabris, eapitulis parvis globosis axillari-bus pedunculatis, legumine lineari glabro valde arcuato.

HAB. Bahamas, *Swainson*; Long Cay, *Brace*, 449, 459; Fortune Island, *Eggers*, 3289; Turk's Island, *Bjalmarson*.

Arbuscula 10-12-pedalis. *Folia* breviter petiolata, pinnis 1[^]-2 poll., foliolis rigidalis 3 lin. longis. *Oapitula* 2 lin. diam., ad foliorum axillas 1-3-na longe pedunculata. *Calyx* brevissimus. *Corolla* campanulata flava, segmentis parvis ovatis. *Legumen* 2-3 poll, longum, 3 lin. latum, suturis leviter incrassatis.

An endemic Bahaman species, nearly allied to the widely-spread *A. Farnesiana*, Willd.—J. G. BAKER.

Fig. 1. Complete flower. 2. Stamens. 3. Pistil. 4. Section of ovary. 5. Seed. All more or less enlarged.



M S. del. et lith.

Acacia coriophylla, Benth.

PLATE 1804.

ACACIA CHORIOPHYLLA, *Benth.*

LEGUMINOSII. Tribe ACACIEJ.

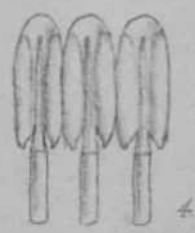
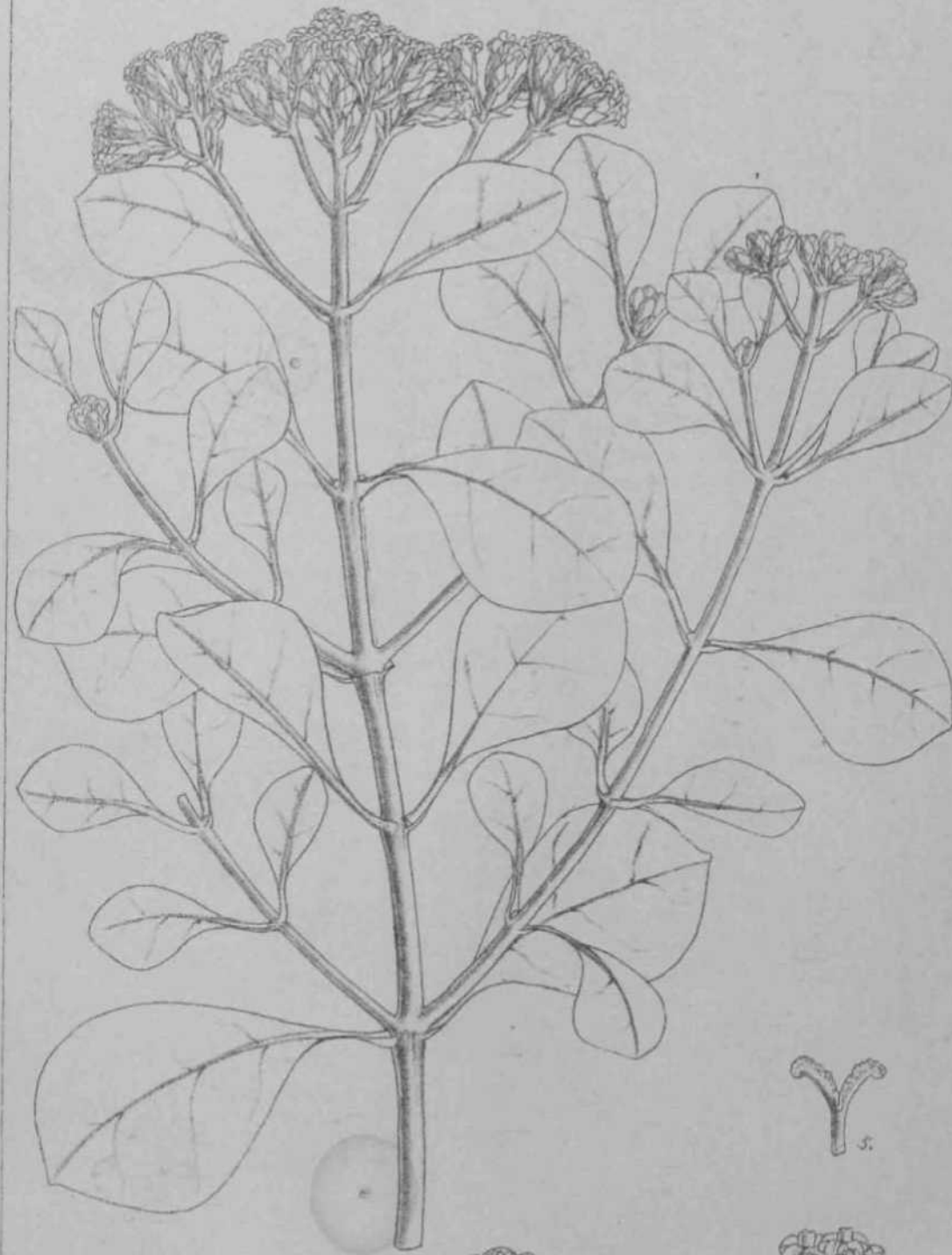
A. choriophylla, *Benth in Hook. Lond. Journ.* i. 495; *Tram. Lym. Soc.* xxvii. 503; arborea, ramulis inermibus vel aculeis minutis interdum armatis, foliorum pinnis 1-3-jugis, foliolis crebris oblongis rigidulis glabris 5-6-jugis, capitulis parvis globosis axillaribus pedunculatis solitariis vel fasciculatis, legumine crasso coriaceo oblongo acuto.

HAB. " Bahamas, *Swainson*; New Providence, *Brace*, 109, 359; Acklin's Island, *Eggers*, 3923.

Arbor 20-pedalis. *Foliola* 6-12 lin. longa. *Capitula* 3 lin. diam. *Calyx* campanulatus, dentibus ovatis tubo brevioribus. *Corolla* tripartita campanulata calyce paulo longiora. *Legumen* breviter stipitatum 2 poll., longum. 6-7 lin. latum ad apicem et basin attenuatum.

This is another very distinct endemic Bahaman species.—J. G. BAEEK.

Fig. 1. Flower complete. 2. Stamens. 3. Pistil. 4. Section of ovary. 5. Seed. All more or less enlarged.



M.S. del et lith.

Salmea perlobioides, Griseb.

PLATE 1805.

SALMEA PETEOBIOIDES, *Griseb.*

COMPOSITE. Tribe HELIANTHOIDEAE.

S. petrobioides, *Griseb. Flora Brit. West Ind.* 375; fruticosa, glabra, foliis obovato-cuneatis integris obtusis petiolatis, capitulis parvis paucifloris dense corymboso-panioulatis, involucro campanulato bracteis pauciseriatis interioribus oblongis exterioribus ovatis, receptaculi paleis rigidulis oblongo-lanceolatis, achronii aristis exalatis subeequilongis, styli ramis brevibus falcatis.

HAB. Bahamas, *Sivainson, Brace*, 220; Hog Island, on rocks of the seashore, *Eggers*, 4259.

Frutex 4-pedalis, ramulis lignosis teretibus. *Folia* 6-15 lin. longa obscure cnspidata. *Involucrum* 2 lin. longum. *Corolla* albida, segmentis lanceolatis revolutis tubo infundibulari duplo brevioribus. *Achcenii* anguli haud ciliati.

An endemic Bahaman species of a moderately large West Indian and Mexican genus.—J. Gt. BAKER.

Fig. 1. Capitulum. 2. Scale of the receptacle. 3. A single flower, complete. 4. Stamens. 5. Summit of the style. *All more or less enlarged.*



MS del. et lith.

Buxus bahamensis, Baker.

PLATE 1806.

BUXUS BAHAMENSIS, Baker.

EUPHORBIACEÆ. Tribe BUXEJ.:

***B. (Tricera) bahamensis, Baker (n. sp.);* foliis breviter petiolatis rigidis oblongis acutis obsolete venosis, bracteis minutis ovatis viridibus, floribus foemineis solitariis breviter pedicellatis, calycis segmentis parvis ovatis viridibus, stylis lanceolatis reflexis ovario paulo brevioribus, coccis apice breviter bicomutis, floribus masculis in cymis lateralibus paucifloris breviter pedunculatis dispositis, staminibus calyce longioribus.**

HAB. Bahamas; Long Cay, *Brace*, 461; Fortune Island, *Eqgers*, 3815.

***Frutex* 4-pedalis, habita *B. sempervirentis*. *Folia* rigide coriacea, 12-15 lin. longa. *Floris* masculi *sepala* 1 lin. longa. *Oocci* 2-2[^] lin. longa.**

A new endemic Bahaman species allied to the Jamaican *B. Vahlia* and Cuban *B. retusa* and *gonoclada* of Müll. Arg.—J. Q. BAKER.

Fig. 1. Cyme of male flowers. 2. Male flower cut open. 3. Female flower. 4. Vertical section of ovary. 5. Fruit of three cocci. 6. Seed. All more or less enlarged.



M.S. del., et lith.

Pinus bahamensis, Griseb.

PLATE 1807.

PINUS BAHAMENSIS, *Oriseb.*

CONIFEJELE. Tribe ABIETINEJE.

P. (Tceda) bahamensis, *Oriseb. Fl. Brit West Ind.* 503; arbor medio-cris, vaginarum squamis ovatis membranaceis, foliis ternis gracilibus pedalis dorso rotundatis facie canaliculatis carina prominente, amentis masculis sessilibus dense glomeratis, strobilis ovato-oblongis solitariis cernuis pedunculatis, squamarum apophysi rhomboideo umbone centrali conico hand pungente marginibus latis convexis laevibus.

HAB. Bahamas; New Providence, *Brace*, 103, 302, 438; *Eggers*, 4172.

Arbor 40-pedalis, trunco pedali diam. *Foliorum* fasciculi ad ramulos conferti-ascendentes. *Folia* matura pedalia et ultra, 2 lin. diam. *Amenta* mascula 12-18 lin. longa. *Strobili* 3-3⁴ poll, longi, 2 poll, diam.

Baron Eggers describes this Pine as forming dense woods in the island of New Providence. Grisebach had the cones only, but the leaves confirm his suggestion that it belongs to the section *Tceda*, to which the Cuban *P. cubensis*, Griseb., also belongs.—J. G. BAKER.

Fig. 1. Front view of stamen. 2. Back view of stamen. 3. Apophysis of top of scale of cone. *Fig. enlarged.*



M.S. del et lith.

Liparis Cathcartii, Hock.fil.

PLATE 1808.

LIPAEIS CATHCARTII, *Hook. f.*

ORCHIDEJE. Tribe LIPARIDEJE.

L. (Mollifolia) Cathcartii, *Hook. f. (sp. nov.)*; terrestris, caule diphylo,- foliis suboppositis petiolatis elliptico-ovatis subcordatisve acutis, scapo gracili, bracteis minutis ovatis, sepalis lanceolatis acutis 3-nerviis marginibus revolutis, petalis anguste linearibus deflexis, labello obcordato v. obovato-rotundato integerrimo v. obscure crenulato callis 2 prope basin elongatis, columna elongata incurva alis obscuris. *L. rupestris* in part., *Ridley in Jmrm. Linn. Soc.* xxii. 268 (*non Griff.*).

HAB. Sikkim Himalaya, alt. 8,000 to 10,000 ft., / *D. H.*; *Clarke*.

Oandis 2-3-pollicaris, vaginatus, vaginis sabacutis. *Folia* 3-4-poll. longa, multinervia. *Scapus* nna cum racemo 3-6-pollicaris; bracteas sparsis, late ovatis, vix 1/2 poll. longis. *Labellum* 1/2-1 poll. longum, flavidum v. purpurascens; calli interdum in carinis elongatis producti.

The minute bracts, elongate calli in the lip, and long slender column distinguish this at once from *L. Roylei*.—J. D. HOOKER.

Fig. 1. Flower, with suborbicular lip. 2. Sepal. 3. Lip from another specimen. *All enlarged.*



M.S. del. et lith.

Lipans Glossula, Reichb.f.

PLATE 1809.

LIPABIS GLOSSULA, Reichb.f.

ORCHIDEA: Tribe LIPARIDEJ:.

L. (*Mollifolia*) **Olossula, Reichb.f. in Rinncsa**, zli. 43; terrestris, caule monophyllo, folio elliptico-lanceolato acuto in petiolum latiusculum angustato integerrimo, scapo valido, bracteis elongatis lineari-lanceolatis erectis, sepalis patentibus oblongo-lanceolatis 3-nerviis marginibus revolutis, petalis anguste linearibus, labello late obovato-oblongo cuspidato crenulato ecalloso, columna incurva alia obscuris. **Ridley in Journ. Linn. Soc. xxii. 268.**

HAB. Western and Central Himalaya; Kumaon, alt. 5,000 to 7,000 ft., **Edgeworth, Strachey and Winterbottom (L. nepalensis), Duthie; Nepal, Wallich**; Sikkim, at Chumbi, **King's Collector**.

Pseudobulbi ovoidei 1-1-J pollicares. *Caulis* 2-3-pollicaris, vaginis obtusis appressis tectus. *Folium* 2-6-pollicare, 1/2-1/2 poll, latum, nervis gracilibus. *Scapus* cum racemo 4-7-pollicaris; bracteis J-1/2 poll. longis, ovario breviores. *Labellum* 1/2-1/2 poll, longum. *Columna* gracilis, incurva, alia ad apicem minutis rotundata.—J. D. HOOKER.

Fig. 1. Flower. 2. Sepal. *Both enlarged.*



M.S.del,etlitti

Liparis pulchella, Hook.f.

PLATE 1810.

LIPARIS PULCHELLA, *Hoolc.f.*

ORCHIDEJ. Tribe LIPARIDEE.

L. (Mollifolia) pulchella, *Hook. f. (sp. nov.)*; terrestris, caule diphylo, foliis longe petiolatis rotundato-ovatis acuminatis basi cordatis, scapo gracili nudo, racemo laxepaucifloro, bracteis parvis lanceolatis, sepalis lanceolatis acutis 3-nerviis marginibus revolutis, petalis anguste linearibus decurvis, labello oblongo v. obovato-oblongo retuso v. acuto callis 2 basi minutis, columna gracili incurva alis terminalibus minutis rotundatis v. uncinatis. *L. rupestris* var. *purpurascens*, *Ridley in Journ. Linn. Soc.* xxii. 268.

HAB. Khasia Hills; at Myrung, Moflong, and Surureem, alt. 5,000 to 6,000 ft., *J. D. H. and T. T. (Herb. Ind. Or. Liparis, No. 7)*. Naga Hills, in Upper Assam, *Prain*.

Bulb repens, robustum, pseudobulbis parvis ovoideis v. globosis. *Caulis* subnullus v. $\frac{1}{2}$ poll, longus. *Folia* 1-2 poll, longa, 7-9 nervia. *Scapus* una cum racemo 3-6 poll, longus, bracteis $\frac{1}{2}$ poll, longis; pedicelli filiformes. *Labello* $\frac{1}{2}$ poll, longum, purpurascens, basi rotundatum, callis obscuris, marginibus minutissime erosis.

A beautiful species, allied to *L. nepalensis*, but much smaller and more slender, with much smaller bracts and a broader lip. Ridley makes of this a variety of his *L. rupestris*, Griff., which is not Griffiths' plant. His description of *rupestris* is made up of that of Griffith (*Notul.' iii. 276), of which no specimens are known to exist, and Beichenbach's *L. rostrata*, which is a very different species.—J. D. HOOKER.

Fig. 1. Side and (2) back view of flower. 3. Sepal. 4 and 5. Lips of different forms. *All enlarged.*



M.S. del, et lith.

Liparis cordifolia, Hook. f.

PLATE 1811.

LIPARIS CORDIFOLIA, *Hook. f.*

ORCHIDEJB. Tribe LIPARIDEJS.

L. (Mollifolia) cordifolia, *Hook, f. (sp. nov.)*; terrestris, caule monophyllo, folio sessili rotundato-cordato acuminato basi scapura gracilem teretem nudum amplectente, bracteis parvis, pedicellis gracilibus, sepalis lanceolatis acutis 3-nerviis, petalis angustis brevioribus deflexis, labello amplo obcordato v. obovato-rotundato apiculato crenulato ecalloso, columna gracillime incurva, alis terminalibus parvis rotundatis. *L. rupestris*, *Ridley in Journ. Linn. Soc. xzii. 268, ex parte (non Griff.)*.

HAB. North-west Himalaya (*drawing in Herb. Kew*); Sikkim, at Yoksun, alt. 6,000 ft., *Clarke*; Khasia Hills, alt. 3,600 ft., *Griffith, J. D. H. and T. T. (Herb. Ind. Or. Liparis, No. 8)*.

Pseudobulbi parvi, conferti. *Oaulis* brevis, crassiusculus. *Folium* 2-5 poll, longum, 5—7-nerve; lobis basalibus convolutis scapum amplectentibus. *Scapus* una cum racemo 4-5 pollicaris; bractea 1½ poll, longum. *Labello*, ^ poll, longum et latum.

This has been referred by Mr. Ridley to Griffiths' *L. rupestris* of the Khasia Hills, of which no specimen exists, but in that plant, according to Griffiths' detailed description, the flowers are small, the scape is angled and winged, and the lip oblong.—J. D. HOOKER.

Fig. 1. Portion of rachis of raceme, with minute bracts; of the natural size. 2. Flower. 3. Sepal. Both enlarged.



M.S. del. et lith.

Liparis Gamblei, Hook. f.

PLATE 1812.

LIPABIS GAMBLEI, *EooJc.f.*

ORCHIDEJE. Tribe LIPARIDE-E.

L. (Mollifolia) Gamblei, *Hook. f. (sp. nov.)*; terrestriff, caule monophyllo, folio sessili elliptico obtuso v. sabacuto margine integerrimo v. crenulato, scapo valido, bracteis brevibus ovatis acutis, sepalis patentibus oblongo-lanceolatis obtusis 3-nerviis marginibus revolutis, petalis anguste linearibus, labello elliptico-oblongo acuto deflexo basi callis 2 parvis instructo, columna gracili incurva alis prope apicem minatis.

HAB. Sikkim Himalaya; at Rungbee, *Clarice*; Sinchul, alt. 6,500 ft., *Gamble*.

Pseudobulbi parvi, ovoidei. *Gaulis* 2-3 pollicaris, sulcatus. *Folium* membranaceum, 4-6 poll, longura, multinerve, basi acutum, supra basin complicatnm, scapum validum amplexens. *Scapus* crassitie penned corvinae, brevis; racemns 2-3-pollicaris, multiflorus, rachi valida; bracteae ^ poll, longffi, persistentes; pedicelli paullo longiores, *Labellum* ^ poll, longum.

Closely allied to *L. Glossula*, *Beichb. f. (supra, pi. 1809)*, but differing in the short bracts, smaller flowers, and differently shaped lip.—J. D. HOOKER.

Fig. 1. Margin of leaf of crenulate form; of the natural size. 2. Flower. 3 and 4. Lips. 5. Sepal. All enlarged.



M.S. del. et h.k.

Liparis rostrata, Reich f

PLATE 1813.

LIPABIS ROSTRATA, *Reichb.f.*

OBCHIDEIE. Tribe LIPARIDE-E.

L. (Mollifolia) rostrata, *Reichb. f. in Linnæa*, xli. 44; terrestris, caule diphylo, foliis suboppositis subsessilibus petiolatisve elliptico-oblongis acutis, scapo foliis brevior, racemo pyramidato, bracteis parvis ovato-oblongis deflexis ovario multoties brevioribus, sepalis lanceolatis 3-nerviis marginibus revolutis, petalis deflexis anguste linearibus, labello orbiculari-obcordato apiculato crenulato ecalloso, columna breviuscula alis apicalibus minutis rotundatis. *L. olivacea ex parte, perl. Hook.f. et Thorns, (non Lindl.)*. *L. rupestris ex parte, Ridley in Journ. Linn. Soc.* xxii.*268 (*non Griffith*).

HAB. Western Himalaya, *Royle*; Simla, alt. 6,000-8,000 ft. *Thomson*; Kumaon, alt. 5,000-7,000 ft., *Edgeworth*.

Pseudobulbi ovoidei, rhizomate brevi conferti. *Ovaria* 1-3-pollicarifl, vaginis obtusis appressis tectus. *Folia* 3-pollicaria, petiolo lato. *Bractea* una cum racemo 2-6-pollicaris; bractea 2-3 poll, long; pedicelli graciles, 1-2 poll.; flores virides. *Labellum* 1-2 poll, latum, in unguem brevem contractum, dein subcordatum. *Columna* basi lata, superne sensim angustata.

Differs from *L. Gathcartii* (pi. 1808) in the large bracts, very different lip without calli, and short stout column; from *L. olivacea*, Lindl., in the small bracts, 3-nerved sepals, and obcordate lip. From *L. rupestris*, Griff., under which Ridley has placed it, it differs in not having a solitary sessile cordate leaf, and in other characters.—J., D. HOOKER.

Fig. 1. Flower. 2. Sepal. *Both enlarged.*



M.S. del et lith.

Sonerila pep ero mi ae folia. Oil.

PLATE 1814.

SONERILA PEPEROML2BFOLIA, *Oliv.*

MELASTOMACEJ. Tribe SONERILEJJ.

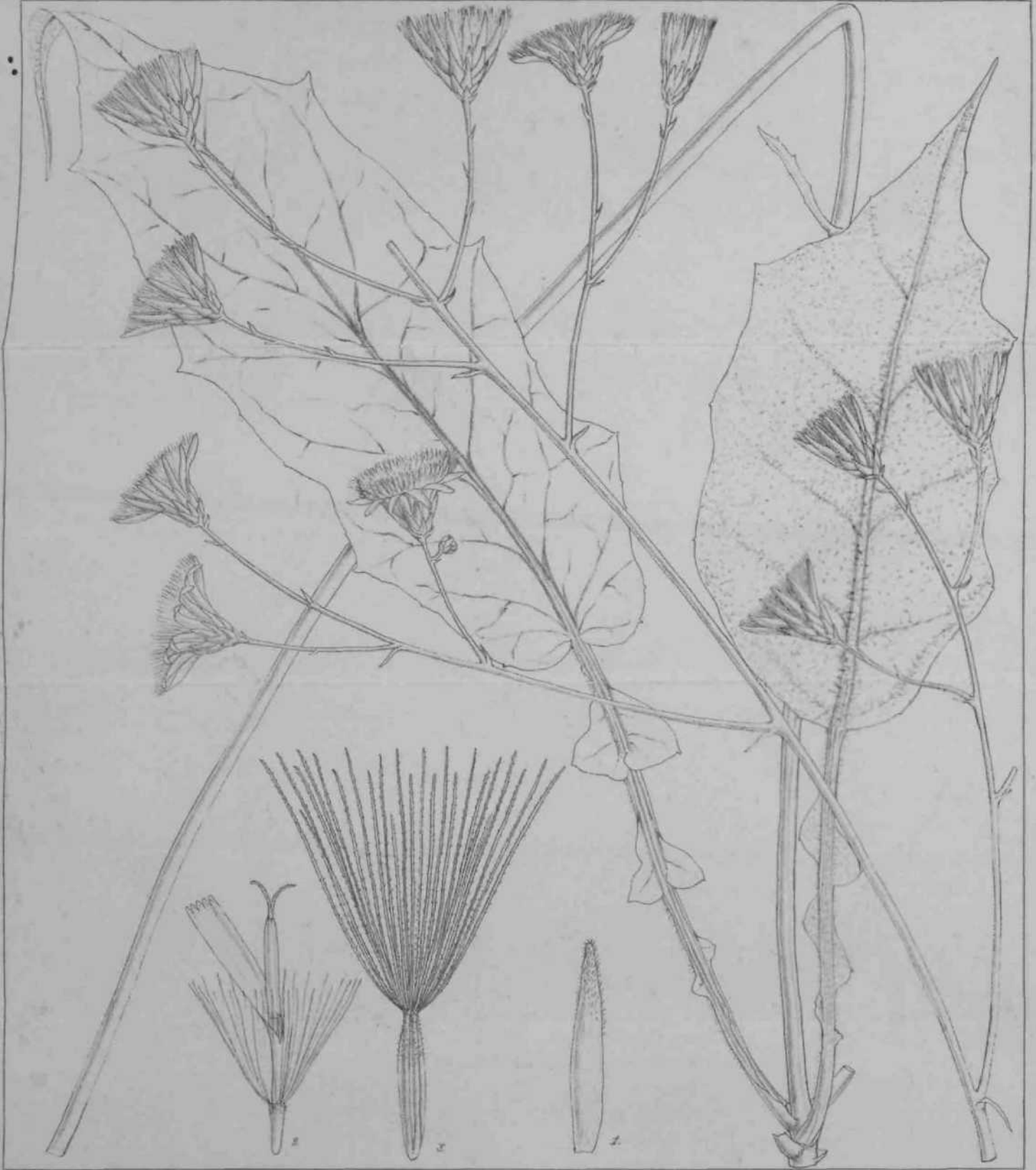
S. peperomisefolia, *Oliv. (sp. nov.)*; acaulescens, foliis longiuscule petiolatis carnosulis late ovato-ellipticis apice acutatis breviter acuminatis v. obtusis basi late rotundatis angustissime auriculato-cordatis 5-7-nerviis, supra glabris sabtns in nerviis parce setuloso-hirtis, scapis erectis- glabris supra medium trichotome divisis t5-9-floris, floribus tetrameris pedicellatis ssepius ternis, calyce tarbinato basi in pedicellum angastato glabro dentibus 4 deltoideis brevibus, petalis ellipticis obtasis mucronulatis, staminibus biseriatis 4 majoribus longe exsertis minoribus (antheris flavidis) duplo longioribus.

HAB. China, Prov. Kwantung, *Dr. G. R. Tate*; North River, *O. Ford* (No. 336).

Folia lamina lf-6 poll, longa, 1[^]-4 poll, lata; petiolus 1-4 poljp longus parce setulosus. *Sca'pus* folia saepius superans carnosulus. *Pedicelli* calyce eequilongi parce setuldsi v. glabri. *Petala* [^] poll, longa. *Stamina* longiora §-J poll, longa.

The calyx of the dry flowers appears to be 4-costate or obscurely 4-angled. *Dr. Tate's* specimens are in fruit, and the calyx in these shows the ridges more distinctly, with intermediate ones, becoming almost narrowly alate and decurrent into the pedicels.—D. OLIVER.

Fig. 1. Bud. 2. Fetal. 3. Long and (4) short stamens. 3. Calyx laid open above. *All enlarged.*



M.S. del et lith.

Faberia smensis, Hemsl.

PLATE 1815.

FABERIA SINENSIS, Hemsl.

COMPOSITE. Tribe CICHOBIAE^.

Faberia, Hemsl. {gen. MOV. inter *Troxvñionem* et *Taraxacum*).
Capitula homogama, liguliflora. *Involucrum* campanulatum, bracteis herbaceis intimis uniseriatis coloratis pappum ffiquantibus, exterioribus plariseriatis appressis gradatim minoribus, extimis squamiformibus. *Eceptaculum* planum vel leviter convexum, epaleaceum. *GorollcB* lignlat©, apice 5-dentate9. *Antherce* . . . *Styli* rami tenues, elongati, papilloi. *Achcenia* fusiformia, striata, vel leviter costata, ininnte hispidula, erostrata. *Pappi* setae fuscse, uniseriatse, simplices, basin versus barbellatro, incequales.—Herba *scapigera*. Folia *lyrato~pi?matifida*. Scapi *oligucephali*. Capitula *majuscula*.

P. sinensis, Hemsl. (sp. unid).

HAB. Mount Omei, Szechuen, Cbina, at 4,000 to 4,500 ft., Rev. Ernst Faher.

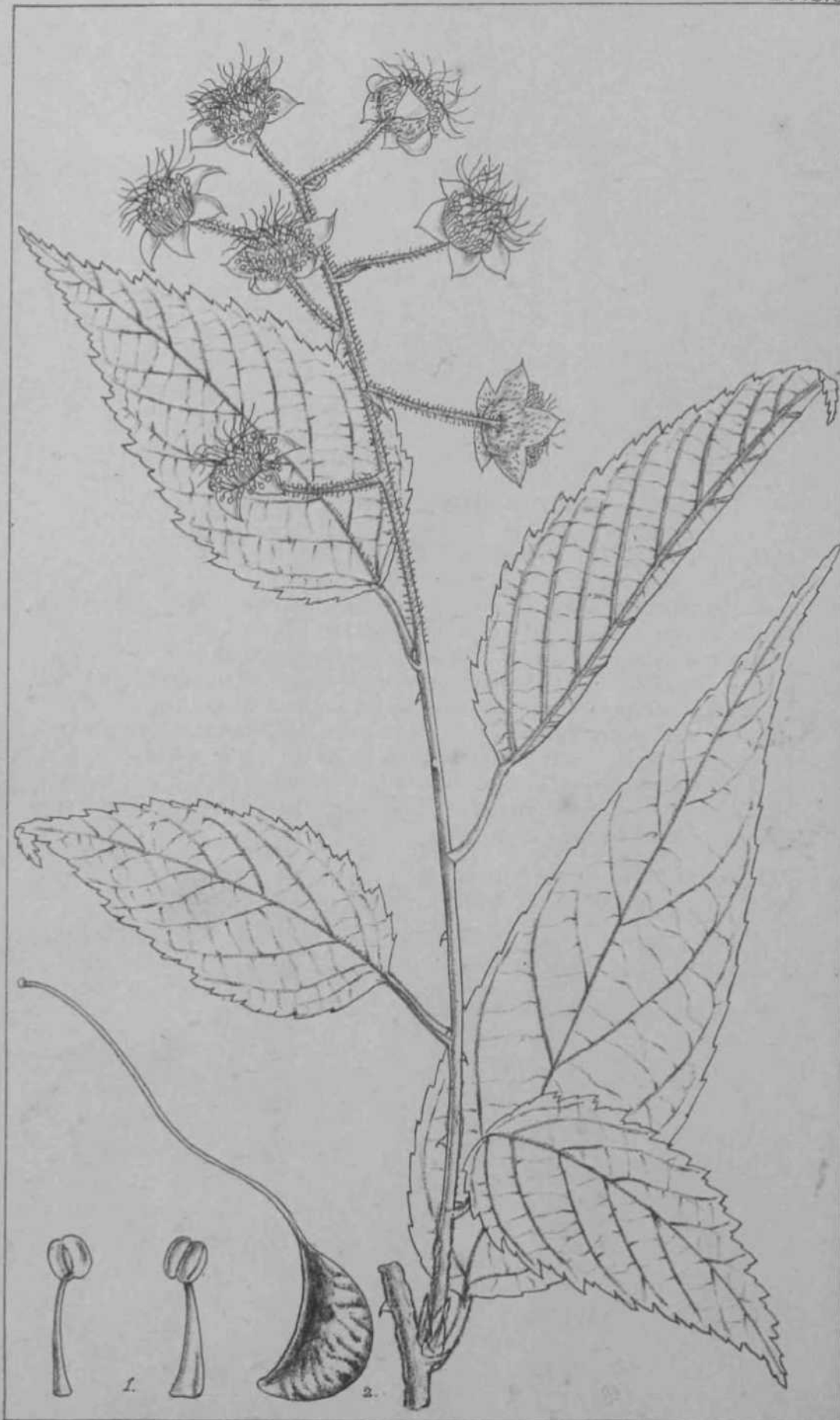
Herba perennis, glabrescens. *Scapus* nudus, 2-3 ped. altus, supra medium laxe pauciramosus, ramulis paucisquamosis monocephalis. *Folia* petiolata, papyracea, discoloria, subtus prsecipue secus costam pilis longis multicellulatis coloratis instructa, 8-20 poll, longa, insigniter lyrato-pinnatifida, lobo terminali ovato longissime acuminato, 5-10 poll, longo, obscure pauci-lobato simul remote calloso-denticulato, lobis lateralibus parvis (maximis semi-poll, longis vel latis) segregatis oblique rotundatis calloso-apiculatis deorsum gradatim minoribus. *Capitula* graciliter pedunculata, fructifera circiter 1 poll, diametro; involucri bractere exteriores puberulea, ciliolatae, ovatee, vix acutsa, interiores lineares, fere glabrse, apice ciliolatae. *Achcenia* fusco-atra; pappus patens.

In habit and in the coarse hairs on the leaves, as well as in the involucre, this resembles some of the Mutisiaces more than the Cichoriace©.

The genus is named after the discoverer, the Rev. Ernst Faber, a German missionary, who has collected in various parts of China, and whose collection from Mount Omei, whence the present plant was obtained, contains a considerable number of novelties.

Schultz-Bipontinus proposed a genus *Fabera*, but he had been anticipated by D. Don's *Seriola*, now reduced to *HypochcBris*.—W. B. HEMSLEY.

Fig< 1. An involucral bract. 2. A flower. 3. An achene. All enlarged.



M.S.deletlrth

Rubus hupehensis, Oliv

PLATE 1816.

RUBUS HUPEHENSIS, Oliv.

ROSACEJ. Tribe RUBEJ.

R. hupehensis, Oliv. (*sp. nov.*); frutex prostratus, ramis gracilibus teretibus parce lanatis deinde glabris aculeis paucis brevibus recurvis, foliis simplicibus petiolatis oblongo-lanceolatis acuminatis basi rotundatis intersqualiter serratis serrulatisve supra costa puberula excepta glabrata, subtus cano-tomentellis, inflorescentia terminali breviter racemiforme pauci (saepius 3-7)-flora tomentella setuloso-glandulosa parce aculeolata, pedicellis divaricatis flore longioribus, calyce 5-fido basi intruso dense cano-tomentoso atque setuloso, petalis 0. v. parvis obovato-ellipticis unguiculatis caducis, carpellis fructiferis immaturis glabris obscure oblique rugulosis.

HAB. China, Prov. Hupeh, Nan-t'o district; only one specimen seen, *Dr. A. Henry* (No. *3931).

Folia 5-4 poll, longa, 1-1½ poll, lata; *petiolus* J-J poll, longus. *Pedicelli* f-1, poll, longi. *Stylus* gracilis elongatus.— D. OLIVER.

Fig. 1. Stamens. Immature fruit-carpel. Enlarged.



M. S. del. et lith

Holboellia cuneata, Ohv.

PLATE 1817.

HOLBCELLIA CUNEATA, *Oliv.*

• BERBERIDE-E. Tribe LARDIZABALEA.

H. cuneata, *Oliv.* (sp. nov.); prostrata, ramis elongatis teretibus brevibusque, foliis trifoliolatis longe petiolatis supra glabris, foliolis lateralibus oblique semiovatis acutis basi cuneatis, f. centrali obovato vel rhomboideo acuto basi in petiolulum cuneatim angustato, racemis <? solitariis quasi-axillaribus e basi floriferis, bracteis ovato-lanceolatis pedicello multo brevioribus, sepalis viridibus oblongo-linearibus marginibus involutis subtrinerviis androecio 3—5-plo longioribus, petalis minutis carnosis cuneato-rotundatis, antheris extrorsis filamento carnosulo roquilongis connective carnosulo apice breviter obtuse producto, racemis fructiferis elongatis baccis ellipsoideis subsessilibus.

HAB. China, Prov. Hupeh, Nan-t'ò (fl. \$) and Patung (sp. fruct.) districts, *Dr. A. Henry* (3830, 4887).

Foliola 3-4 poll, longa; *petiolus* 4-7 poll, longus. *Racemi* (fl. \$ 3-5 poll, longi (fruct. pedunculati), 8-14 poll, longi. *Baccæ* ^-f poll. longæ.

I should judge the plant to be dioecious. Though I see no reasonable ground to doubt the identity of the \$ and \$ specimens, yet they are from different localities, and in the fruiting specimen (we have no ? flowers) the older leaves are minutely hoary-canescens beneath with dark reticulation, the racemes very long and pedunculate, and the solitary or ternate fruit-carpels all but sessile. The carpels are very different from those of the Himalayan *H. latifolia*, Wall.—D. OLIVER.

Fig. 1- Flower. 2. Sepal. 3. Flower, sepals removed. 4. Seed. 6. Longitudinal section of same. 6. Embryo. *Enlarged.*



M.S. del. et lith.

Cardamine paradoxa, Hance.

PLATE 1818.

CARDAMINE PARADOXA, *Hance.*

CHUCIFERX.

C. paradoxa, *Eane* to *J<mn Bot.* vi. (1818), 111. To dew-ription given in 'loonefl i'htnturum,' pi. 1285, add : **siKonis** hrevissiine. **stlj** itatis **fatiformibu** scepius monospermin npico si ylo persistente subulato terminatis ; seminibns oblougo-ellipsoideis **ootyledonibnj** iixMiuljiti-tiius.

HAB. In addition to Mr. Sampson's locality cited by Dr. **Hano**e, Prov. Inpeh, Ichang, *Dr. A. Henry* (No. 41DU).

Now that through Dr. **IKnry**'s kindness wo possess **good** l'imiting specimens of this **plant**, here **figured under its old DBJ**ne, comparison is suggested with thecurions Crnoil'er **figured in this work**, PL 17]9, as a doubt-tilil Niisturtium, also **received aom Dr. Qenry**. Tiny agree in their l- or few-Beeded frnite and **6he tooumbent ootyled**ons, so tha-t I **think** they may **well ho** regarded as **congenioric**, and **rejected** from *Arabideæ*, either **•iking** rank na a new genus, or for the present tr«J8-ferred to **^isymbrium**, in which gonna **they** would \>a **exo**ptional. in their **solitary or few teedi** ; in **Dr. Honry's** Hpuciuons, ho«ever, **i** (im 7 ovules occur.—D. OLI\ER.

Fig. 1. Fl. w«. 2, OVATY. 3. Sftmo laid open. > Embryo. 0. Section of «M"IB. *Ml enlarged.*



MS del. et lit.

Clematis Henryi, Oliv.

PLATE 1819.

CLEMATIS HENRYI, *Oliv.*

RANUNCULACEJ. Tribe CLEMATIDEAS.

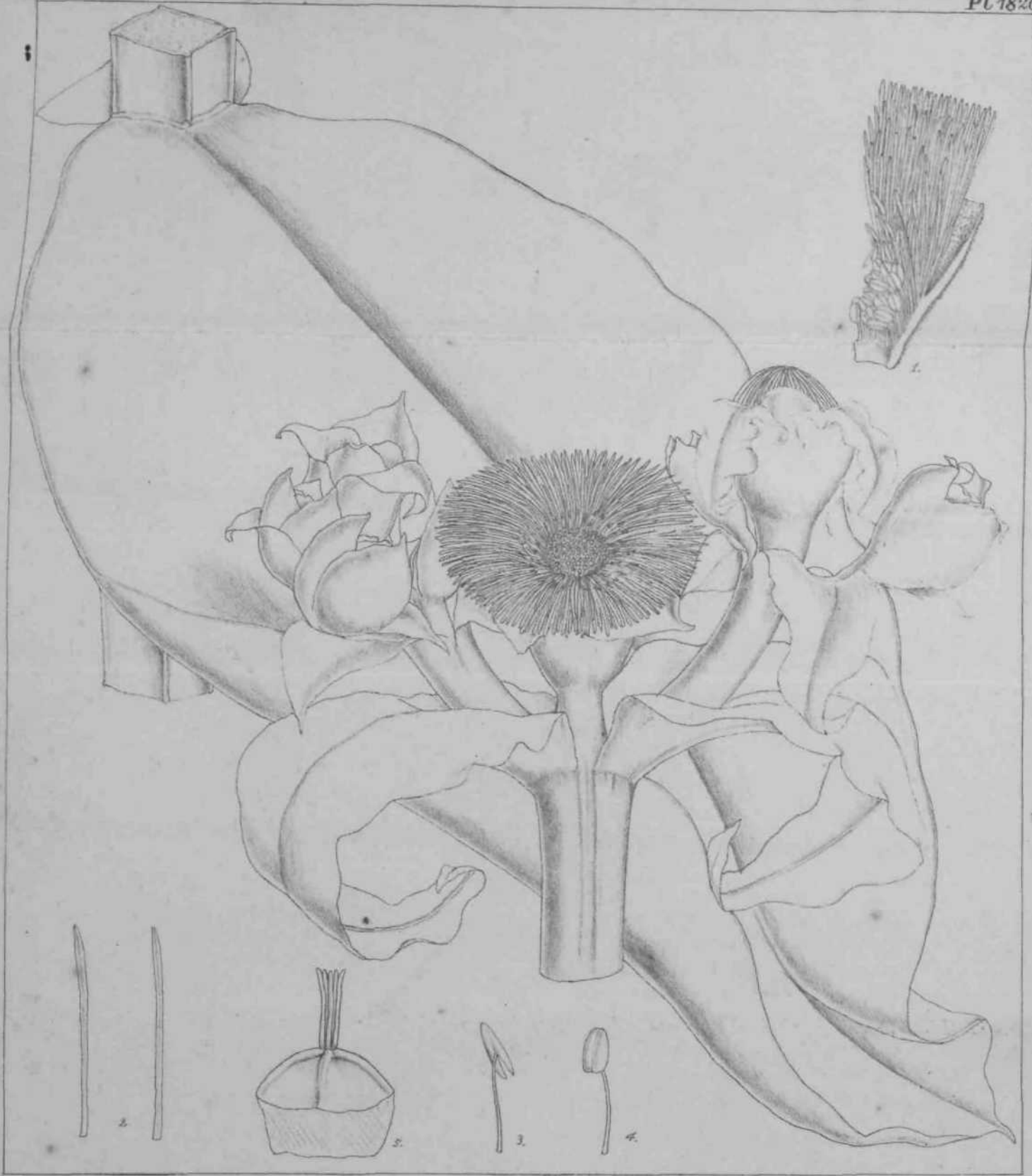
C. Henryi, *Oliv.* (*sp. nov.*); scandens, foliissimplicibus petiolatis ovato-oblongis breviter acuminatis basi cordatis remote denticulato-serrulatis 8-5-nerviis submembranaceis supra glabris subtus præcipue in costis parce pilosis glabrisve, floribus majusculis axillaribus solitariis, pedunculo petiolo eæquialongo, sepalis oblongo-ellipticis acutatis eburneis v. dorso pallide carneis, filamentis anguste linearibus longe pilosis, antheris linearibus brevibus minutissime apiculatis, carpellis iruotiferis hirtis plumoso-caudatis.

HAB. China, Prov. Hupeh, Ichang, *Dr. A. Henry* (266, 3280).

$w^{\circ}K^*_{3f-5}$ poll, longa, $1^{\wedge}2J$ poll, lata; petiolum 1-3 poll, longus. $-t cores I$ poll, longi, sepalis demum reflexis.

Dr. Henry wrote in 1887 that the previous winter the flowers were noticed peeping out of the snow. His flowering specimens were gathered early in February—D. OLIVER.

Fig. 1. Stamen. 2. Carpel. 3. Fruit-carpel. *Enlarged.*



M.S. del. et lith.

Mesembryanthuura Barklyi, N.E.Br.

PLATE 1820.

MESEMBRYANTHEM TJM BABELYI, *N. E. Brown.*

FICOIDEJE. Tribe MESEMBRYEJE.

4\$ *M. Barklyi*, *N. E. Br. (sp. nov.)*; glabra, robustissima; caule centrali erecto, apice florifero, basi verticillatim ramoso, ramis procumbentibus, plus minus tefragonis; foliis sessilibus, maximis, ovato-lanceolatis acutis, camosis, viridibus, minute papulosis; pedunculis erectis, tricbotome cymosis, bracteatis, bracteis ovatis acutis, foliiformibus; pedicellis breVibus, crassis; calyce pyriformi, quinquifido, lobis inrequalibus ovatis acutis, tribus majoribus; petalis pluriseriatis, linearibus, roseis; staminibus erectis, antheris luteis; stylis 5, subulatis, erectis.

HAB. Namaqualand, *Sir Henry Barkly.*

Oaulis bipedalis, ramnlis 3-4 ped. longis, 1-1[^] poll, crassis. *Folia* 6-15 poll, longa, 4-6 poll. lata. *Pedicelli* \-% poll, longi. *Flores* sub-pollicares; calycis lobi exteriores 1 poll, longi, J poll. lati.

This is the largest species of *Mesembryanthemum* that has yet been discovered, and appears to have no very great similarity with any other known species, but, of those described, it seems to rank nearest to *M. crystallopanes*, Bckl. According to Sir Henry Barkly, 'the main stem reaches a height of two feet, branching out into flower-stalks at the top, whilst near its base a whorl of branches spring out, running for a foot or [^]two along the ground, and then sending up upright flower-stalks.¹ Sir Henry Barkly also states that he «measured the procumbent ligneous stem at a distance of over a yard from the main stem, and found it exactly 4[^] inches in circumference. It is ^very light, and is used by the natives for fuel. The leaves are so ³ui^{cy} that it not only furnishes the cattle with moisture in that dry country, but is used by Europeans in travelling for the purpose of washing, and even drinking, the water squeezed out being devoid of taste.' The flowers only open at noon.- N. E. BROWN. •

Fi&. 1. Portion of calyx-tube, showing insertion of petals and stamenR. **2.** Petals. **3.** Upper and (4) lower stamens. **5.** Ovary and styles. *All enlarged.*



M.S. del. et lith.

Ranunculus macropetalus, D.C.

PLATE 1821.

RANUNCULUS MACROPETALUS, BO.

RAJUNCULACEÆ. Tribe **RANUNCULÆ.**

A. macropetalus, DO., *Prodr.* i. 29; perennis elatus, foliis radicalibus suborbiculatis precipue apicem versus crenato- v. deltoideo-dentatis flabellatim nervosis lamina glabra margine piloso-ciliata, petiolo late alato apice in appendicem liguliformem obfusca producto, caule folioso glabro v. laxo piloso, foliis (phylloidiis) caulinis superioribus amplexicaulibus ovatis v. obovatis apicem versus inæqualiter lobatis crenato-dentatisve interdum rotundato-dilatatis giabratis v. parce villosis areolatim depresso-venosis, pedunculis bracteatis, floribus amplis late globoso-campanulatis, sepalis late ellipticis appresse villosis interdum deinde giabratis, petalis late obovato-vel cuneato-rotundatis calyce longioribus supra unguem foveola transversa semilunari munitis, carpellis numerosissimis pallidis subtevis stylo gracili ovario subsaquilongo rostratis.

— HAB. Peru, *Umiz and Pavon*; Muña, *Mr. Pearce* (No. 525), *Mr. Davis* (No. 202).

Her ft/i 2-4-pedalia. *Folia* radicalia (v. inferiora caulina ?) lamina 6-8 poll, longa atque lata; petiolus elongatus £-1£-ped. longus apicem versus 2-2i poll, latus. *Flares* 2-3J poll. lati. *Petala* 1J-2 poll, longa.

W are indebted to the liberality of Messrs. Veitch for a fine set of specimens of this noble *Ranunculus*, which has not yet, to my knowledge, been successfully introduced into cultivation.

I identify the species simply from the description given by De Candolle and Weddell ('*Chloris Andina*,' ii. 305); *B. Baimondii*, Wedd. M. R. * ^ ^ probably may be the same. It is the species which « • ^aimondi says is administered by the Indians to their children pour les faire parler plus promptement.' I am uncertain as to the colour of the flower: 'petalis rubentibus (?)' is stated by Weddell in his description of *B. Baimondii*, and the word *reddish* occurs on Mr. Oakes's label, but it is not clear that it applies to the flowers.—D.

Fig: *lm Bas* « of petal, with nectary. 2. Stamen. 3. Carpel. *Enlarged.*



Kemsleya chmensis, Cbgn.

PLATE 1822.

HEMSLEYA CHINENSIS, Gogn.

CUCUBBITAGEJE. Tribe ZANONIEE.

Hemsleya, *Cogniatix* (gen. novum). *Flares* dioici, panioulati. *Fl. masculi*: *Calyx* rotatus 5-gibbosus profunde 5-partitus segmentis lanceolatis elongatis satis insqualibus. *Corolla* rotata fance villosa tenuiter membranacea usque ad basin 5-partita, segmentis oblongis apice rotundatis. *Stamina* 5 libera per paria leviter approximata, filamentis subnullis, basi paulo distantibus; antherae minutae lineari-oblongae uniloculares dorso jaulo supra basin insertae. *Fl. feminei* minores: (*Calyx* lobis deltoic'eo-subulatis petalis brevioribus, petalis oblongo-ellipticis breviter acuminatis 2 lin. longis; ovarium clavato-cylindricum apice subtruncatum; styli brevissimi dissiti, stigmatibus bipartitis brevibus anguste linearibus.—D. 0.) *Fructus* late clavatus ut videtur teres, apice late truncate, trivalvis polyspermus. *Semina* pendula dense imbricata, anguste ovata, compressa utrinque facie minute tuberculata, ala membranacea basi apioeque dilatata cincta; testa Crustacea.—Herba scandens, fere glaberrima. Folia petiolata pedato-7-folioi-ata foliolis eglandulosis remote crenulatis. Cirrhi simplices vel bifidi. Flores masculi magni flavidi, pedunculo pedicellisque capillaceis. Fructus mediocris.

H. chinensis, *Cogniaux* (sp. unica).

HAB. China, Prov. Hupeh, Patung and Nan-t'o districts, Dr. A. Henry (Nos. 2436, 4452, 4771). 7,000 ft., Mount Omei, Szechwan, Rev. E. Faber (No. 275).

Eamuli gracillimi, profunde sulcati. *Petiohis* gracilis 1-2℥ poll, longus; petioluli 1-2℥ poll, longi. *Foliola* tenuiter membranacea oblonga v. lanceolata, breviter acuminata, basi acuta, medianum 3-4℥ poll, longum, 1-1[^] poll, latum, lateralia satis minora. *Paniculum* diffuse pluriflorum, tenuissime puberulum; podicelli (fl. J) 1-2[^] poll, longi. *Calyx* segmentis trinervulosis, acuminatis, 1-2[^] poll, longis. *Petala* multinervulosa, 1-2[^] poll, longa, 1-2[^] poll. lata. *Antherae* divergentes. *Fructus* pallidus longitudinaliter viridi-striatus 1-1[^] poll, longus, superne 1-2[^] poll, crassus, basi in pedicellum attenuatus. *Semina* fuscescentia, ala pallida plus minusve translucens, basi sepius profunde bifida, apice rotundata 1-2[^] poll, longa.

The genus *Hemsleya* is allied to *Alsomitra*, from which it differs in its herbaceous habit, much larger flowers, the corolla-segments separated to the base. Moreover, the seeds are wholly different; in

Alsomitra they are more or less angular and irregular, and are winged only at the apex. The seeds of *Hemsleya* are somewhat similar to those of the section *Euzanonia* of the genus *Zanonia*; but in other respects the two genera have but little affinity. I have thought it well to dedicate this genus to Mr. Hemsley, who is occupying himself so actively with the Flora of China, and after whom I am not aware that any genus has been named hitherto.*—A. COGXIAUX.

Fig. 1. Calyx, male flower. 2. Stamens, 3. Anther. 4. Female flower. 5. Seed. 6. Embryo. *All enlarged.*

* This is the plant noted by Mr. Horasley in *Index Fl. Sinensis*, p. 321, under the genus *Gynostemma*. The material was then inadequate for determination.



M.S. del et lith.

Emmenoptern Henryi, Oliv.

PLATE 1823.

EMMENOPTERYS HENRYI, *Oliv.*

RUBIACEÆ. Tribe CINCHONEJE.

Emmenopterys, *Oliv. (gen, nov.)* *Calyx* limbo 5-partitocircumscisso deciduo, lobis brevibus late rotundatis ciliatis imbricatis vel lobo unico persistente in lamina ampla albo-coloreto petiolato producto. *Corolla* infundibularis basi in tubum angustum cylindricum attenuata extus cano-tomentella, lobis aestivatione imbricatis ovatis obtusis intus crispato-pilosulis. *Stamina* 5 tubo faucem versus inserta inclusa; antheris oblongo-ellipticis dorso infra medium affixis, biloculares, longitudinaliter dehiscentes. *Ovarium* biloculare; stylus gracilis indivisus apice tantum bilobulatum. *Fructus* ovarii-fusififormis v. anguste ellipsoideus, inappendiculatus v. passim appendice foliacea petiolata tenuiter coriacea coronatus, bilocularis; pericarpium tenue coriaceum lateraliter bisulcatum leve. *Semina* numerosissima verticalia arete imbricata irregulariter alata praecipue innucleo reticulato-areolata.—Arbor 30-40-pedalis, glabra. Folia opposita petiolata late elliptica breviter apiculata basi cuneata integerrima tenuiter coriacea, 4-6 poll, longa, 2J-4 poll, lata; petiolus 1-2 poll, longus. Stipules caducissimae. Inflorescentia terminalis multiflora, cymis corymbosim paniculatis. Corolla flava 1 poll, longa. Fructus 1¹ poll, longus, J poll, latus.

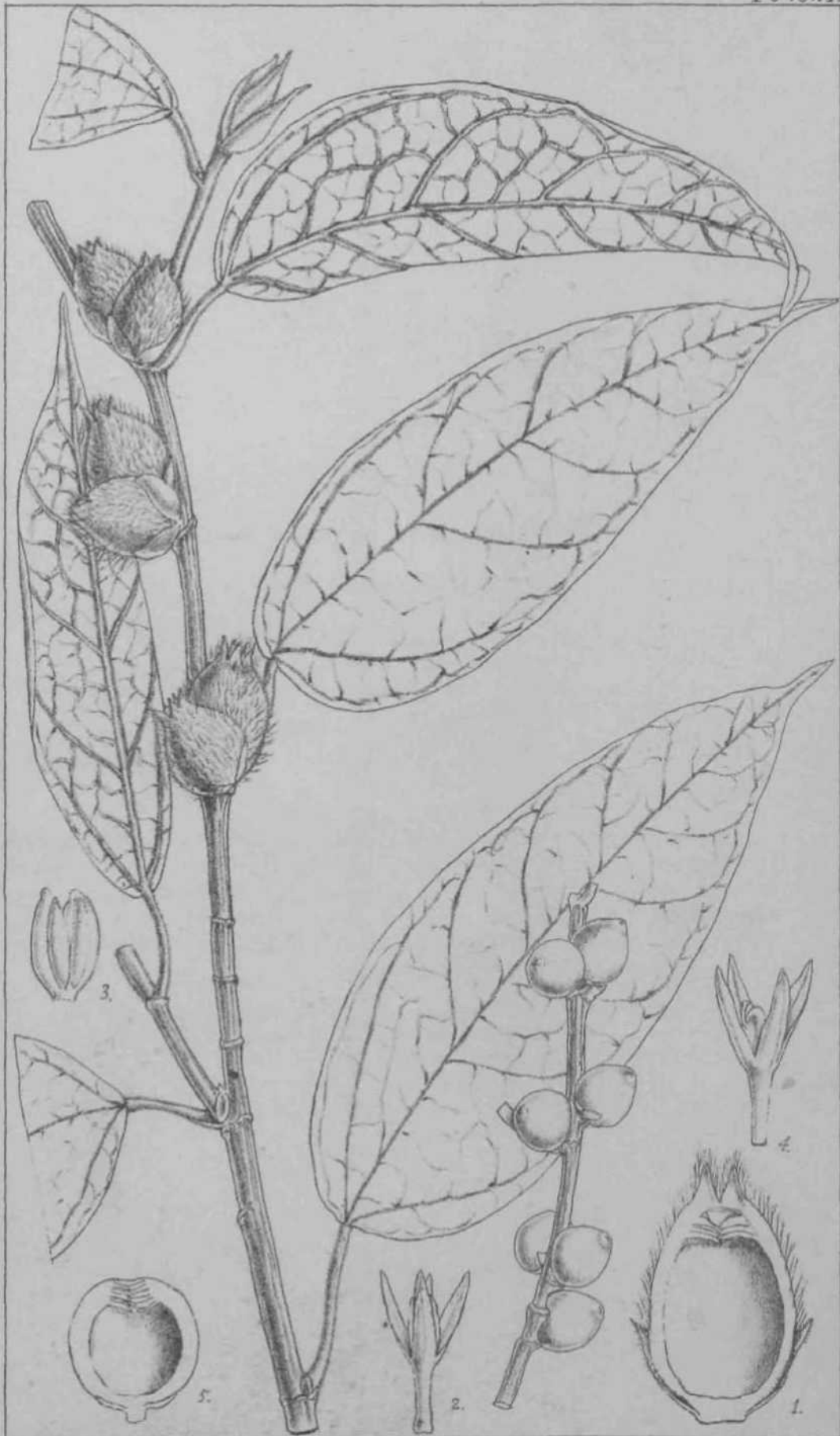
E. Henryi, *Oliv. (sp. unica)*.

HAB. China, Prov. Hupeh, Patung district, *Dr. A. Hewry* (Nos. 4857, 4999, 5196).

Another of Dr. Henry's highly interesting additions to the flora of Central China. Technically its affinity I take to be with the Himalayan genus *Luculia*, which, however, is very different both in form of calyx-limb, and absence of coloured accrescent lobe, form of corolla, and style. It agrees in the early-deciduous stipules and calyx-limb. The conspicuous *Hussenda-like* appendix is white and persists until the fruit is ripe, apparently serving the double function of an attractive organ at the time of flowering, and a sail to the falling fruit. Apparently about one flower in each cymule of the inflorescence is thus appendaged. The appendix is about 1¹-2 inches long, 1¹/₂ inch broad, on a petiole of nearly the same length.

In the aestivation of the corolla (I have had only one good bud) I find two lobes exterior and two interior, one intermediate. The two interior have each a lateral appendix or auricle which overlaps a margin of each of the exterior lobes.—D. OLIVER.

Figs. 1. Ovary and style. 2. Bud. 3. Corolla laid open. 4. Transverse section of ovary. 5. Seeds. 6. Longitudinal section of albumen, showing embryo. All enlarged.



M.S. del. et lith.

Ficus foveolata, Wall, var *Hei* Irv.

PLATE 1824.

• **PICUS POVEOLATA**, *Wall var. HENBYI*.

UBTICACEJB. Tribe ARTOCARPEJC.

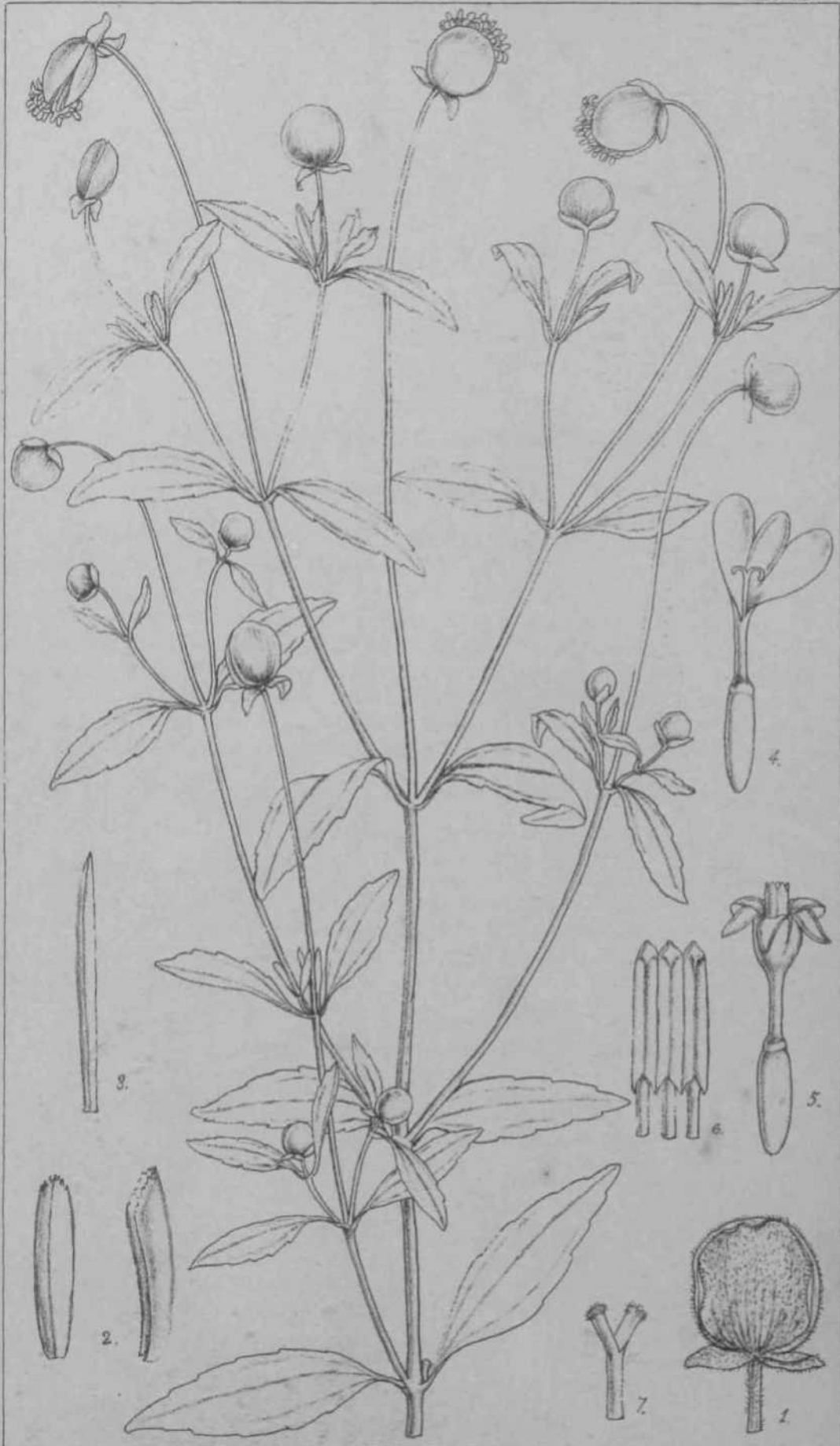
F, foveolata, *Wall. var. Henryi, O. King, MSS.*; receptaculis sessilibus ovoideis parce villosis foramine dentibus 4-5 lanceolatis erectis brevibus coronatis, basi 2—3-bracteatis, bracteis ovatis ovato-lanceolatisve receptaculo multo brevioribus.

HAB. China, Prov. Hupeh; Ichang, *Dr. A. Henry* (No. £552 A).

Receptacula \wedge —£ poll, longa.

Dr. Henry sends also the small globose-fruited form of the species; *Dr. King's var. nipponica*. "What may be the relations subsisting between these forms, both of which are here figured, I am not prepared to say from dried material. The foliage is identical in the two forms. The species is copiously illustrated in *Dr. King's noble Iconography of Ficus* (plates 166 to 168).—D. OLIVER.

Fig. 1. Longitudinal section of receptacle, the florets removed. 2. Staminate floret. 3. Anthers. 4. Pistillate floret. 5. Longitudinal section of empty receptacle of the form nipponica (of which a fruiting branch is figured). Details enlarged.



M.S.del.eUiifc.

Sturochlamys Burchellii, Baker.

PLATE 1825.

STAUROCHLAMYS BURCHELLII, Baker.

COMPOSITE. Tribe HELIANTHOIDEJS.

Staurochlamys, Baker (gen. novum). *Gapitula* heterogama radiata, floribus radii foemineis fertilibus, disci hermaphroditis fertilibus. *Involucrum* triplex, bracteis 2 exterioribus parvis foliaceis, centralibus 2 magnis rotundatis foliaceis, interioribus 4 rigidulis linearibus. *Eceptaculum* planum, paleis magnis complicates flores amplectentibus onustum. *Corollae* tubo cylindrico, limbo in floribus radii patulo, segmentis tribus oblongis, in floribus disci campanulato, segmentis 5-ovatis. *Antherob* basi breviter caudate. *Styli* rami breves, apice stigmatoso truncati. *Achcena* cylindrico-tetragona calva.

S. Burchellii, species sola.

HAB. Porto Real, North Brazil, *Burckell*, 8679-6.

Herba annua erecta laxa ramosa, ramulis gracilibus ascendentibus pubescentibus. *Folia* opposita breviter petiolata oblongo-lanceolata membranacea subintegra trinervata. *Gapitula* ad ramulorum apices solitaria, pauciflora, pedunculis gracilibus elongatis. *Bracteae* foliaceae centrales rotundatae 3-4 lin. latae. *Corolla* lutescens 1½-2 lin. longa. *Achcena* glabra 1½ lin. longa.

Allied to *Elvira* and *Melampodium*.—J. G. BAKER.

Fig. 1. Foliate bracts of the involucre. 2. Palea of the receptacle. 3. An inner paleaceous bract of the involucre. 4. Flower of the ray. 5. Flower of the disk. 6. Stamen. 7. Apex of the style. All more or less enlarged.



M. S. del. et lith.

Microstylis Maingayi, Hook. f.

PLATE 1826.

MICROSTYLIS MAINGAYI, *Hook. f.*

OROHIDEA. Tribe MALAXEJE.

M. Maingayi, *Hook. f. (sp. nov.)*; folio solitario radicali amplo sessili latè elliptico acuto multinervi hasi scapum amplectente, scapo brevi, racemo elongato multifloro, bracteis lanceolatis inferioribus elongatis vacuis, floriferis ovario brevioribus, floribus resapinatis, sepalis oblongis obtusis marginibus incurvis, petalis angustis, labello cuneato-oblongo nervoso apice truncato lacero marginibus deenticulatis, columna longiuscula.

HAB. Penang, *Maingay* (*Kew BUtrib.* No. 1602).

Gaules conferti, brevissimi, post anthesiu pseudobulbosi, vaginis elongatis membranaceis v. foliosis, radicibus robustis. *Folium* 4—6 poll, longum, 2-3 poll, latum, membranaceum. *Scapus* una cum racemo laxifloro folio subaequali teres, pedicellis ^ poll, longis. *Flores* \ poll, lati; labello porrecto coriaceo.

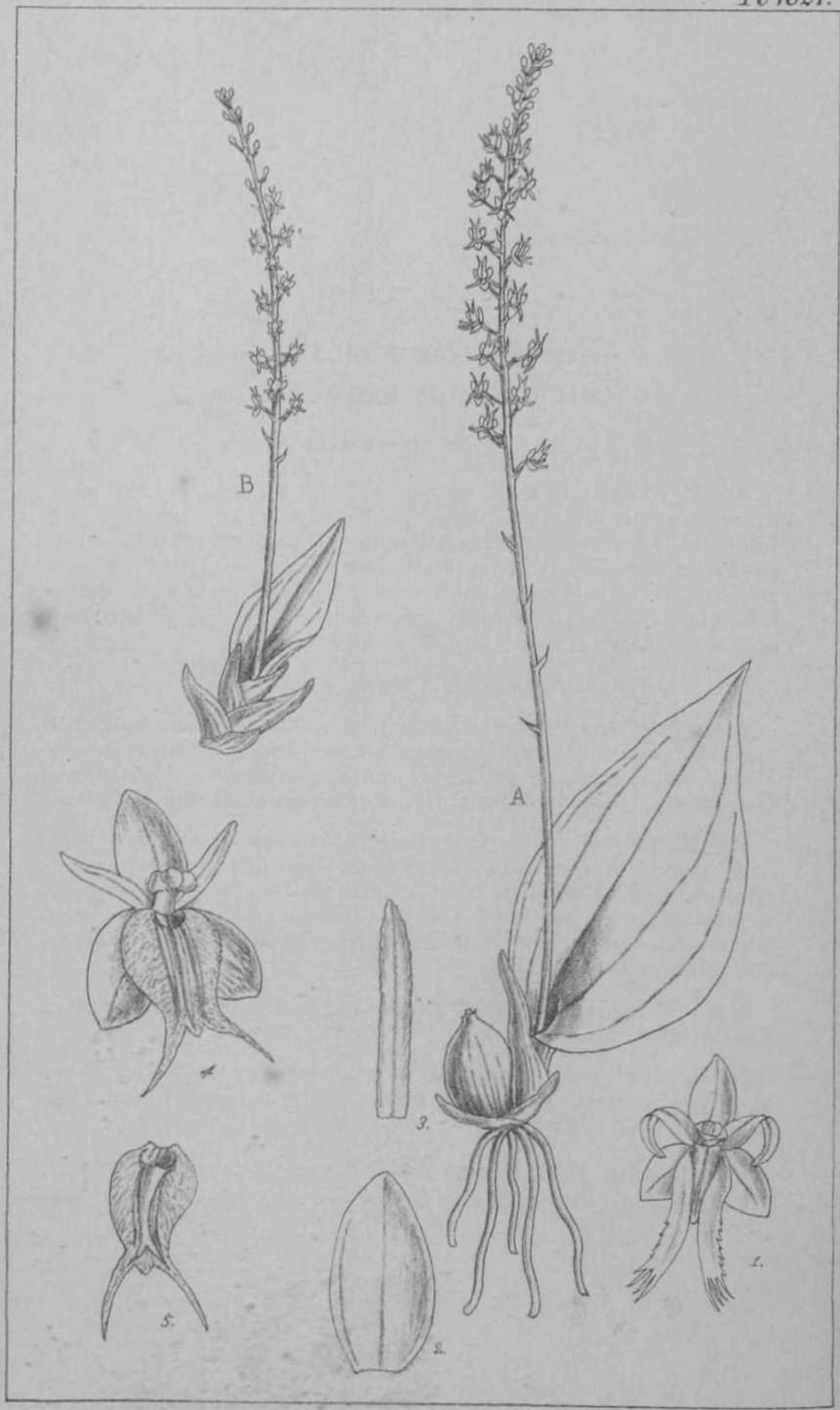
VAB. ? *K-unetleri*, labello longiore angulis exterioribus firmiatis.

HAB. Malay Peninsula, at Perak, alt. 3,500, *King's Collector (Kunstler)*.

Flores saturate caerulei.

I am in doubt whether to refer this to *Microstylis* or to *Liparis*. The column is rather long for the former genus, but not more so than in *M. Rlieedii* and other species, in which also the dilatation of the apex is obscure or wanting.—J. D. HOOKER.

Fig. 1. Flower. 2 and 3. Sepals. 4. Lip. *All enlarged.*



M.S. del, et lith.

A *Microstylis iurcata*, Hook f.
 B. ———— *parvula*, Hook f.

FLATE 1827.

A.—MICROSTYLIS PUBCATA, *Hook./.*

B.—MICROSTYLIS PARVULA, *HooJc.f.*

ORGHIDEA. Tribe MALAXED.

A.—*M. furcata*, *Hook. f. (sp. nov.)*; folio solitario radicali sessili ovato-lanceolato acuminato, scapo folio longiore, racemo laxifloro, bracteis lanceolatis ovario subsequilongis, floribus parvis, sepalis lato ovatis obtusis concavis 1-nerviis, petalis linearibus subacutis, labello anguste panduriformi ad medium y. infra 2-lobo, sinu subacuto cum apiculo, lobis lineari-oblongis falcatis marginibus exterioribus serrulatis* apicibus truncatis laciniatis, columnas alis rotundatis.

HAB. Malay Peninsula, Perak, *Father Scortechini*.

Caules brevissimi, fastigiati, demum pseudobulbosi, ovoideo-globosi, vaginati. *Folium* 2-3 poll, longum, 5-nerve, basi scapum amplectente. *Scapus* cum racemo 5-6-pollicaris, gracilis, laxiflorus. *Flares* 1-2 poll, lati; labello sepalis duplo longiore, lobis divergentibus.—J. D. HOOKER.

• B.—*M. parvula*, *Hook. f. (sp. nov.)*; folio solitario radicali sessili ovato-lanceolato acuminato, scapo folio multoties longiore, racemo laxifloro, floribus minutis, bracteis minutis lanceolatis, sepalis ovato-rotundatis obtusis concavis 1-nerviis, petalis anguste-linearibus, labello late ovoideo apice in lobos 2 subulatos divergentibus fissis, disco tricarinato, columnas alis rotundatis.

HAB. Malay Peninsula, at Perak, on rocks, alt. 3,000-4,000 ft., *King's Collector*.

Nearly allied to *M. furcata*, but a much smaller plant, with flowers hardly 1/2 in. diam. The lip is cellular, with a rounded keel at the back.—J. D. HOOKER.

A.—*M. PUBCATA*. Fig. 1. Flower. 2. Sepal. 3. Petal. *All enlarged.*

B.—*M. PARVULA*. Fig. 4. Flower. 5. Back view of lip. *Both enlarged.*



M. S. del. et lith.

Ranunculus calajdrinioides, Oliv.

PLATE 1828.

RANUNCULUS CALANDRINIOIDES, *Oliv.*

RANUNCULACEÆ. Tribe RANITNCULEJE.

R. calandrinoides, *Oliv.* (*sp. nov.*); perennis 4-6 pollicaris, fibris radicalibus longiusculis carnosulis, foliis conformibus ovali-lanceolatis acatiusculis basi in petiolum canaliculatum angustatis integris glabris v. margine parce et laxe pilosis tenuiter carnosulis longitudinaliter 3-5-nervis nervis supra hand prominulis subdepressisve, radicalibus longe petiolatis, caulibus quam folia radicalia brevioribus 1-3-floria, floribus majusculis breviter pedunculatis albis purpureo tinctis, sepalis laze adscendentibus coloratis oblongo-ellipticis glabris, petalis cuneato-obovatis obtusissimis integris retusisve tenuiter longitudinaliter venosis calyce 2-3-plo longioribus, receptaculo glabro, carpellis globoso-capitatis oblique ovoideis carnosulis glabris, stigmatibus sessile pulvinato.

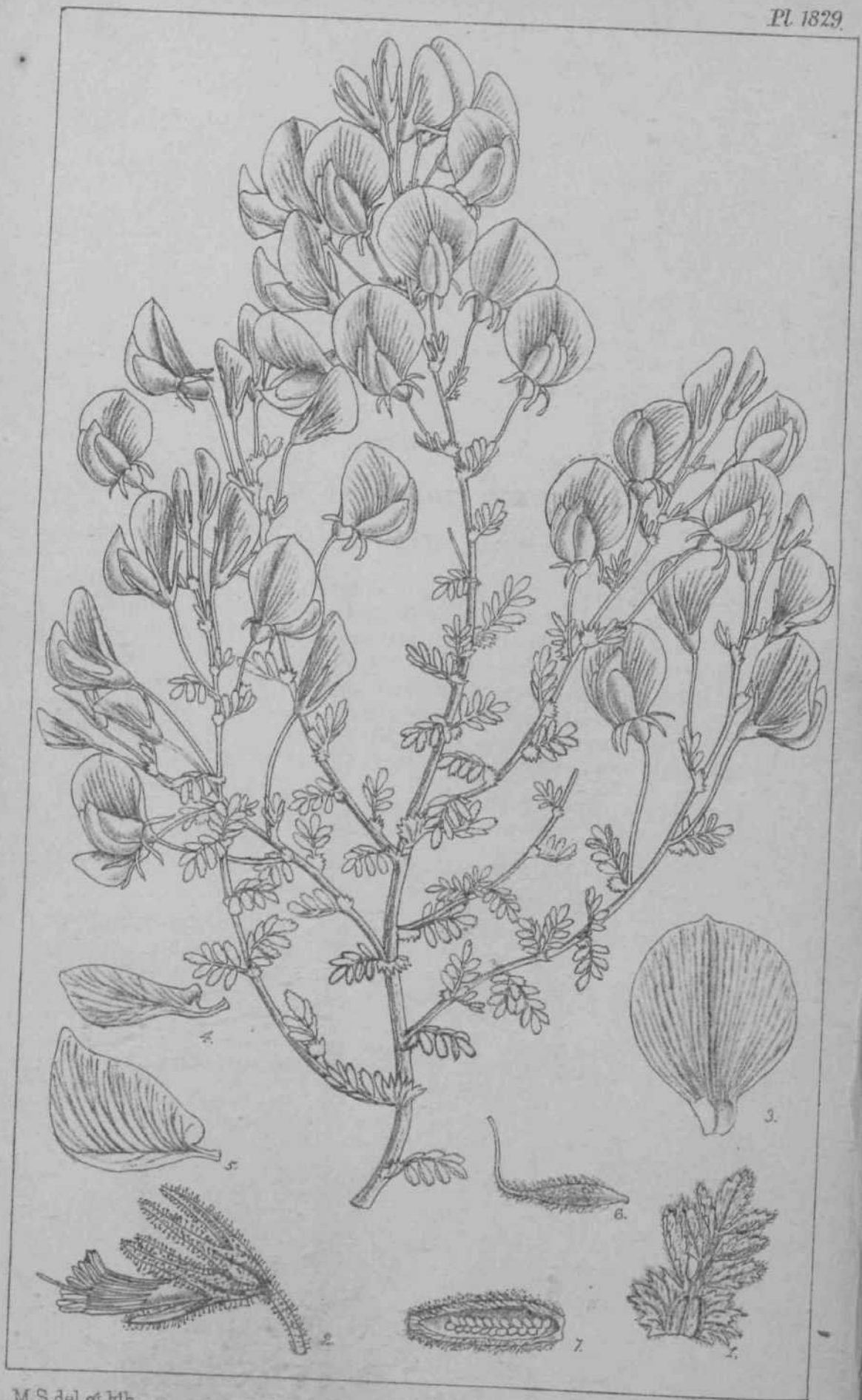
HAB. Marocco, on Taurirt, 8,000-10,000 ft. alt., *I. Thomson*, Atlas Expedition, 1888.

Folia radicalia lamina 1^h-2^h poll, longa, 6-8 lin. lata; petiolus 1^h-4^h poll, longus. *Flores* 1-1^h poll. diam.; pedunculo 1^h-1^h poll, longo crassiusculo glabro, fructifero erecto. *Petala* 10-12 lin. longa; foveola nectarifera squamula oblonga integra v. apice bidentata tecta.

A very interesting and beautiful addition to the genus, resembling ***R. pyramzceus*, L., var. *plantagineus***; nearly allied also to ***R. pamassifolius*, L.**

So far as I can judge from the dried flowers, the petals are whitish, finely purple-veined, probably passing into yellowish in the claw.—
D. OLIVER.

Fig. 1. Petal. 2. Stamen. 3. Carpel. 4. Same, more advanced. *All enlarged.*



M.S. del, et lith.

Ononis Thomsoni, Ball.

PLATE 1829.

ONONIS THOMSONI, *Ball.*

LEGUMINOSJ:. Tribe TRIFOLIEJS.

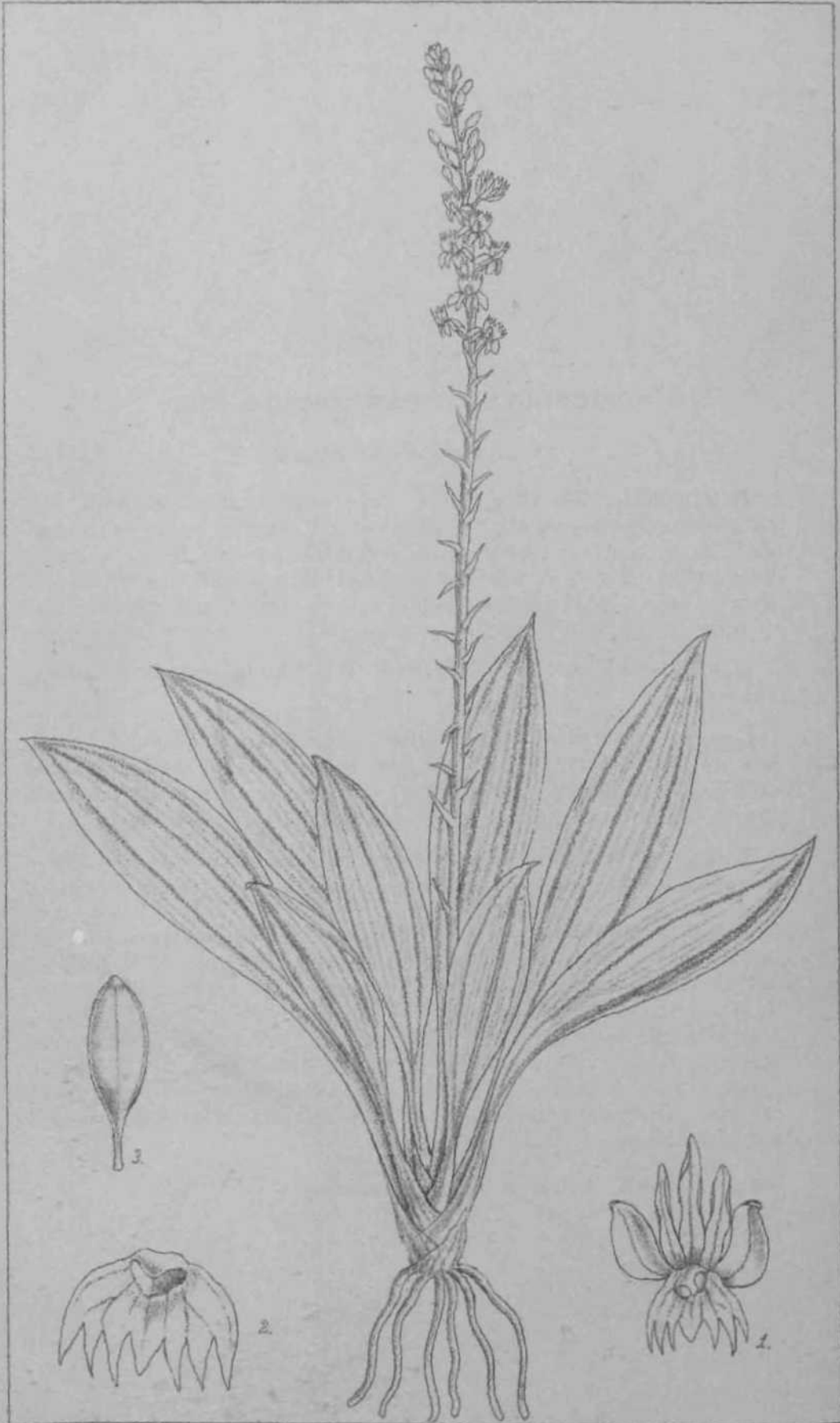
0. Thomsoni, *Ball. MSS. (sp. nov.)*; herba pube brevi canescente vestita, ramis adscendentibus laze florigeris, foliis brevibus pinnatim 7-9-foliolatis, foliolis approximatis hirtis sessilibus oblongo- v. ovato-ellipticis induplicatis utrinque 3-4-dentato-serratis, stipulis oblique ovatis acute dentatis valide flabellatim nervosis, racemis erectis laxis pauci- v. plnrifloris, pedic[^]ilis erectis glanduLuso-pilosnlis flore longioribus infra apicem articulatis, calycis lobis anguste linearibus glanduloso-pilosis tubo duplo longioribus, vexillo brevioribus.

HAB. Marocco, Atlas Expedition, *L Thomson*, 1838. (The label having gone astray, I cannot -give the precise locality.)

Folia sessilia 3-5 lin. longa, 3-4 lin. lata. *Foliola* 2 lin. longa. *Flores* | poll, longi; vexillnm purpureo venosura.

I have seen only the detached specimen figured, so cannot be clear whether the plant is anuual or not. The addition of the pinnate-leaved species to the genus, which is almcrst invariably trifoliolate, is very interesting.—D. OLIVER.

Fig. 1 Leaf and stipule. 2. Flower, petals removed. 3. Vexillum. 4. Ala. 5. Carinal petal. 6. Pistil. 7. Longitudinal section of ovary. *Enlarged.*



M.S. del, et lith.

Microstylis lancifolia, Thw.

PLATE 1830.

MICBOSTYLIS LANCIFOLIA, *Thw.*

ORCHIDE-E. Tribe MALAXEJE.

M. lancifolia, *Thwaites Enum.* 269; acaulis, ebulbosa, foliis 5-7 petiolatis elliptico-lanceolatis acuminatis 3-nerviis, scapo foliis longiore multibracteato, racemo multifloro, floribus partim, bracteis lanceolatis erecto-patentibus, sepalis oblongis obtusis, petalis lineari-oblongis obtusis, labello parvo ambitu emicirculari pectinatim laciniato, disco depresso, columnae alis patulis. *Ridley in Journ. Linn. Soc.* xxiv. 346.

HAB. Ceylon, in the Saffragam and Ambagamowa districts, *Thwaites*.

Caespitosa, radicibus crassiusculis. *Folia* 2-4 poll, longa, 1/2-3/4 poll, lata, in petiolum 1/2-1 poll, longum angustata. *Scapus* una cum racemo 4-6-pollicaris. *Flares* 1/2 poll, lati; bractesae floriferae pedicello brevi subaequilongae; sepala et petala 1-nervia. *Capsula* longa.

This, as Thwaites observes, resembles what would be a narrow-leaved petioled state of the common Nilghiri and Ceylon *M. versicolor*, with the bracts never deflexed.

There are known to me four I think quite distinct species of the section of *Alicrosfylis* to which this belongs. They are: 1, *M. Bhcedii*, Wight (*M. versicolor*, Lindl.), (Plate 1832), the type of the group; 2, *M. versicolor* Wight Ic. 901 (not of Lindl., *M. pratensis*, Ridley), of which *Af. luteola*, Wight, may be regarded as a large-flowered variety; 3, *M. Stocksii*, Hook. f. (Plate 1833), and *M. lancifolia*. There is also *M. crenulata*, Ridley (in *Journ. Linn. Soc.* xxiv. 346), of which there are no specimens at Kew. It has deflexed bracts and a crenulate lip.—J. D. HOOKER.

Fig. 1. Flower. 2. Lip. 3. Fruit. *All enlarged.*



M.S. del. & lith.

Microstylis khasiana, Hook. f.

PLATE 1831.

MICROSTYLIS KHASIANA, *Hook.f.*

ORCHIDE-E. Tribe MALAXEJE.

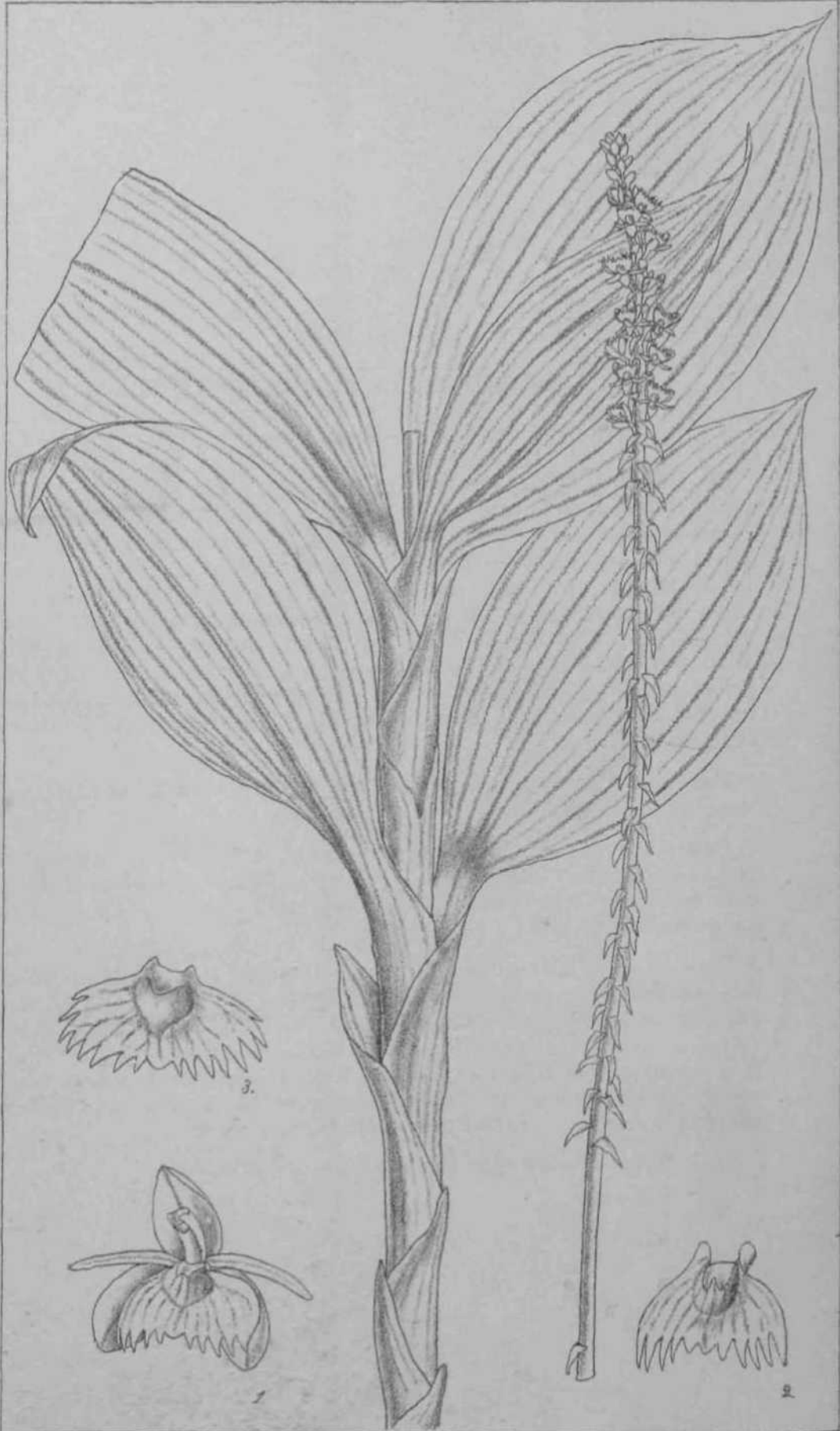
M. (Crepidium) khasiana, Hook. f.; caule elongato vaginato, foliis 3-4 petiolatis ovatis ovato-lanceolatisve acuminatis, scapo gracili, racemo multifloro, bracteis lanceolatis patenti-recurvis ovarium cequantibus, sepalis, oblongo-rotundatis obtusis concavis 3-nerviis, petalis linearibus obtusis, labelli auriculis latis erectis subacutis, lamina basi constricta apice rotundata v. retusa v. obcordata, columnis rotundatis.

HAB. Eastern Bengal; on the Khasia Mountains, alt. 4,000 to 5,000 ft., *Lobb, 8rc*

Qaulis 1-2-uncialis. *Folia* 3-5 poll, longa, 5-7-nervia. *Scapus* una cum racemo spithameus v. brevior. *Flores* ^ poll, lati, castaneo-rubri.

A near ally of the Himalaya and Khasia *M. Wallichii*, Lindl., which differs in the short bracts, larger flowers, and rounded blade of the lip, which is not contracted below the auricles.—J. D. HOOKEB.

Fig. 1. Flower. 2 and 3. Lips from other flowers. *All enlarged.*



M.S. del et lith.

Microstylis, Rheedu, W.L.

PLATE 1832.

MICROSTYLIS RHEEDII, Wight.

ORCHIDEAE. Tribe MALAXEJE.

Microstylis Rheedii, Wight, *Icones* 902 (*won Auct.*); caule robusto vaginato, foliis 3-5 petiolatis late ovatis ellipticisve acutis, racemis elongatis adnatis multi-laxi-floris, floribus parvis, bracteis lanceolatis deflexis, sepalis late ovatis obtusis 1-nerviis concavis, petalis anguste linearibus, labello latiore quam longiore, rotundato reniformi v. flabelliformi pectinato disco basin versus depresso, columna longiuscula. *Dalziel. & Gibb. Bomb. Fl.* 260 (*Excl. Syn.*). *M. versicolor*, Lindl. *Gen. & Sp. Orchid.* 216, *Wall. Gat. No.* 1139; *Ridley in Journ. Linn. Soc.* xxiv. 343. *Li par is* proochilus, *Lodd. Bot. Cab. t.* 1751? *L. intermedia*, A. *Hich. in Ann. Sc. Nat. Ser.* 2, xv. 17. *Malaxis Rheedii*, *Herb. Eeyne.*—*Rheede Sort. Mai.* xii. t. 27.

HAB. The Deccan Peninsula; from the Concan southwards, common in the Ghats.

Gaulis 3-6-pollicaris, gracilis v. robustus, stoloniferus. *Folia* 3-7 poll., longa, acuta v. acuminata, 5-7-nerviis, petiolo late alato. *Scapus* cum racemo 6-12-pollicaris. *Flares* \—\ poll., latiusculi, virides flavi v. purpurascens, odori; sepalia obtusa.

This is, as Wight perceived, unquestionably the *Basaala-Poulou-Maravara* of Rheede, upon which the *Malaxis Rheedii* of Heyne was founded, and with which the Javan and Pacific Island *M. plantaginea* (*Epidendrum resupinatum*, Forst.) has been confounded by all authors. It is admirably described by Rheede, even to the spiral vessels with which its tissues abound. It is a common Deccan plant, and rather variable in the form of the lip.—J. D. HOOKER.

Fig. 1. Flower. 2 and 3. Lips from other flowers. *All enlarged.*



M. S. del. et lith.

Microstylis Stocksii, Hookf.

PLATE 1833.

MICROSTYLIS STOOKSII, *Roohf.*

ORCHIDEJE. Tribe MALAXEJJ.

M. Stocksii, *EooJc. f.*; caule elongato vaginato, foliis 2-3 sessilibus
V. breviter petiolatis ovatis v. ovato-lanceolatis, bracteis lanceolatis
deflexis, lobis majusculis, sepalis lateralibus oblongis obcuneatis 3-ner-
viis dorsali longiore et angustiore, petalis anguste linearibus, labello
latiore quam longiore latissime flabelliformi v. fere reniformi, profunde
pectinato disco depresso, columno alis latiusculis subaequantibus. *M. luteola*,
Herb. Intl. Or. H.f. 8f T. (not of Wight).

HAB. Malabar, in the Bababoodan hills, *Stocks.*

Gaulis 1-2-pollicaris, robustus. *Folia* 1-3 poll. lata, 3-5-nervia.
Scapiis ana cum racemo 2-4-pollicaris. *Flores* 1-2 poll. lati.

In several respects intermediate between *M. versicolor* var. *lutea*, of
"which it has the large flowers but not the pseudobulbs, and *M. Rheedii*.
It differs from both in the size of the flowers and remarkable fan-
shaped lip.—J. D. HOOKER.

Fig. 1. Flowers. 2. Dorsal, and 3. lateral sepals spread out. 4. Lip and Column.
All enlarged.



M.S. del. et lith.

Microstylis micrantha, Hook. f.

PLATE 1834.

MICROSTYLIS MICRANTHA, *Took. f.*

ORCHIDOE/E. Tribu MALAXE.I.

M. (Crepidina) micrantha, Took. f. (sp. nov.); foliis 8-petiolatis ovato-lanceolatis subjunctis 5-nerviis, Rcapo racili multifloro, bracteis lanceolatis deflexis, floribus minutis, sepalis oblongis obtusis, labellum linearibus obtusis, labello unguiculato, auribus ocreatis lobatis lamina pectinatim 8-dentata brevioribus, columnae auribus minutis.

HAB. Malay Peninsula; Perak, *FatJier Scortechii*.*

Herbaria roponis, radioans. *Folia* alterna, 2-3 poll, longa, basi Hubacuta inaequali; petiolo alato, 1 poll, longior. *Inflorescentia* cum racemo densifloro 7-pollicaris, teretibus, pedicellis brevibus bracteis minutis brevioribus. *Floras* 1 fl. pedic. lati; sepalis aequantibus. *Labiellum* pan Ho latius quam longum; laciniis subparallelis, 2 intimis non raro

I have seen but one specimen of *thin* very well marked species, which differs from all other Indian Orchids of the Section *Crepidina* in smaller flowers.—J. D. HOOKER.

Fig. 1. Flower. 2. Lip of another flower. Both enlarged.



M. S. ael. et. lith.

Microstylis acutangula, Hook. f.

PLATE 1835.

MICROSTYLIS ACUTANGTTLA, *Hook. f.*

ORCHIDEJ. Tribe MALAXEJE.

Bt. (*Crepidurri*) **acutangula**, *Hook, f.*; foliis breviter petiolatis lanceolatis acuminatis, vaginis latis cum lamina articulata, scapo valido brevi, racemo elongato multifloro, bracteis lanceolatis deflexis pedicellis gracilibus brevioribus, floribus majusculis, sepalis oblongis obtusis, petalis anguste linearibus, labelli antriculo elongatis acuminatis lamina longioribus et latioribus angulis basi acutis, lamina brevi lata profunde pectinata, disco excavato, columnae rotundatis.

HAB. Malay Peninsula; Perak, *Wray* (in *Herb. Calcutt.*).

Oculis brevis. *Folia* 4-7 poll, longa, 5-7-nervia, costa valida, vaginis pollicaribus amplis striato-nervosis. *Scapus* una cum racemo 8-12-pollicaris, ad basin fere floriferus; pedicelli $\frac{1}{2}$ poll, longi. *Flores* sub 1 poll, longi, albi; sepala 3-nervia.

A very handsome species, closely allied to *M. plantaginea*, Steud. (*M. Rheedii*, *Lindl.* non *Wight*), which differs in the form of the lip.—
J. D. HOOKER.

Fig. 1. Flower. 2. Sepal. 3. Leaf from another flower. *All enlarged.*



M.S. del, et lith

Liparis Trim enii, Bid 1

PLATE 1836.

LIPARIS TRIMEJNTI, *Ridley*.

ORCHIDEJE. Tribe LIPARIDEJE.

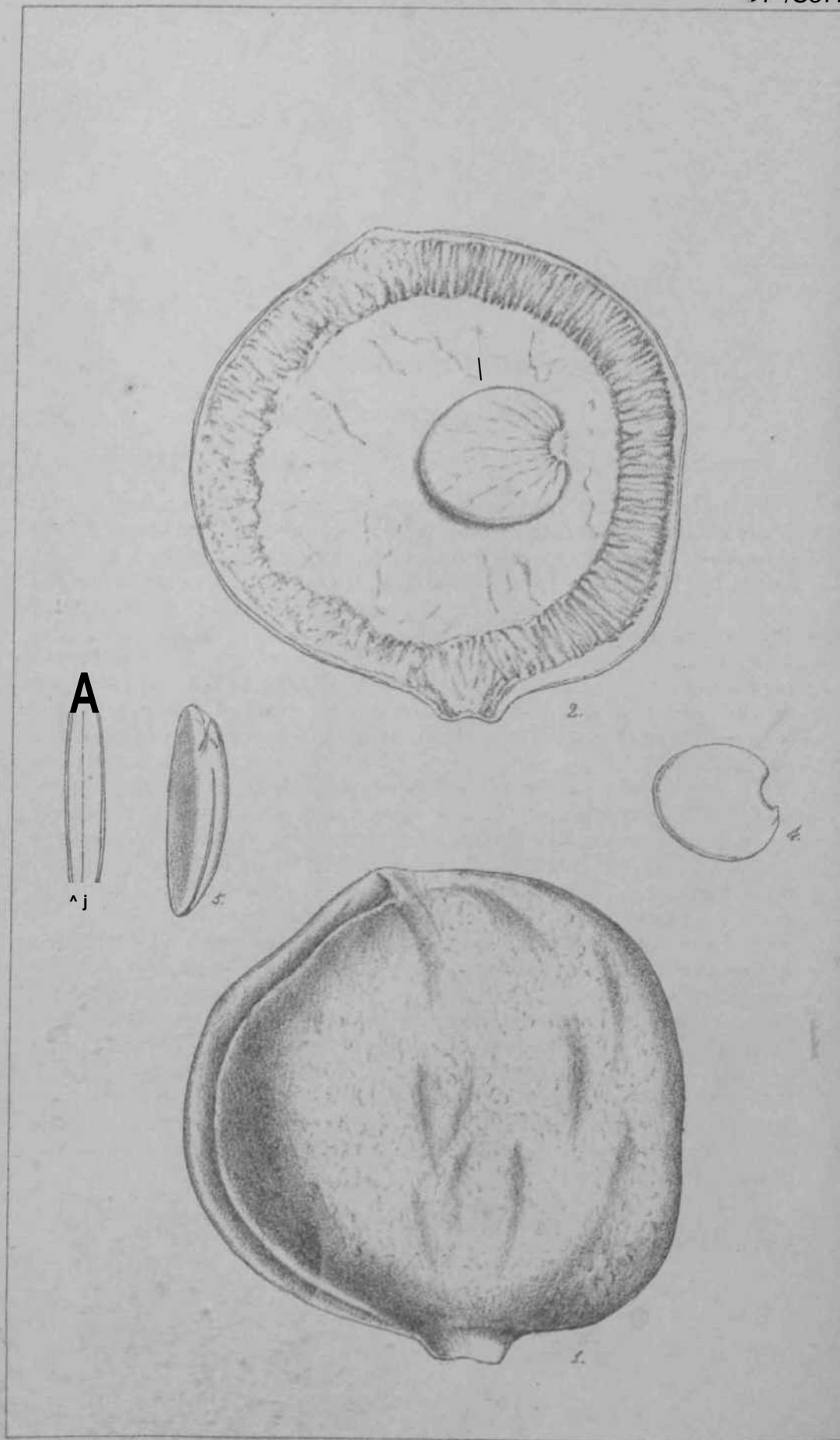
L. (Mollifolia) Trimenii, *Ridley in Journ. Linn. Soc. xxiv. 350*; parvula, foliis 2 ovato-lanceolatis acuminatis 5-nerviis, scapo elongato gracili tereti paucifloro, bracteis lanceolatis erecto-patentibus, sepalis oblongo-lanceolatis subacutis 3-nerviis, petalis anguste linearibus deflexis, labello piano patente late ovato-rotundato nervoso margine subundulato, callis ad basin 2 obscuris, columna elongata incurva, alis obsolete.

HAB. Ceylon, at Hangkele, *Trimen*.

Pseudohulbi non visi. *Folia* 1-1½ poll, longa. *Scapus* nna cum racemo 1-3-pollicaris, bracteis pedicellis subaequilongis. *Labellum* 1 poll* longum. *Capsula* longa, ellipsoidea.

This belongs to the section of *Liparis* in which the leaves are membranous and not articulate with the sheath, and in which the lip is broad, flat, and neither decurved nor deflexed from the base. Its nearest ally is *L. Wightiana*, *Thwaites (L. atropurpurea, Wight, Ic. 904, 1101 Lindl.)*, from which it seems to me to differ only in the much smaller size, and less developed calli at the base of the lip. I have to thank Dr. *Trimen* for sending me the specimens from which the accompanying figure was made.—J. D. HOOKER.

Fig. 1. Flower. 2. Bract and capsule. *Both enlarged.*



M.S. del. e. h. 180.

i no carpus edulis, Forst.

PLATE 1837.

INOCABPITS EDTJLIS, *Forst.*

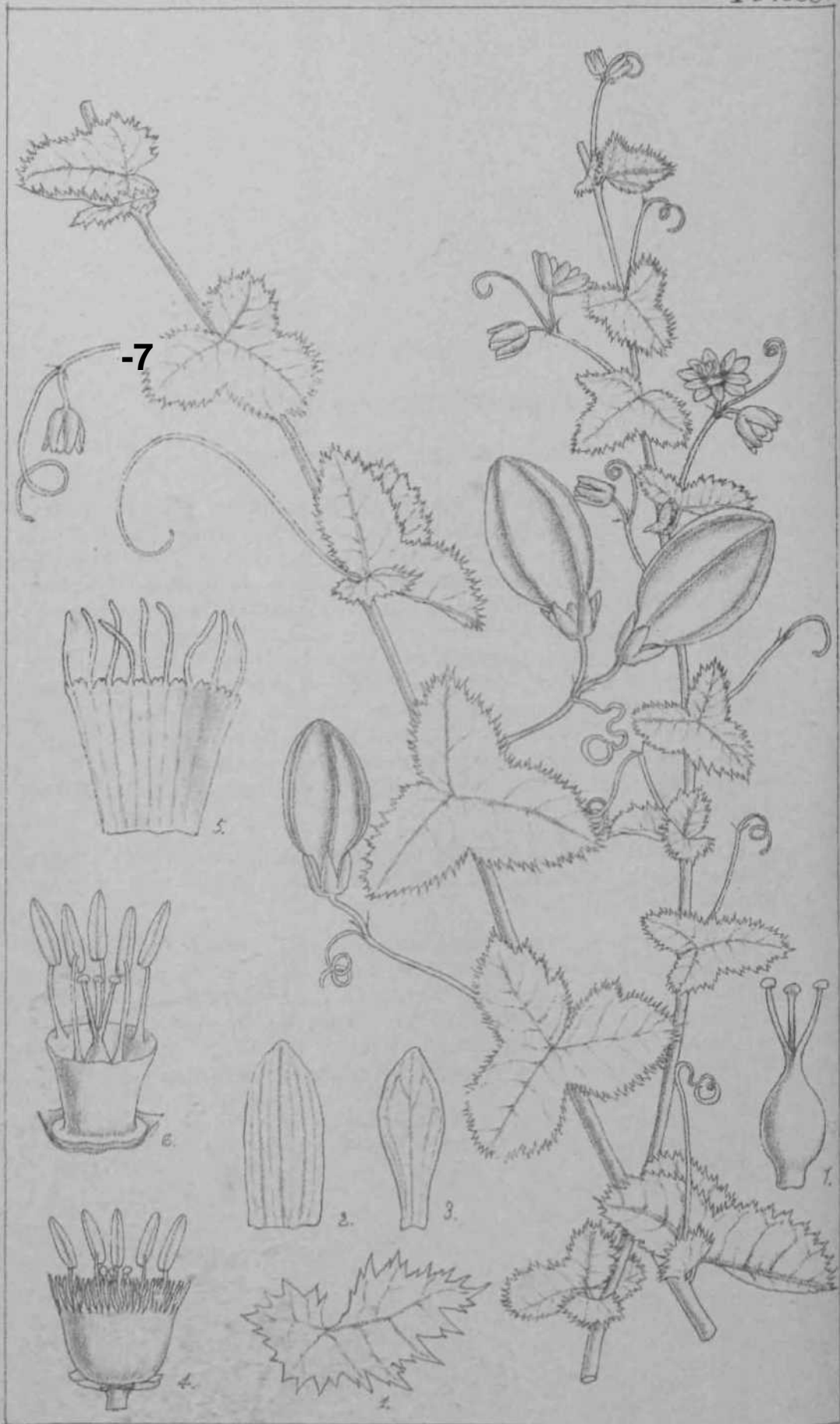
LEGUMINOSIC (GENUS ANOMALUM).

I. edulis, *Forst.*, *Benth. in Journ. Linn. Soc. (Bot.)* vi. 149.

This plate is simply intended to put on record the structure of the fruit, which has not hitherto, so far as I am aware, been correctly represented. Our figures are from excellent specimens in fluid brought home by Mr. Lister from Christmas Island on the occasion of his recent visit in the surveying ship 'Egeria.' An elaborate description of the fruit is given by Gaertner (*fil.*) in 'Carpologiæ Suppl.' 114, *cum tabb.*, but, I take it, his figure is from a fruit in which germination had commenced, at least to the extent of the absorption of the inner stratum of the pericarp, and corresponding enlargement of the cotyledons, which are shown with a remarkable reticulate corrugation of the outer surface.

In our specimens the roundish compressed fruits are from 2[^] in. to 3[£] in. long and broad; the diameters nearly equal, varying to nearly 1[•]1 in. in thickness. The surface is quite smooth, the style-scar slightly oblique, a narrow ridge on one edge of the fruit terminating immediately under it. Our specimens in spirits are dark reddish-brown in colour. The pericarp is very thick in transverse section, about [^] in. on the side toward the external ridge. The outer and thicker stratum of this pericarp is firm, though easily cut with the knife, and exhibits in section a copious, more or less radiating, somewhat fibrous vascularity; the inner narrower stratum is fleshy, and nearly uniform in section. The seed occupies a roundish, shallow, slightly unilateral cavity; it is broadly reniform, much compressed, laterally affixed, nearly quite smooth, 7-8 lines by 5-6 lines long and broad; testa thin and papery, closely investing the embryo. The material available does not enable me to say anything satisfactory as to the radicle and plumule.—D. OLIVER.

Fig. 1. Fruit. 2. Same in longitudinal section. 3. Seed in section. 4. Embryo. 5. Same, edgewise. 3 and 5 *slightly enlarged*.



M.S. del., et lith.

Tryphostemma triloba, Bolus.

PLATE 1838.

TRYPHOSTEMMA TRILOBA, *Bolus*.

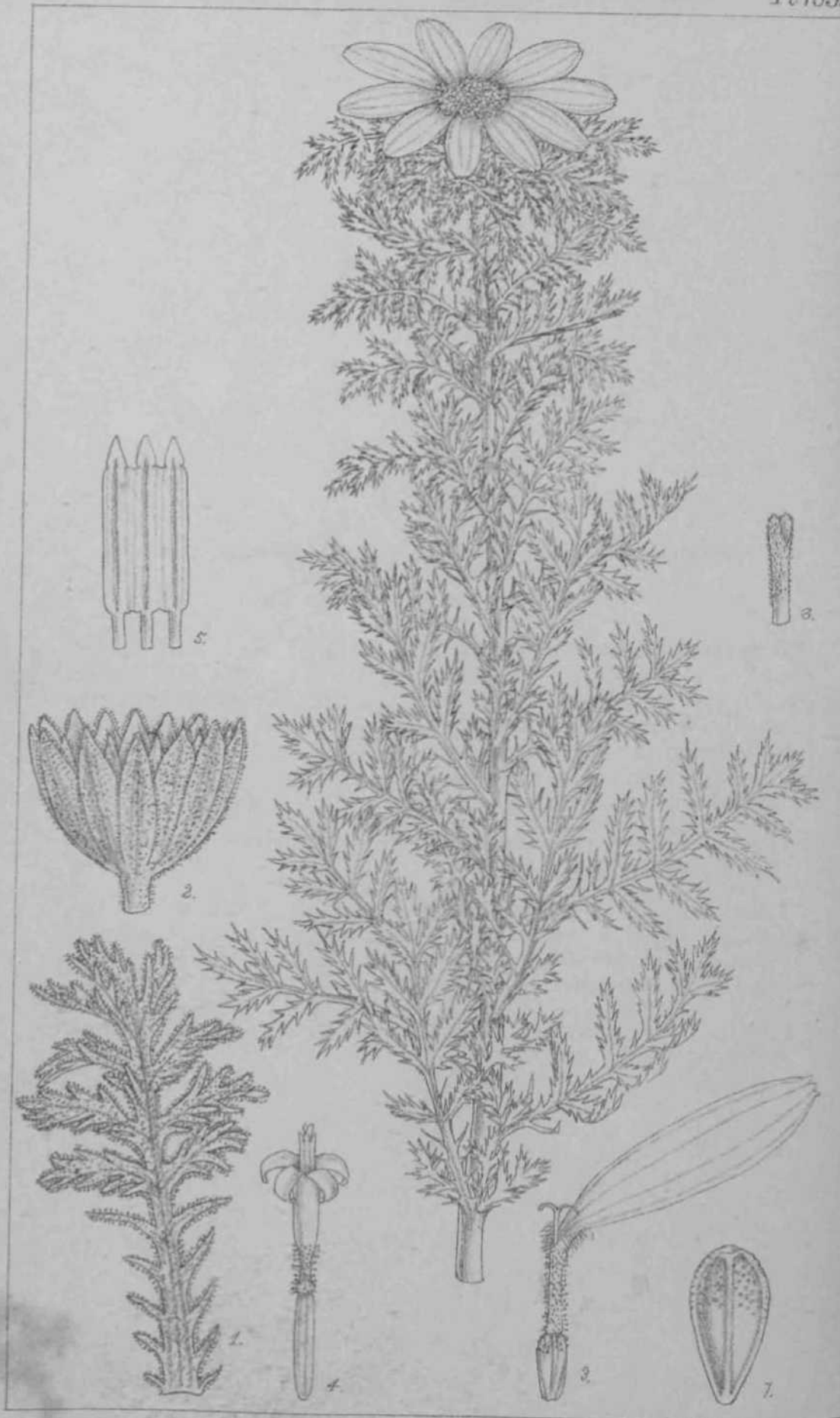
PASSIFLORACEÆ. Tribe PASSIPLORBÆ.

T. triloba, *H. Bolus* (*jsp, nov.*) ; herba scandens, glabra cirrifera: caules plures verisimiliter anni e radice perenni, basin versus ramosi, distanter foliosi; folia brevissime petiolata sagittato-triloba 1-2 centim. longa, lobis ovatis acutis argute serrato-denticulatis, lateraiibus interdum 1-2 lobulatis, stipulis semi-sagittatis acuminatis serrulatis, 0*5-1 centim. longis; pedunculi cirriferi folia excedentes recti 1- vel rarius 2-flori, 2-3 cm. longi, pedicelli gracillimi bracteati 3-5 millim. longi; flores expansi 1-1*2 cm. lati, sepala oblonga obtusa, petalis spathulato-oblongis oeqnilonga; corona exterior tubulosa sursum fimbriata, interior annulata brevissima; filamenta summo tubo hyalino hypogynous intus adnata, antheria coronam anteriorem superantibus; styli 3 divergentes; ovarium G-ovulatum ; capsula 2-sperma chartacea, 2-3 cm. longa.

HAB. Inter fruticulos prope Puzeen's Kraal, in provinciâ Delagoa, Africa Austr.-Orientali, alt. circ. 60 metr., fl. Aug. anno 1886, legi, No. 7606.—*H. Bolus*.

This is very similar in floral structure to *T. Hanningtoniana*, M. T. Mast., figured on tab. 1484 of this work. But, besides the difference in the leaves, the flowers are larger and the tube of the outer corona longer in proportion to the fimbria. The very distinct though short ring which surrounds the staminal tube (and which is also present in *T. Hanningtoniana*) is here regarded as the inner corona.—H. BOLUS.

Fig. 1. Stipule. 2. Sepal. 3. Petal and exerted anthers. 5. Part of outer corona, laid open. 6. Stamens, showing insertion on inner face of hypogynous tube. 7. Pistil. *Enlarged*.



M.S.del.«tliih .

Osteospermum tanacetiflorum, Macov/an .

PLATE 1839.

OSTEOSPERMUM TAMTACETIPIOLIUM, *Macowan*.

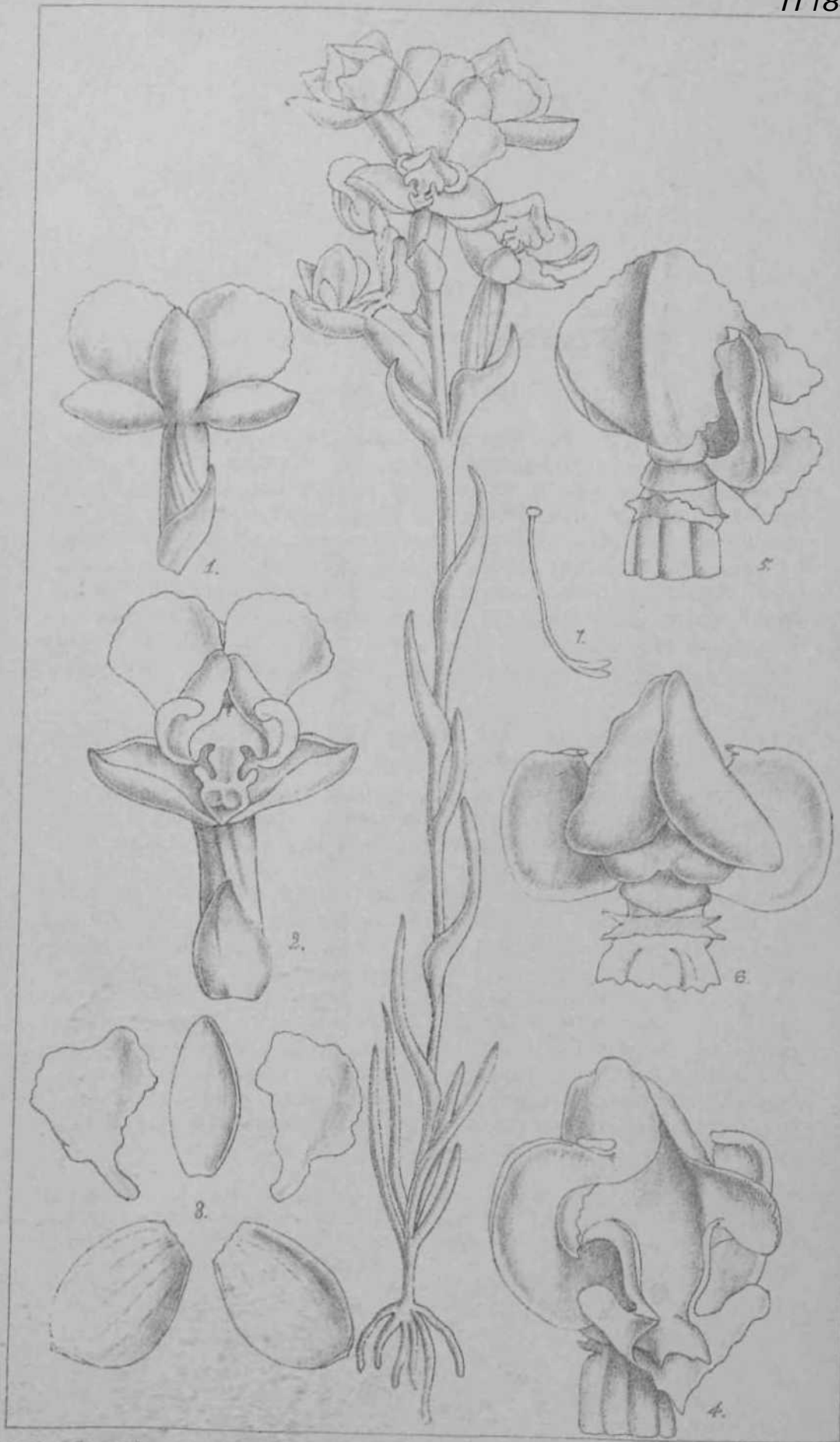
COMPOSITE. Tribe CALEKDTILACEA.

O. tanacetifolium, *Macowan in sched. No. 1382 Herb. Aust. Africa*; caule fruticoso basi nudo simplicique superne, divaricato, foliis scabroglandulosis sessilibus ad apices ramorum confertissimis recurvopatientibus interrupte bi-pinnatifidis, lobis argute incisus rachi hinc inde pectinata, involucri squamis 2-seriatis oblongis acutiusculis subconformibus margine membranaceis, radiis (10-) 12, acheniis clavatis costatis lissiusculis (*Macowan, 1. c.*).

HAB. Kagaberg and Bosohberg, Prov. Somerset, Cape Colony, *P. Macowan**

I find the ripe achenes distinctly, though not prominently, longitudinally 4-5-costate, and more or less minutely tuberculate towards the apex: they are about 3 lines in length. The species is a very marked one in the genus.—D. OLIVER.

Fig. 1. Leaf. 2. Involucre. 3. Ray-floret. 4. Disk-floret. 5. Anthers. 6. Stigma. 7. Achene. *Enlarged.*



M. S. del, et lith.

Ceratandra Harveyana, Lindl.

PLATE 1840.

CERATANDBA HARVEYANA, Lindl

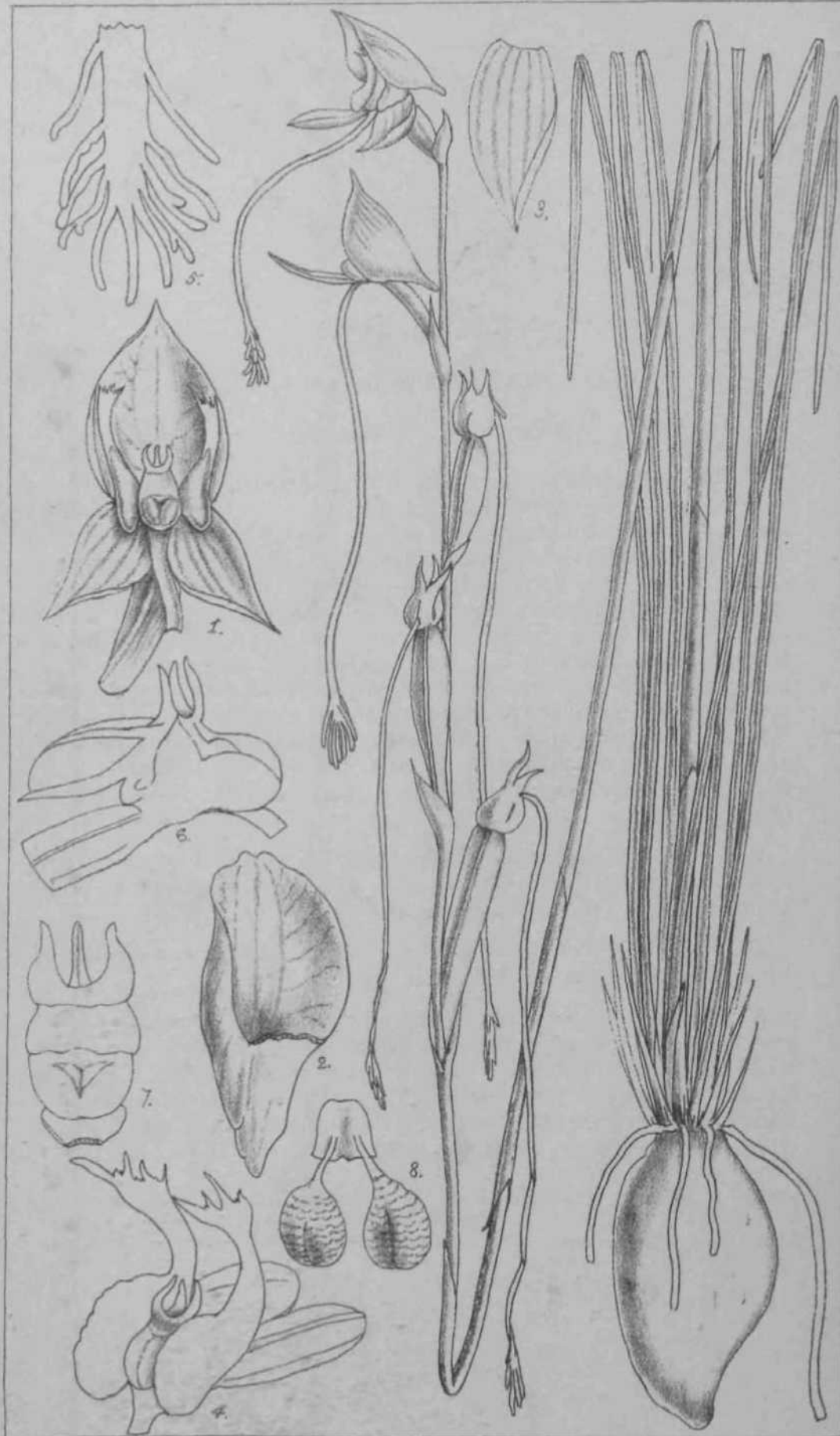
ORCHIDACEJ. Tribe OPHRYDEJJ.

C. Harveyana, Lindley, *Oen. 8f Sp. Orch.* (1838), p. 365, *non Bonder*; spatulata glabra; canalis erectus flexuosus distanter foliosus; folia radicalia linearia nuncialia, in bracteas latiores basi vaginantes apice ustulatas abeuntia; racemum laxum 3-5 florum; sepalum impar posticum, petalis cohaerentibus oblique obovatis unguiculatis irregulariter lobulatis crennatisque; sepala lateralia elliptica concava patentia; labelli lamina deltoideo-hastata acuta tuberculata, appendice lamina multo majore basi contracta subquadrata, sursum in brachia duo dilatata, apice in plicis duas latas stigma obtegentes reflexa; rostellum brachia lata auriculiformia; stigma posticum bilobum, lobis pulvinatis.

HAB. In planitie inferiori montis Tabularis prope Cape Town, alt. circ. 740 metr., flor. Dec-Jan., rara, *Bolus* 4548 (in *Herb. Kew*).

The petals and lip are a sulphur-yellow, the appendage a deeper golden yellow, sepals greenish yellow above, brownish below. A very curious species, allied to *O. bicolor*, Sond., but readily distinguished from that by the absence of the long horn-like appendages to the lip. The two form a very distinct section of the genus in which the arms of the rostellum are not elongated (as Lindley originally described the genus), but are laterally dilated; the flowers also differ in appearance from their congeners, resembling those of *Pterygodium*, from which, if the back sepal and cohering petals were hooded and the rostellum somewhat less developed, they would be scarcely distinguishable. Harvey inclined to regard the present species as the type of a distinct genus, for which he proposed the name *Calota*. Lindley, however (and, I think, rightly), considered it as too near to *Ceratandra*. It is, indeed, intermediate between the latter genus and *Pterygodium*. —H. BOLUS.

Fig. 1. Flower, posterior view x 2. 2. Same, anterior view x 2. 3. Sepals and petals. 4. Column and lip, viewed obliquely. 5. Same, viewed laterally. 6. Same, viewed posteriorly. 7. One of the pollinia. All the latter variously enlarged.



MS.dfl etlth.

Disa Charpentieriana, Reichb.f.

PLATE 1841.

DISA CHARPENTIERIANA, *Beicli. J.*

ORCHIDACEÆ. Tribe OPHBTDEÆ.

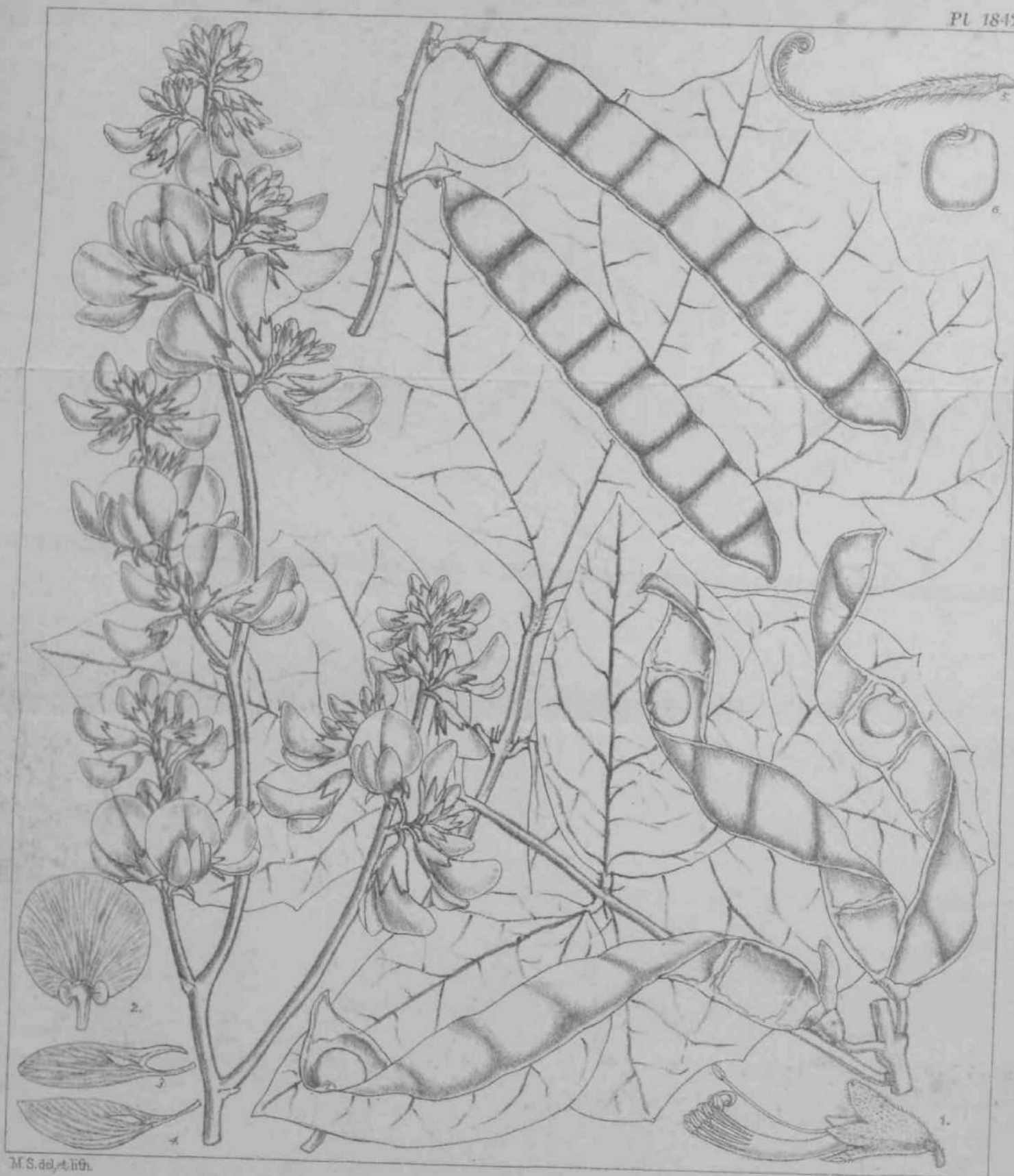
D. Charpentieriana, *Beiciieribach l. in Linncea*, vol. xx. (1847), p. 688? *Icon. Flor. Germ.* vol. xiii. (1851), t. 354, ff. 21-23 (§ *Herschelia*); erecta, glabra, tubere obovato vel difformi magno; folia radicalia plura linearia graminoida acuta scapo multo breviora; scapus substrictus, vaginis acutis adpressis membranaceis 6-8 distanter vestitus; racemus laxè 3-5-florus, bracteis lanceolatis acuminatis vaginantibus; flores cum ovariiis internodiis aquantes; sepala lateraliter ovata acuminata concava patenter deflexa; sepalum impar galeatum acuminatum emarginatum ascendens, calcar coriaco acuto; petala biloba, lobo inferiore oblongo dilatato columnæ adnato, superioribus falcato-ascendente apice irregulariter dentato; labellum longissime unguiculatum apice dilatatum laciniatum; rostellum trilobum; glandula (an semper?) unica. *D. macroglottis*, *Bonder in Linncea*, vol. xx. (1847), p. 219.

HAB. In collibus prope Villiersdorp, alt. circ. 400 metr., flor. Nov. anno 1879, legi; No. 5278; in monte Winterhoek prope Tulbagh, alt. 900 metr., flor. Jan., A. *Bodl. in Zeyher*, 3918.

Scapus 7-8 centim. longus. *Galea* (cum calcar 5 mm. longo) 1*8 cm. longa. *Labellum* 5-8 cm. longum.

A very curious and distinct species of a group of which we are yet far from knowing the limits of variability. The long lip is very remarkable, and as it sways about in the wind suggests a possible means of attraction for insects. The galea and sepals are a dull leaden purple with darker markings, the petals purple in front, with white below and green above, the lip greenish.—H. BOLUS.

Fig. 1. Flower, front view x 2. 2. Odd sepal x 2. 3. Side sepal x 2. 4. Column with petals x 3. 5. Apex of the lip. 6. Column, side view. 7. Ditto, front view. 8. Pollinia, with gland. All the latter variously enlarged.



M.S. del., A. lith.

Pachyrhizus angulatus, Rich.

PLATE 1842.

PACHYKEHIZUS ANGULATUS, *Bich.*

LEGUMINOSAE. Tribe PHASEOLEA.

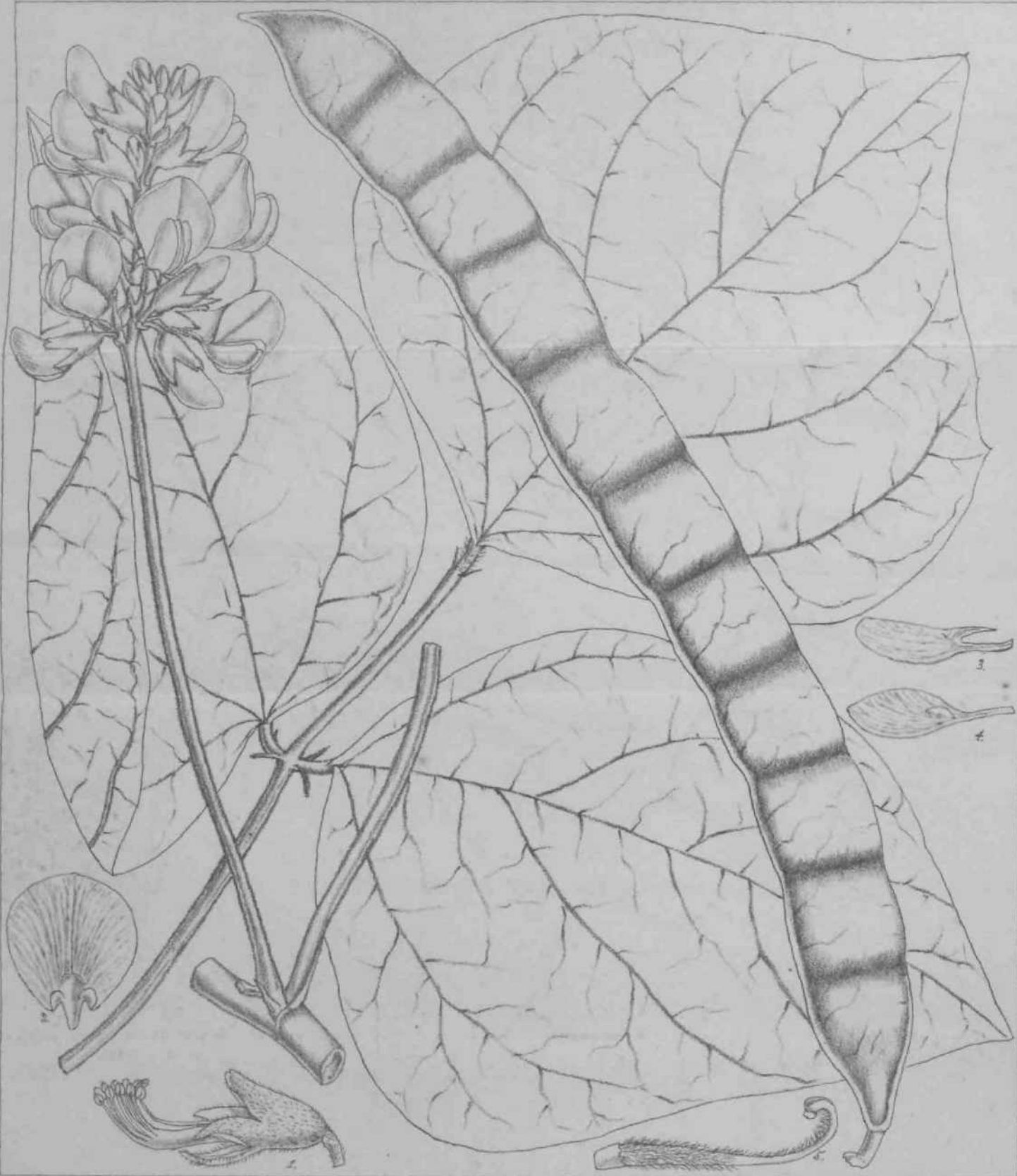
P. angulatus, *Rich.*; *BO. Prod.* ii. 402; foliolis saspinis angulato-dentatis, legumine 3-5 poll, longo. *Hook. fit. Flora Brit. India, cum Syn.* ii. 207.

HAB. Widely cultivated in the tropics of both hemispheres, * probably of Central American origin/ Bentham, in Martius, *FL Bras. (Papilionaceae)*, 199 cum tab. 53.

Bhizoma tuberosum. *Catties* volubiles frutescentes, hirti v. glabrati. *Folia* pinnatim 3-foliolata saepe longiuscule petiolata; stipulae deltoideo- v. ovato-lanceolatae, breves; foliola petiolata ampla, terminale basi late cuneatum, lateralia valde obliqua, hirta v. glabrata; stipellae subnatae. *Racemi* elongati longe pedunculati basi saepe ramosi, ramis ascendentibus. *Legumen* 6-8 lin. latum, inter semina extus transverse depressum.

As there is no readily accessible figure of this common species, this plate is given for the sake of comparison with the following (Tab. 1843).—D. OLIVER.

Fig. 1. Calyx and stamens. 2. Vexillum. 3. Wing-, and 4. Keel-petal. 5. Pistil
6. Seed. *Enlarged.*



M.S. de I. A. Wh.

Pachyrrhizus tuberosus, Spr.

PLATE 1843.

PACHYBRHIZTTS TUBEROSUS, Spreng.

LEGUMINOSA: Tribe PHASEOLEJE.

P. tufreirosus, *Spreng. Syst. Veg.* iv. pars 2 (*Cur. post.*) 281; foliolis subintegris v. obscure sinuatis (in spp. juven. nonnnnquam lafco lobatis), legumine 8-12 poll, longo.—*Dolichos tuberosus*, *Lam. Diet.* ii. 296.

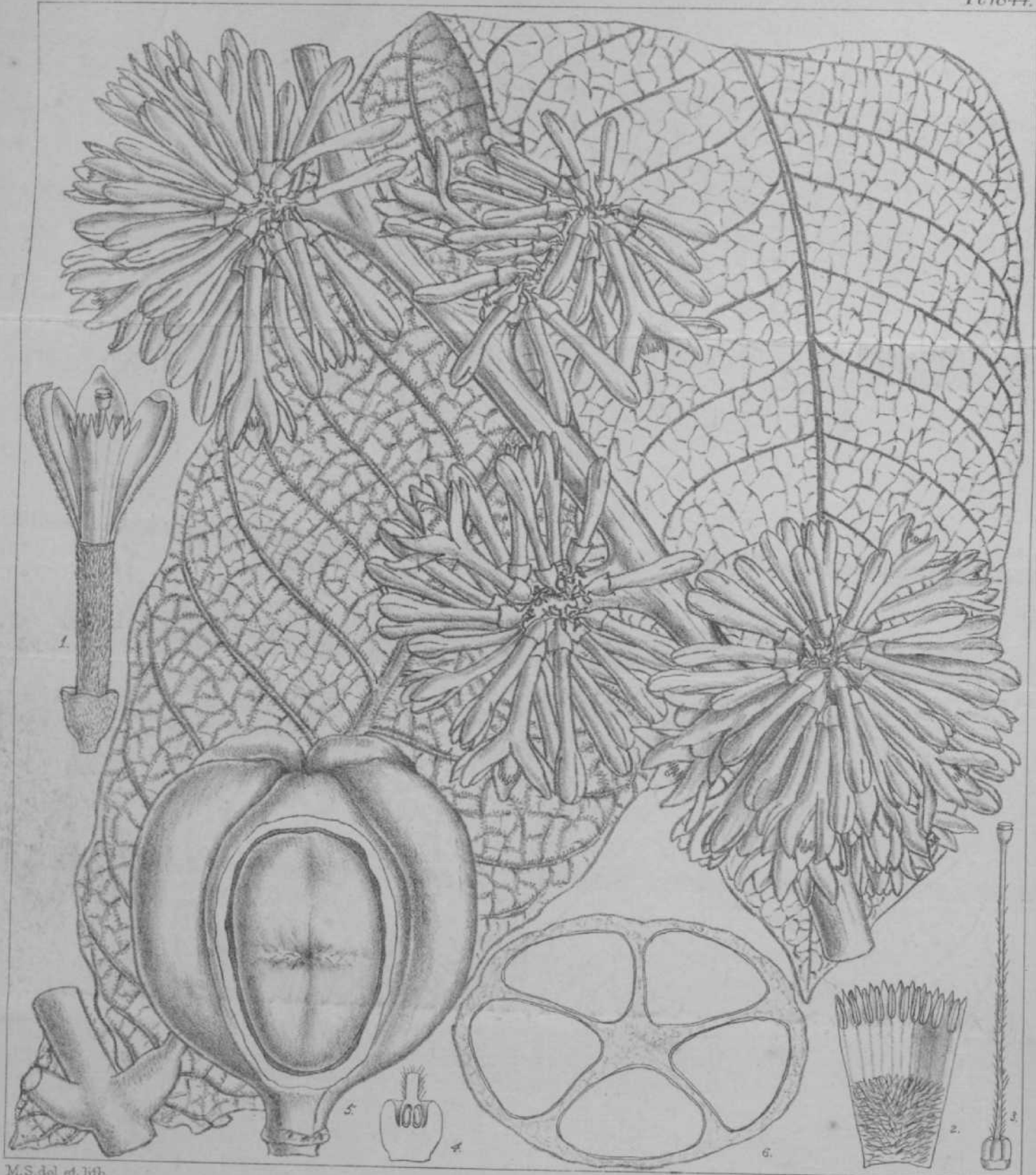
HAB. We have only cultivated specimens from Ta-rapoto (*Spruce*, 4936), and, recently, from Dr. Trimen, F.R.S., from the Perideniya Gardens. Cultivated also in the West Indies and Venezuela.

'*Herba volubilis*, 10-20-pedalis pro tuberis maximis edulis culta' (*Spruce MSS.*). *Racemi* in spp. nostr. quasi simplices, ramulis inferioribus brevissimis plurifloris floribus congestis. *Legumen* 9-10 lin. latum, inter semina profunde depressum.

A full account of this plant, the 'Yam Bean,' is given in the 'Kew Bulletin,' No. 25 (January 1889), p. 17, where attention is called to Dr. Trimen's discovery that the young pods are an admirable vegetable, superior to ordinary French beans in 'the absence of any fibrous string about the sutures of the pod.' The seeds are poisonous (*Macfadyen, Spruce*),

It may be a question how far this plant is specifically distinct from *P. angulatus*, Rich. Mr. Bentham regarded *Spruce's* specimens from Peru as belonging to this species. I think it may well be a variety originated under cultivation, but so marked as to require a distinct name for cultural purposes, and for the present the specific name given by Lamarck may suitably be adopted.—D. OLIVER.

Fig. 1. Calyx and stamens. 2. Vexillum. 3. Wing-, and 4. Keel-petal. 5. Pibtil. *Enlarged.*



M.S. del et lith.

Chisochetum princeps, Herasl.

PLATE 1844.

CHISOCHETON PRINCEPS, *Hemsl.*

MBLIACEJE. Tribe TRICHILIEJE.

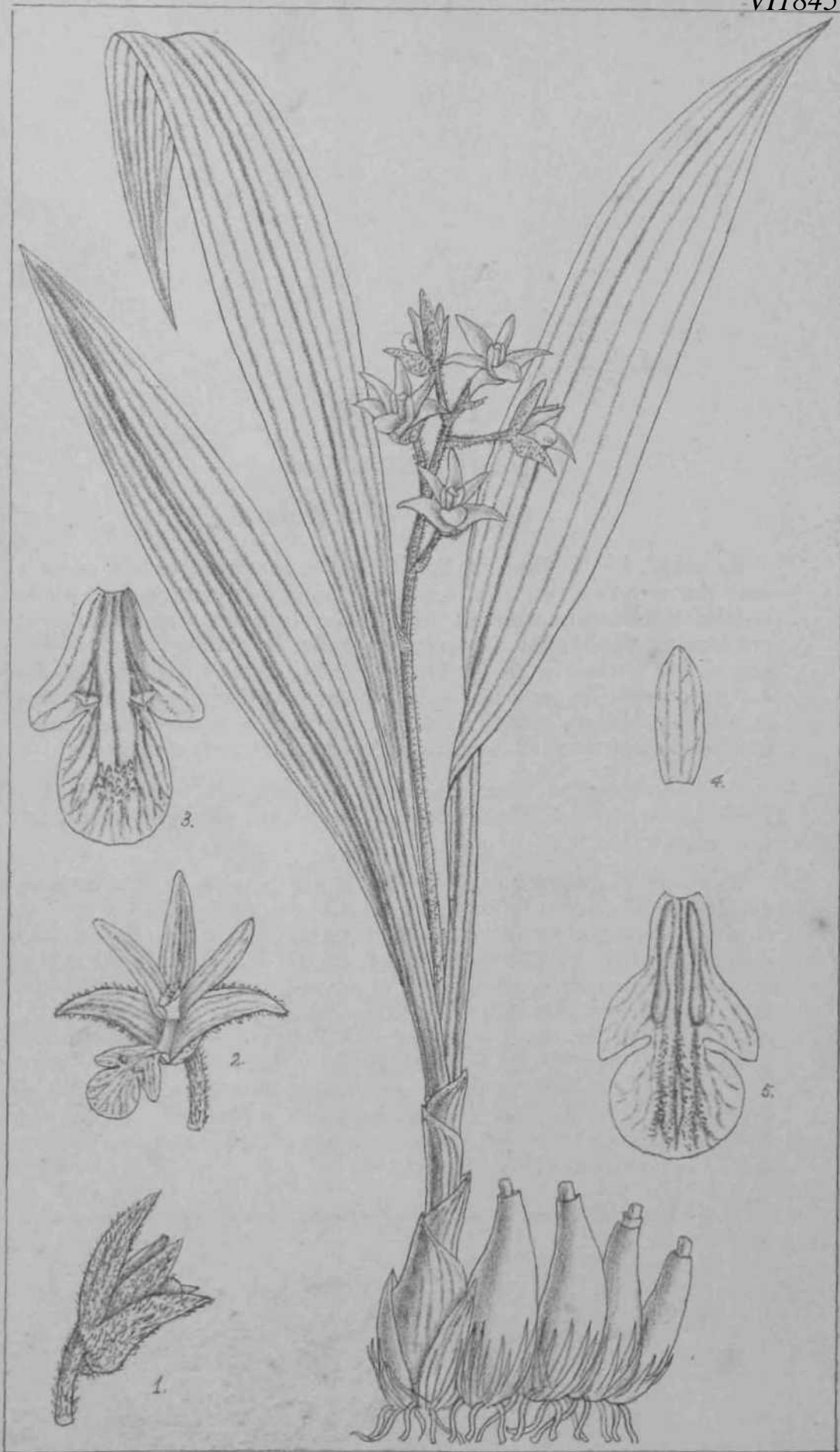
C. princeps, *Hemsl. (sp. nov.)*; arbor ut videtur palmiformis trunco simplice, foliis pinnatis amplissimis, rachis crassa tereti pubescenti, foliolis oppositis brevissime petiolulatis oblongis vix acutis basi rotundatis undulatis supra glabrescentibus rugulosis costa pubescenti subtus pubescentibus insigniter elevato-venosis, floribus magnis sericeo-tomentosis secus rachin longissimam pendulam glomerato-fasciculatis brevissime pedicellatis, calyce cupulari, corollae lobis plus minusve induplicato-valvatis marginibus laevibus, tubo stamineo 10-dentato intus infra medium villosa, dentibus acutis antheris subinclusis alternantibus, ovario glabro 5-loculare, loculis uniovulatis, stylo hispidulo tubum stamineum superante, fructu pomiformi siccitate rugoso plus minusve 5-lobato, seminibus castaneis.

HAB. Penang, at the Waterfall, *Mr. O. Curtis*, 1519.

Arbor 40-pedalis, foliis 9-10-pedalibus (*Curtis*). *Foliola* saltern usque ad 18 poll, longa (inferiora non visa) et 5 poll, lata; petioluli brevissimi valde incrassati. *Inflorescentia* 3 ped. longa (forsan ultra). *Flores* 15-18 lineas longi. *Fructus* siccus 2^h poll, diametro. *Semina* 1^h poll, longa.

This tree must be a very striking object, its enormous pinnate leaves surpassing those of a similar member of the same Order recently figured in this work (pi. 1708) under the name of *Megaphyllcea*.—
W. B. HEMSLEY.

Fig. 1. A flower from which two lobes of the corolla have been removed to show the staminal tube and upper part of the style; the infolded margins of the corolla-lobes are thin and naked. 2. Staminal tube, laid open. 3. Pistil. 4. Vertical section of the ovary and cupular disk. *All enlarged.* 5. A fruit from which a portion of the pericarp has been removed, revealing the seeds. 6. Cross section of the dried fruit. *Natural size.*



U:3. del. et. Ah

Eria alba, Lindl.

PLATE 1845.

ERIA ALBA, *Lindl.*

ORCHIDÆ. Tribe ERIEJ.

E. alba, *Lindl. Gen. et Sp. Orchid. 67*; pseudobulbis seriatis confertis ovoideis non caulescentibus, foliis 3-5 angusto lanceolatis striatis rigidiusculis nervosis, scapo foliis brevioris erecto ovarioque pubescente, sepalis ovato-lanceolatis 3-5-nerviis glabris v. pubescentibus, mento rotundato, petalis lineari oblongis obtusis 3-nerviis, labello ambitu obovato-oblongo late unguiculato albo purpureo tincto, lobis lateralibus oblongis obtusis, intermedio orbiculari y. obovato-oblongo, disco ssepissime crasse 2-carinato, columna parva pede non excavato.

HAB. Subtropical Himalaya, from Kumaon, alt. 3,000-6,000 ft., *Boyle, Strachey and Winterhottom (E. excavata)*, &c, to Sikkim, alt. 6,000-7,000 ft.

This species belongs to the difficult group with *E. graminifolia* (pi. 1847), *E. excavata* (pi. 1846), and *E. confusa* (pi. 1850), species that are abundantly distinct in a living state, but in the Herbarium difficult to distinguish without careful analysis. Speaking roughly, *E. graminifolia* may be recognised by its caulescent habit, short bracts, and the recurved side lobes of the lip; *E. excavata* by the sessile lip and excavated foot of the column; *E. confusa* by the caulescent pseudobulbs; and *E. alba* by none of these characters applying to it. *E. acervata* (pi. 1849), which is confounded with these in herbaria, differs greatly in the flaccid leaves, glabrous inflorescence, pedicelled flowers, and long bracts. The thickenings on the lip are as variable in this as in its allies.—J. D. HOOKER.

Fig. 1. Flower, seen laterally, and 2. Same in front. 3. and 6. Lips. 4. Dorsal sepal. *All enlarged.*



M.S. del. et lith.

Eria excavata Lindl.

PLATE 1846.

ERIA EXCAVATA, *Lindl.*

ORCHIDEÆ. Tribe ERIEJE.

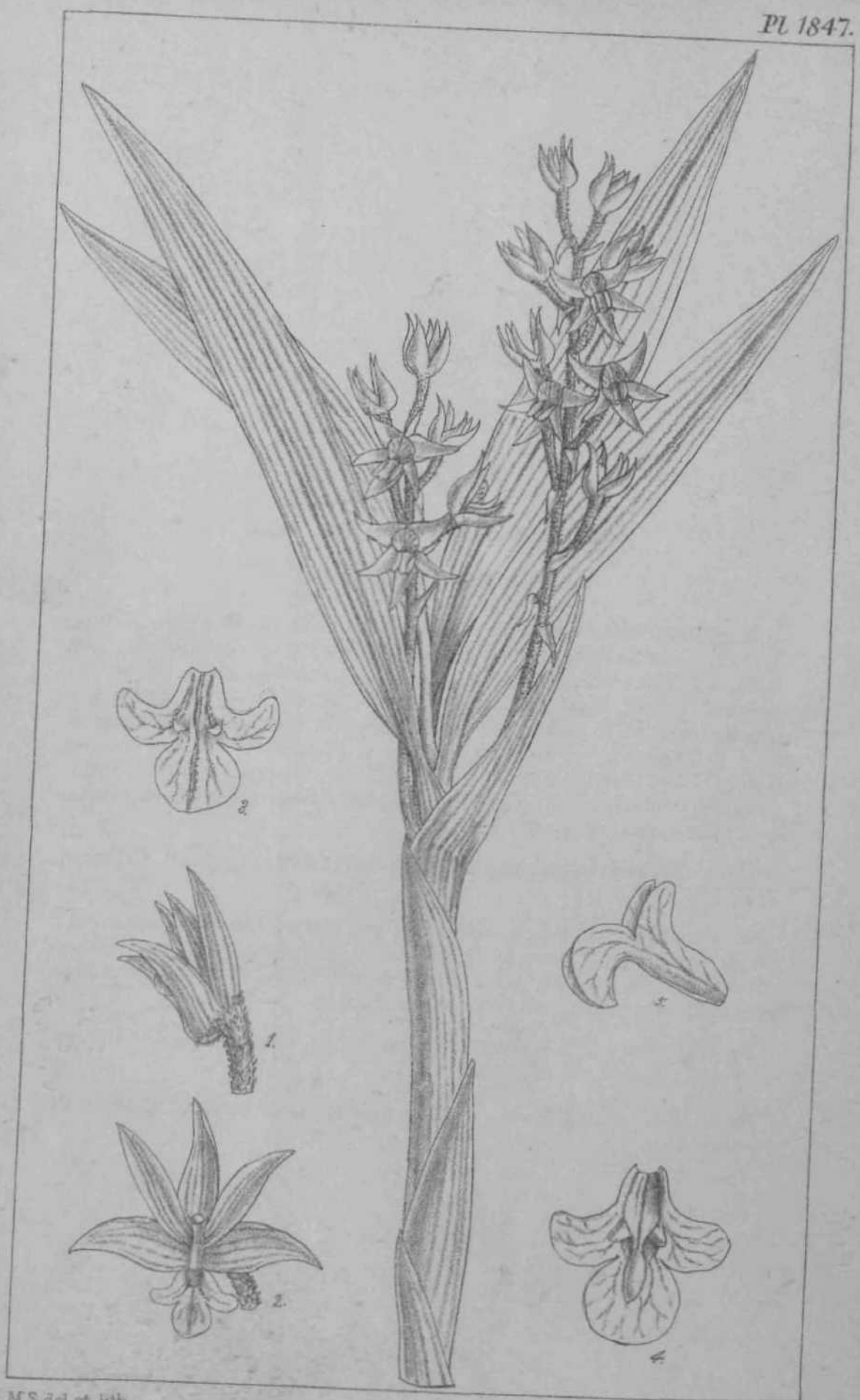
E. excavata, *Lindl. in Wall. Oat. 1974 in part*; pseudobulbis seriatis confertis subcylindræis non caulescentibus, foliis 4-6 lineari-v. elliptico-lanceolatis nervosis, spicis foliis brevioribus paucifloris pubescentibus, bracteis lanceolatis ovaria subæquantibus, sepalis ovato-lanceolatis subacutis, mento 0, petalis lineari-oblongis obtusis 5-nerviis, labello brevi sessili lobis lateralibus ovatis obtusis patentibus, intermedio polymorpho subrotundato late obovato v. subreniformi, callis disci variis, columna brevi lata pede profunde excavata. *E. spherochila* et *E. flava* var. *rubida*, *Lindl. in Journ. Linn. Soc. iii. 54, 49.* *Octomeria excavata*, *Wall. MS8.*

HAB. Nepal, *Wallich*; Sikkim and the Khasia Hills, *J. D. Hooker.*

Pseudobulbi 1-2-pollicares, ovoidei v. subcylindracei. *Folia* 5-9-pollicaria, rigidula, nervosa. *Flores* albi, ^-poll. lati, labelli basi saccati lutei lobis lateralibus roseo-tinctis, nervis purpureis.

There has been confusion about this plant from the first. The name was proposed by Wallich, for the plant here figured, but under the same number he included in his type Herbarium, and distributed, a very different species (*B. confusa* mini, pi. 1850) ; and of this latter alone flowering specimens were given, under the name of *excavata*, to Dr. Lindley, who described its stem as that of *excavata*. *E. excavata* differs from its near allies in this character of the excavated foot of the column, and in that of the lip being entirely sessile, the base not being contracted, and the side lobes being hence basal. As shown by the lips here figured the form and position of the calli on the disk vary exceedingly.—*J. D. HOOKEF.*

Fig. 1. Flower. 2, 3, and 4. Lips. *AU enlarged*



M.S. del. et lith.

Eria grimmifolia Lindl.

PLATE 1847.

EBIA GRAMINIFOLIA, Lindl

ORCHIDEE. Tribe ~~ERINZ.~~

E. graminifolia, Lindl. in *Journ. Linn. Soc.* iii. 54; pseudobulbis demum in caules elongatos cylindraceos nodos v. vaginatos desinentibus, foliis 4-6 lineari-lanceolatis rigidiusculis nervosis, spicis foliis brevioribus erectis laxifloris pubescentibus, bracteis parvis late ovatis ovariiis tomentosis multo brevioribus, sepalis lateralibus ovato-lanceolatis 3-5-nerviis, mento obtuso, petalis linearibus acutis 3-nerviis, labello brevi unguiculato lobis lateralibus oblongis recurvis, intermedio orbiculari, disci callis 8 (v. 0), lateralibus saepe auriculceformibus intermedio oblongo.

HAB. Sikkim Himalaya, alt. 5,000-6,000 ft., Griffiths* Collector, J. D. JS.

Pseudobulbi v. si mavis *caules* 5-6-pollicares, crassitie pensD anserinae v. olarinae, demum nudi. *Folia* 4-6 poll, longa, striata. *Scapus* cum spica 2-4 poll, longus. *Flores* 1 poll, diam., albi; columna breviuscula, subgracilis, pede non excavata.

As with many of the species of this genus, the calli on the lip are very variable.—J. D. HOOKER.

Fig. 1. Side view of flower. 2. Front view of same. 3, 4, and 5. lip. *Ml enlarged.*



M.S. del. et lith.

Erja elata, Hook f.

PLATE 1848.

EBIA ELATA, *Hook.f.*

ORCHIDEÆ. Tribe ERIEÆ.

E. elata, *Hook.f.* (*sp. nov.*); elata, pseudobulbo elongato crasso foliis paucis terminalibus coriaceis pedalis oblancoelatis basi plurivaginatibus, scapo robusto foliis longiore plurifloro, bracteis magnis lanceolatis, floribus majusculis sessilibus, ovario basique perianthii pubescentibus, sepalis lateralibus falcato-lanceolatis acutis 5-7-nerviis, mento obtuso, petalis lineari-oblongis obtusis falcatis 5-nerviis, labello semi-lunari lobis lateralibus incurvis obtusis intermedio parvo rugoso longioribus, disco 3-carinato, columna gracili elongata, pede pubescente.

HAB. Malay Peninsula, *Father Scortechini*.

A remarkable species, unlike any other, but somewhat resembling *E. carinata* in the robust habit and equitant sheaths of the leaves, which latter are a foot long, coriaceous, acuminate; the orbicular lip is very peculiar, the side lips being directed inwards towards the small midlobe forming a large sinus, and embracing the latter. It comes into the section *Hymeneria*, which is a very heteromorphous one; were it densely tomentose or woolly, it would be referred to section *Dendrolirion*.—**J. D. HOOKER.**

•Fig. 1. Flower. 2. Dorsal sepal. 3. Lip. 4. Top of ovary and column. *All enlarged.*



M.S. del., et hth.

Eria acervata (Lam.) Kl.

PLATE 1849.

EBIA ACEBVATA, *Lindl.*

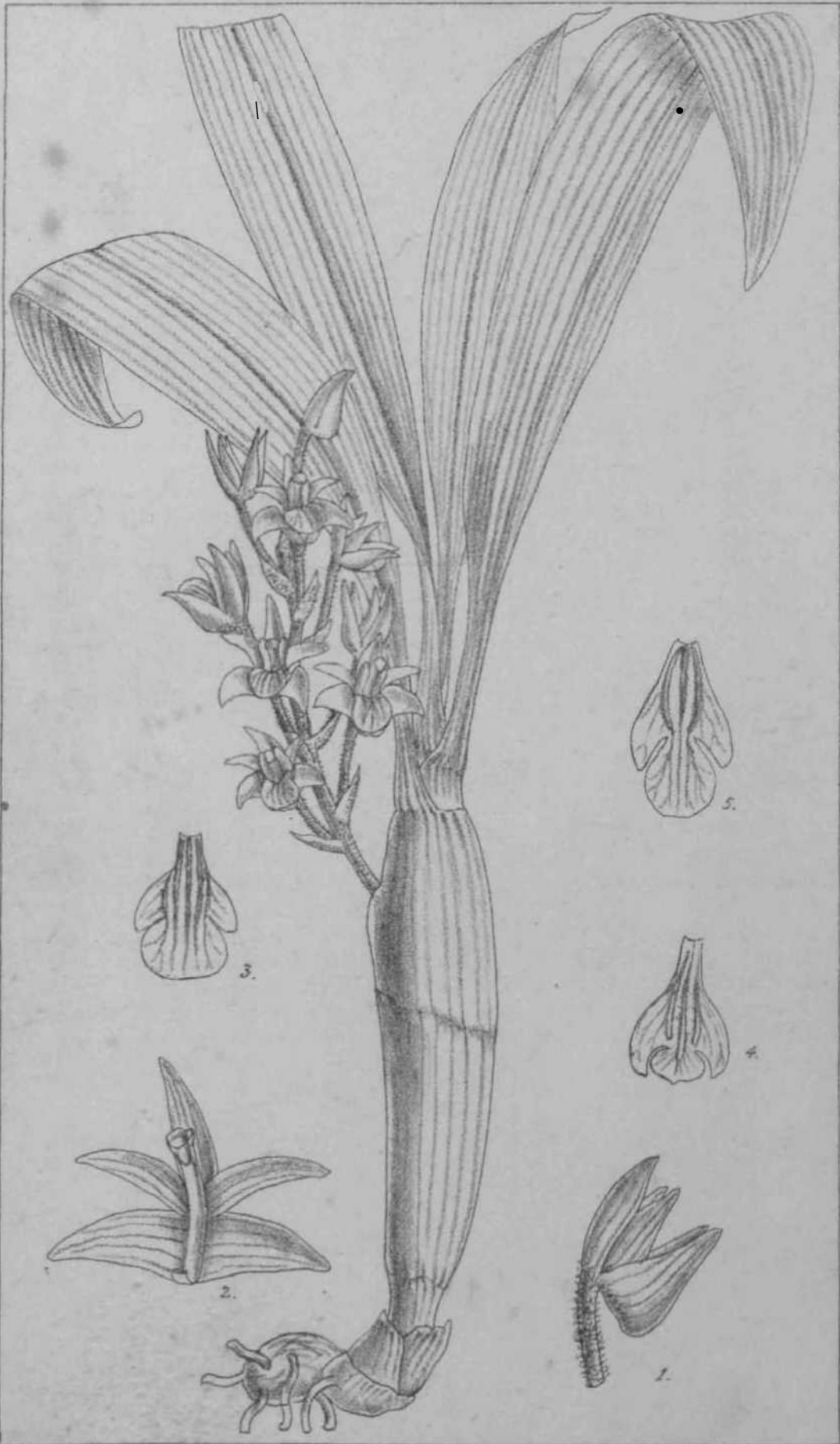
ORCHIDÆ. Tribe ERIE®.

E. acervata, *Lindl. in Journ. Hort. Soc. vi. (1851), 57, cum ic. xylog.*, et in *Paxt. Fl. Gar A. i. 170*; pseudobulbis confertis crassis, foliis 3-5 oblanceolatis flaccidis, racemis floribusque glabris, bracteis majusculis lanceolatis, sepalis lateralibus ovato-lanceolatis acuminatis falcatis 5-7-nerviis, mento majusculo late conico obtuso, petalis lineari-oblongis lanceolatisve 5-nerviis, labello ambitu obovato v. oblongo, basi angustato, lobis lateralibus oblongis obtusis incurvis, terminali rotundato v. ovato margine srepissime incrassato, disco carinis 3 in lobum terminalem productis v. abbreviatis instructo, columna gracili pede suo sequilongo. *Veiclib. f. in Gard. Ghron. 1878, 106*; *Walp. Ann. vi. 269*. *Dendrobium seriatum, Wall. M8S.*

HAB. Sikkim Himalaya (*lc. in Eerb. Hort. Gale.*); Khasia Hills, alt. 4,000-5,000 ft., *J. D. H. and T.T.*; ? Tenasserim, *Parish.*

Pseudobulbs very variable in form, densely crowded, 1-2 inches long, ellipsoid or flask-shaped, often flattened by mutual compression, usually of two nodes, faintly grooved, lengthening into fleshy stems. *Leaves* flaccid, in this respect differing from those of its allies & *confusa*, *alba* and *grantmifolia*, pale green. *Eacemes* sometimes several from the same pseudobulb; flowers white or yellowish, membranous; pedicels slender.—The Tenasserim plant referred to this by Reichenbach (*Trans. Linn. Soc. xxx. 137*) has much broader, shorter, and rigid leaves, but it may be a form of *acervata*.—J D. HOOKER.

Fig. 1. Side view of flower. 2. Front view of the same. 3, 4, and 5; Lips. All enlarged.



M.S. del, et lith.

Eria confusa, Hook. f.

PLATE 1850.

ERIA COFFUS A, *Booh. f.*

OBCHIDEA: Tribe ERIEJE.

E. CONFUSA, *Hook. l. (jsp. nov.)*; pseudobulbis in caules crassos elevatos v. cylindraceos elongatis, foliis 2-8 lanceolatis rigidiusculis nervosis, racemo laterali pubescente, bracteis majusculis, sepalia oblongo- v. ovato-lanceolata obtusis 5-nerviis, mento late conico obtuso, petalis ovato- v. lineari-lanceolatis obtusis 3-5-nerviis, labello ambitu obovato late unguiculato, lobis lateralibus ovato-oblongis falcatis, terminali rotundato obovato v. transverso interdum parvo et lateralibus incurvis brevioribus, disco serepissime 3-carinato, columna gracili. *B. excavata*, *in part, Lindl. in Wall. Gat. 1844, et in Gen. et Sp. Orchid. 67.*

HAB. Nepal, *Wallich*; Sikkim, alt. 4,000-6,000 ft., *l. D. H. (distributed as E. alba).*

The pseudobulbs lengthening into 2-4-nodal stems, 3 to 10 inches long, and as thick as the little finger, and the lateral scape, distinguish this at first sight from *E. excavata*, with which it was distributed by *Wallich*, and confounded by *Lindley*. It further differs from that plant in the larger bracts, pedicelled flowers, lip and column (as pointed out under pi. 1846). As in its allies, it varies greatly in the form of the lobes of the lip, and of the calli or ridges on the disk of that organ. No descriptions convey a clear idea to the mind of the form and sculpturing of the lip of orchids, and this organ is so much distorted by compression that in a dried state the characters it affords are often deceptive or misleading.—*J. D. HOOKER.*

Fig. 1. Side view of flower. 2. Front view of the same with the lip removed. 3, 4 and 5. Different forms of lip. *All enlarged.*



M.S.daUtlith

Aechmea (Sandi-olepis) Skiraieri, BaJser.

PLATE 1851.

ÆCHMEA (ANDROLEPIS) SKINNERI, *Baker.*

BBOMELIAGE[^]. Tribe BROMELIE[^].

M. (Androlepis) *Skinneri*, *Baker, Handb. Bromel.* 49, *inedit.*; acanlis, foliis e basi ovato lanceolatis facie viridibus dorso tenuiter albo-lepidotis hand fasciatis dentibus marginalibus parvis crebris deltoideis, pedunculo elongato stricto erecto, bracteis superioribus lanceolatis reflexis scariosis rubellis, floribus in paniculam densam angustam-racematis stricto haud colorato aggregatis, bracteis floralibus obsoletis, ovario oblongo, calycis segmentis latis brevibus cuspidatis, petalis parvis oblongis latis, staminibus petalis duplo brevioribus filamentis brevibus applanatis.

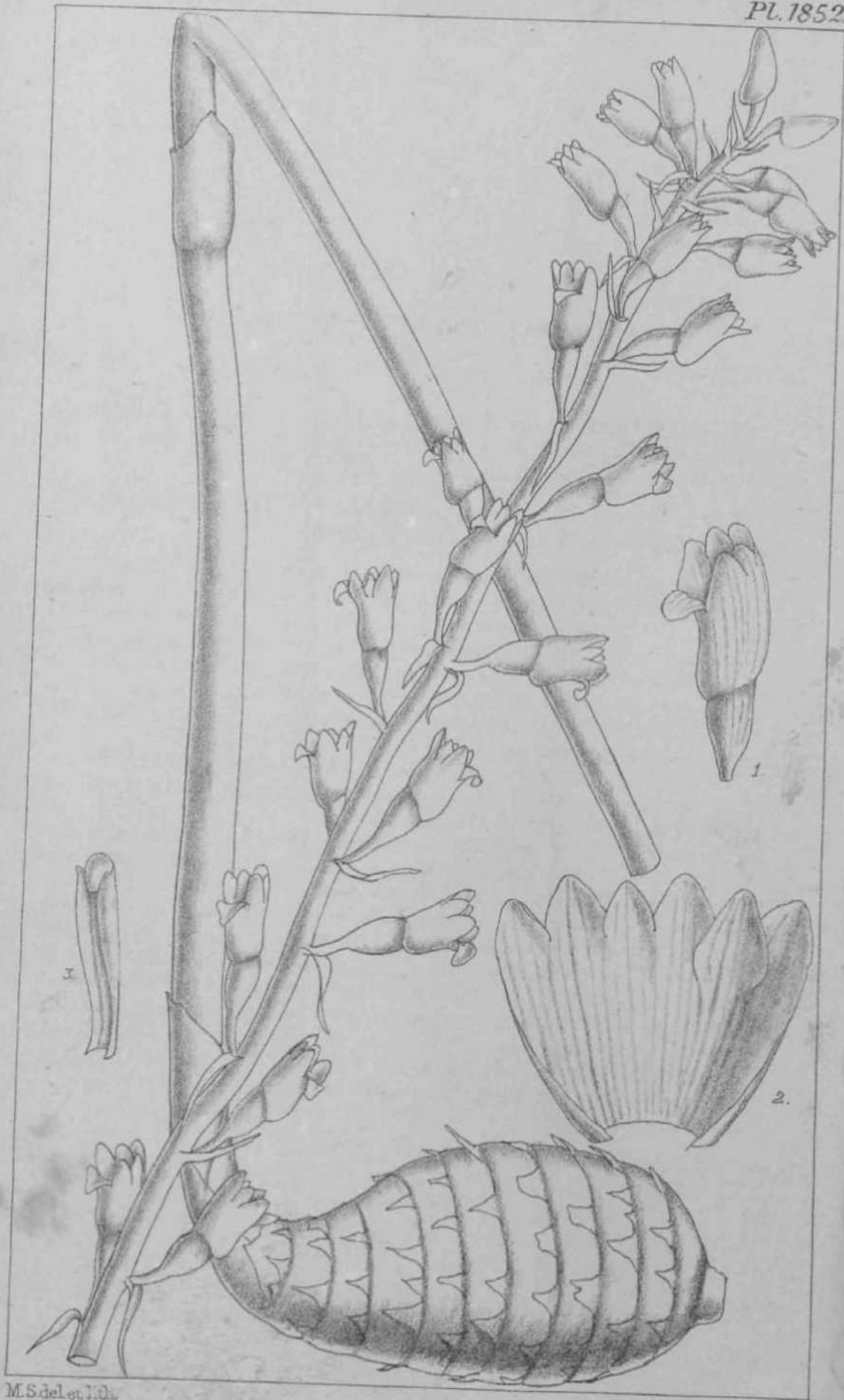
HAB. Guatemala, originally collected by Skinner about 1850.

Androlepis Skinneri, *Brong. inedit.*; *K Morren, Cat. Brom.*, 1871. *Billbergia Skinneri*, *Hort. Linden.*

Folia 2-2[^]-pedalia, 2[^]-3 poll. lata. *Panicula* pedalis. *Ovarium* cum calycis segmentis 6-8 lin. longum.

This Bromeliad was introduced into cultivation by Linden about forty years ago. Brongniart founded upon it his genus *Androlepis*, which, although the name has long been used in gardens, has never been characterised. Our drawing was made from a plant that flowered at Kew last winter.—J. G. BAKER.

Fig. 1. Flower complete. 2. Flower with calyx-segments taken away. 3. Vertical section of flower. 4 and 5. Stamens and scales. 6. Apex of style, with twisted stigmas. *All enlarged.*



M.S. de Lett. del.

Gastrodia orobanchoides, B th

PLATE 1852.

GASTBODIA OROBANCHOIDES, *Benth.*

ORCHIDEA. Tribe NEOTTIE*.

G. orobanchoides, *Benth. in Gen. Plant*, iii. 617. *Gamoplexis* *sosamoides*, *Falconer mss. in Boyle IU*. 364; in *Lindl. Gen. et Sp. Orchid.* 384; in *Trans. Litm. Soc.* xx. 293, t. 13.

HAB. Western Himalaya, from Garwal to Kashmir, in forests, alt. about 7,000 ft. *Falconer, Thomson, Aitchison.*

Bentham in the 'Genera Plantarum,' has reduced the genus *Gamoplexis* of Falconer, together with *Ejriphanes* of Blume, to *Gastrodm*, Brown. Comparing the extreme forms which the aggregate genus thus constituted contains, namely, the *G. sesamoides* of Australia, with *G. orobanchoides* of the Western Himalaya the generic union of these would seem to be questionable. The justification is contained in the observation following the generic description: 'Perianthium in *G. sesamoide* antice breviter in specie Falconeriana (quo vix a *G. elata*, Bl differtt usque ad medium in *G. javamica*, fere ad basin nssum. Labelli forma variabilis est, sed nunquam vidimus petalis simile, ut in icone Falconeriana delineatum.'

With the view of showing the correctness of Mr. Bentham's concluding remark, Dr. King has been so good as to send me specimens of *G. orobanchoides* in spirits. A comparison of these, as delineated on Plate 1852, with the figure given of *Ganwplexis* in the Linnean T«T,«»Hon8 shows that Falconer has depended too much on his native Sa W-h-o-h-k-s represented the sepals, petals, and Up as all sub-equal artist, who H*"*?TM a regular cor^oUa ^ three outer and three rather and ilar, forming a regular horizontally spreading lobes. In his description, however, X ^ P ^ lrafully defines the limb of the perianth as irregular CāZ T su ^ sSsLunda'), with the lip larger than the petals and inserted lower down in the tube, exactly as shown in our figure.—J. D. HOOKER.

Fig.1. Flower. 2. Perianth laid open. 3. Column. *Ml enlarged.*



M. S. del et lith.

Deudrobium nanu:n, Hool-*f.*

PLATE 1853.

DENDBOBIUM NANUM, *Hook.f.*

ORCHIDEA. Tribe EPIDENDREA.

D. (Stachyobium) nanum, *Hook. f.* (sp. nov.); pseudobulbis parvis confertis ovoideis, foliis 2-3 terminalibus breviter vaginatis elliptico-lanceolatis obtusis v. subacutis, scapula 1-2 terminalibus brevibus erectis pluri-floris, bracteis ovario brevioribus, sepalis subsequalibus dorsali oblongo-lanceolato obtuso, lateralibus ovato-lanceolatis falcatis, petalis lineari-oblongis obtusis, mento incurvo obtuso, labello unguiculato suborbiculari serrulato, lobis lateralibus obscuris, terminali rotundato, disco carina lata depressa apice (inter lobos Ipterales) truncata percurso.

HAB. Malabar; on the Bababoodan Hills, *Law.*

Pseudobulbi 1-2 poll, longi, juniores vaginati. *Folia* 1-2 poll, longa. *Scapus* una cum racemo 1-3 poll, longus gracilis, 6-8-florus, rachi flexuoso; pedicello una cum ovario 1-2 poll, longo; bracteis lanceolatis. *Flores* 1-2 poll. diam.; ut videtur albi; labelli dentibus glandulosis?; columna brevis.

A member of a small group of the section *Stachyobium*, which is characterised by the short simple stem (here reduced to a pseudobulb) and serrate lip. Its nearest ally is *D. microbulbon* of Malabar.—
J. D. HOOKER.

Fig-1. Flower, side view. 2. Ditto, **front view**. 3. Lip. 4. Column. 5. Anther.
6. Pollen. *All enlarged.*



M.S. deLeeuw.

Lipans macrantha. Hookf.

PLATE 1854.

LIPARIS MACRANTHA, *Hook.f.*

OECHIDEJ. Tribe LIPARIDEU.

L. (Coriifoliæ) macrantha, *Hook. f. in Fl. Brit. Ind. ined.*; pseudobulbo gracili elongato vaginato foliis 2-nis 8-10-pollicaribus basi articulatis anguste lineari-lanceolatis acutis multinerviis, scapo gracili una cum racemo laxifloro foliis æquilongo nudo, bracteis lanceolatis **S S S S S S** gato, sepalis linearibus obtusis, petalis angustioribus, labello hinc crenulato basi 2-callosa,

columna gracili apicem versus anguste alata.

HAB. Upper Assam; in the Naga Hills, *Pram.*

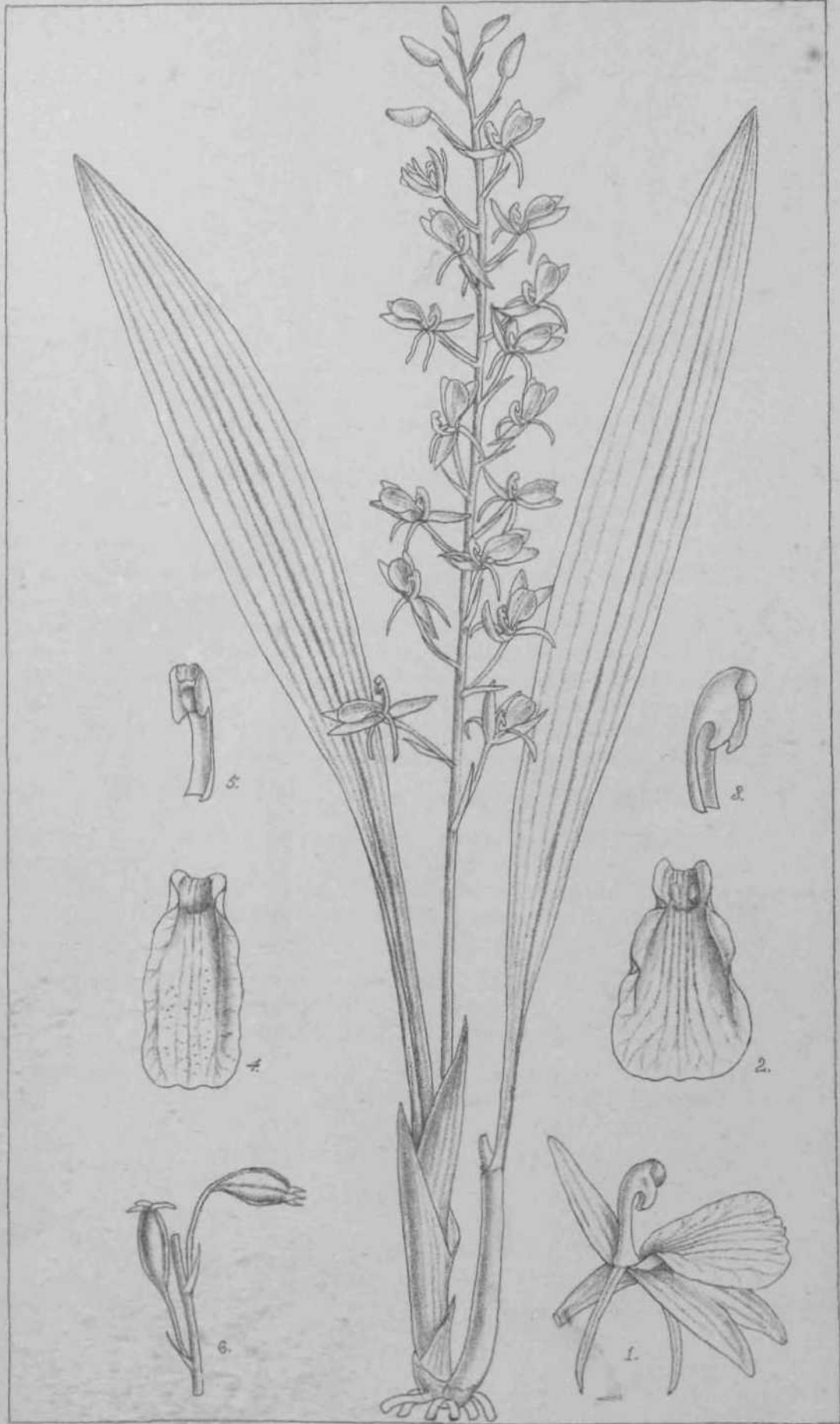
Pseudobulbi 1-2-pollicares, cylindracey **vaginis elongatis 3-poll.**
car **apice lanceolatis vestita.** *poll. lata. Bractee* $\frac{1}{2}$ *poll.*
lon **Flores ut videtur flavi;** *cum ovario* $\frac{2}{3}$ *poll. longo.*
ct, paten . . . *longa. Capsula immatura*

Sepal. et petala fere re
poll, longa, clavata.

to *L. lancifolia*, *Hook. f. (Tab. 1855)*, but the leaves
 ly petioled, much narrower, the flowers much larger,
 ved, and the wings of the column are not hooked.—

J. D. HOOKER.

Fig. 1. Sepal; and 2, petal-both spread out. 3. Lip. 4. Column. *AH enlarged.*



M.S. Del. et lith.

Liparis lancifolia, Hook. f.

PLATE 1855.

LIPARIS LANCIFOLIA, *Hook.f.*

ORCHIDEAS. Tribe LIPARIDEJE.

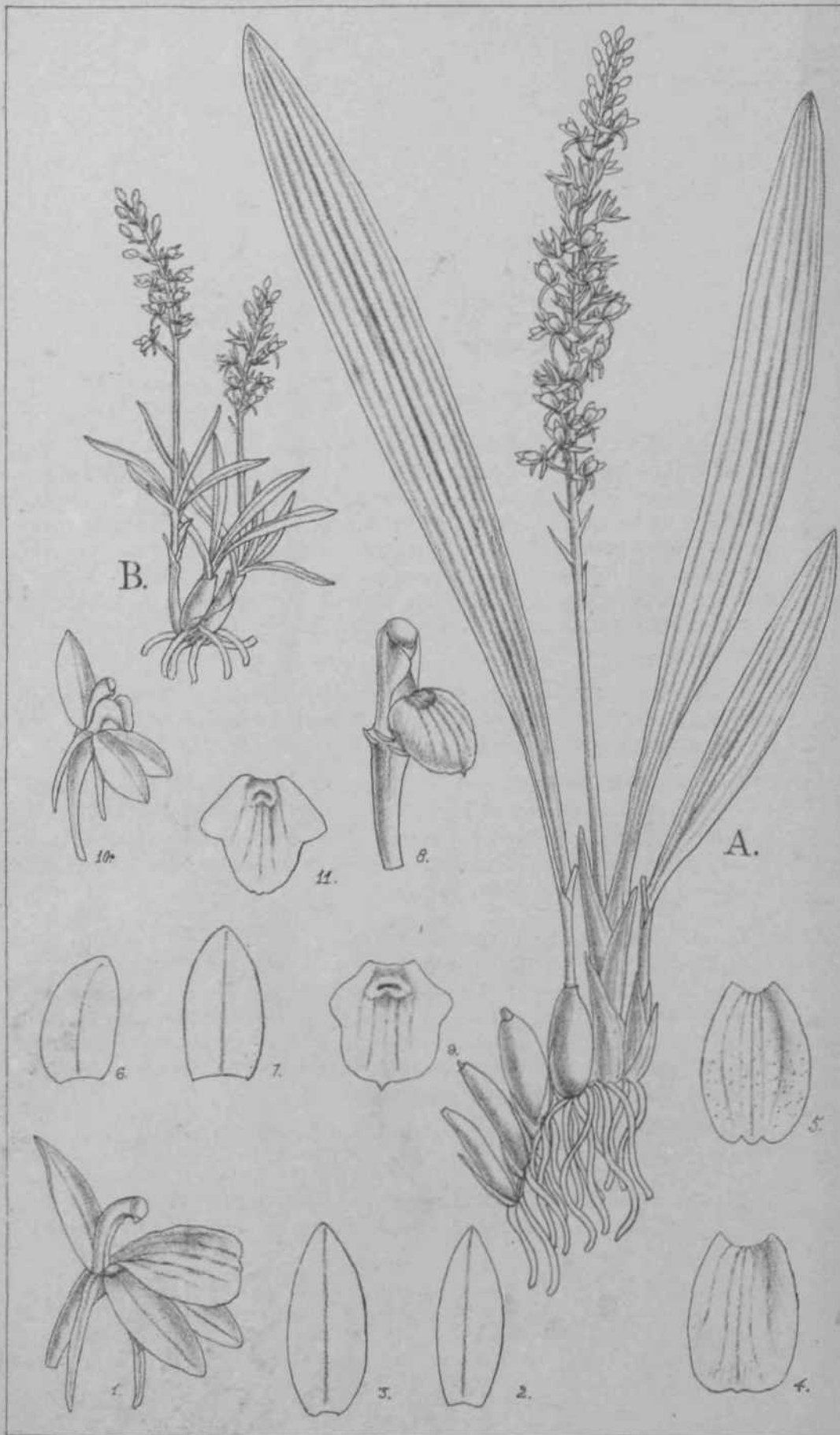
L. (Coriifolise) lancifolia, *Book. f. in Fl. Brit. Ind.* v. 700, *ined.*; pseudobulbo gracili elongato, folio solitario (v. foliis variis) petiolato 4-6-pollicari elongato-lanceolato v. elliptico-lanceolato acuto v. acuminato, petiolo basi articulato, scapo gracili una cum racemo multifloro foliis eequilongo, bracteis ovario brevioribus, sepalis oblongo-lanceolatis obtusis 3-nerviis marginibus revolutis, petalis anguste-linearibus, labello sepalis roquilongo recurvo cuneato-oblongo- v. -obovato integerrimo basi obscure 2-callosa, columnis alis uncinatis.

HAB. Khasia mountains, common; alt. 4,000-6,000 ft.

Pseudobulbi 1-1¹ poll, longi, cylindracei, vaginis elongatis lanceolatis acuminatis vestiti. *Folia* 4-8 poll, lata, in petiolum sensim angustata, multinervia. *Bracteae* 1 poll, longae. *Flores* ochraceo-flavi. *Sepala* et *petala* fere recta, patentia, 1¹ poll, longa. *Ovaria* 1 poll, longa, pedicello decurvo, clavata.

Under *L. macrantha*, Tab. 1854, 1 have indicated the affinity of this plant to it. It is also very near *L. bootanensis*, Griff., which has a sessile leaf and short pseudobulb.—J. D. HOOKER.

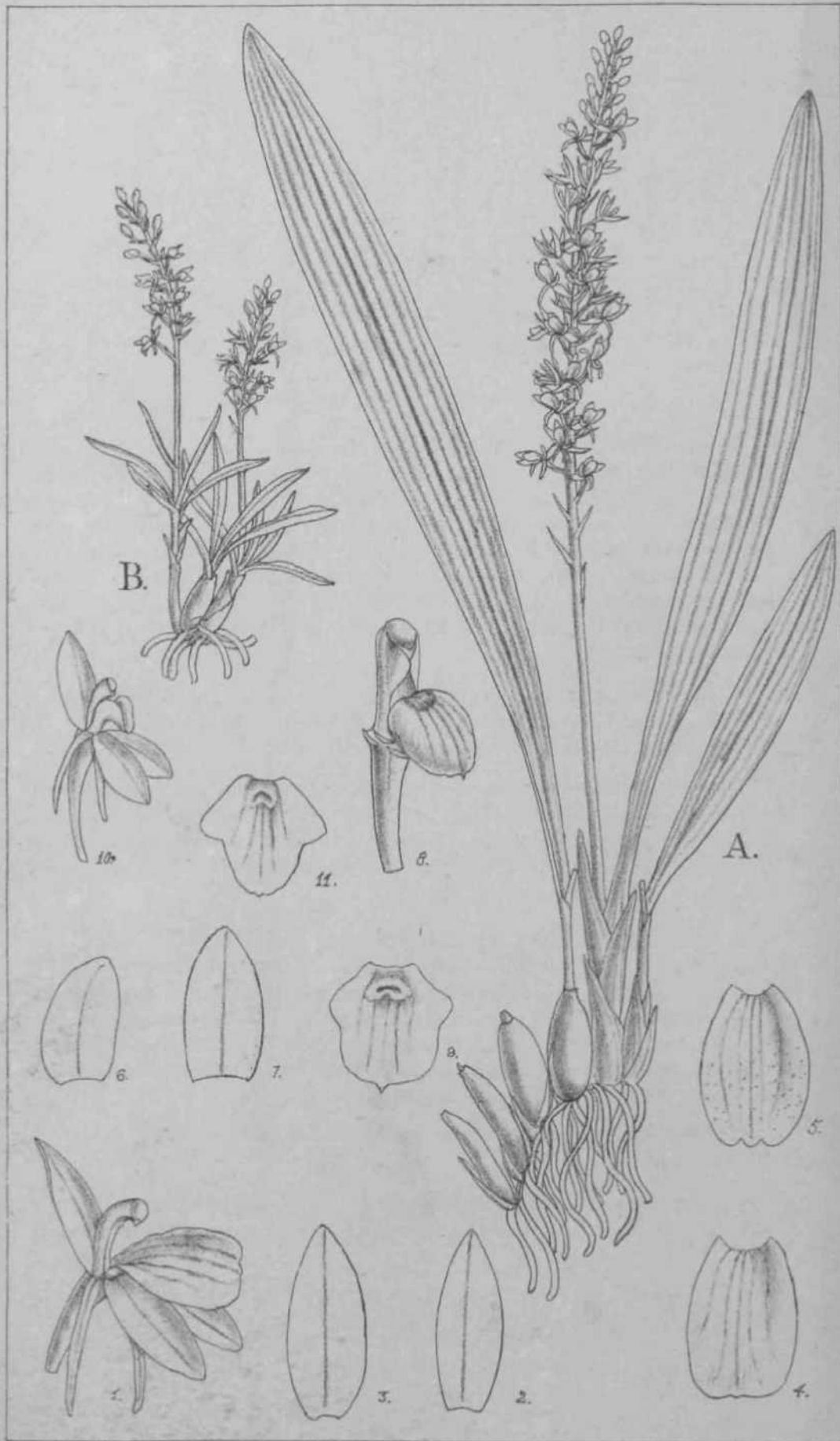
Fig. 1. Flower. **2 and 4.** Lips; and **3 and 5,** columns—from different specimens. *All enlarged.* **6.** Capsules of the natural size.



Aliparis pusilla, Ridl .

B. ——— *perpusilla*. Hook. f.

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A. *Lipans pusilla*, Ridl .

B. ——— per *TJusilla*. Hook.f.

PLATE 1856.

A.—LIPARIS PUSILLA, *Ridley*.

B.—LIPARIS PERPTUSILLA, *Hook. f.*

ORCHIDEJE. Tribe LIPARIDEJE.

A.—L. (*Coriifolise*) *pusilla*, *Ridley in Journ. Linn. Soc.* xxii. 294; pseudobulbis parvis ovoideis, foliis 3-4-pollicaribus solitariis 2-nisve lineari-oblongatis acutis basi articulatis, scapo gracili foliis ssepius brevioribus nudo, racemo subdense multifloro, bracteis lanceolatis flores parvos subaequantibus, sepalis elliptico-oblongis subacutis 1-nerviis, petalis angustioribus marginibus revolutis, labello sessili obovato-oblongo sepalis eequilongo apice truncato v. obtuse sub-3-dentato, columna incurva ezalata. L. *auriculata*, *Reichb. f. in Flora*, 1872, 77 (*non Miquel*).

HAB. Sikkim Himalaya; at Rungbee, alt. 6,500 ft., *Clarice*. Khasia mountains, on trees at Myrung, *l. D. H. and J. Thomson*. Travancore; on the Anamallay hills, *Beddome (fid. Ridley)*.

Pseudobulbs short or long, J-f in., stout or slender. *Leaves* 2-4 by $\frac{1}{2}$ in., sessile or narrowed into a petiole, rather coriaceous. *Racemes* 2-3 in.; bracts $\frac{1}{2}$ in., slender. *Flowers* $\frac{1}{2}$ in. diam., white, inodorous.—The name is not appropriate, but Mr. Ridley assures me that this is the plant he described under it.

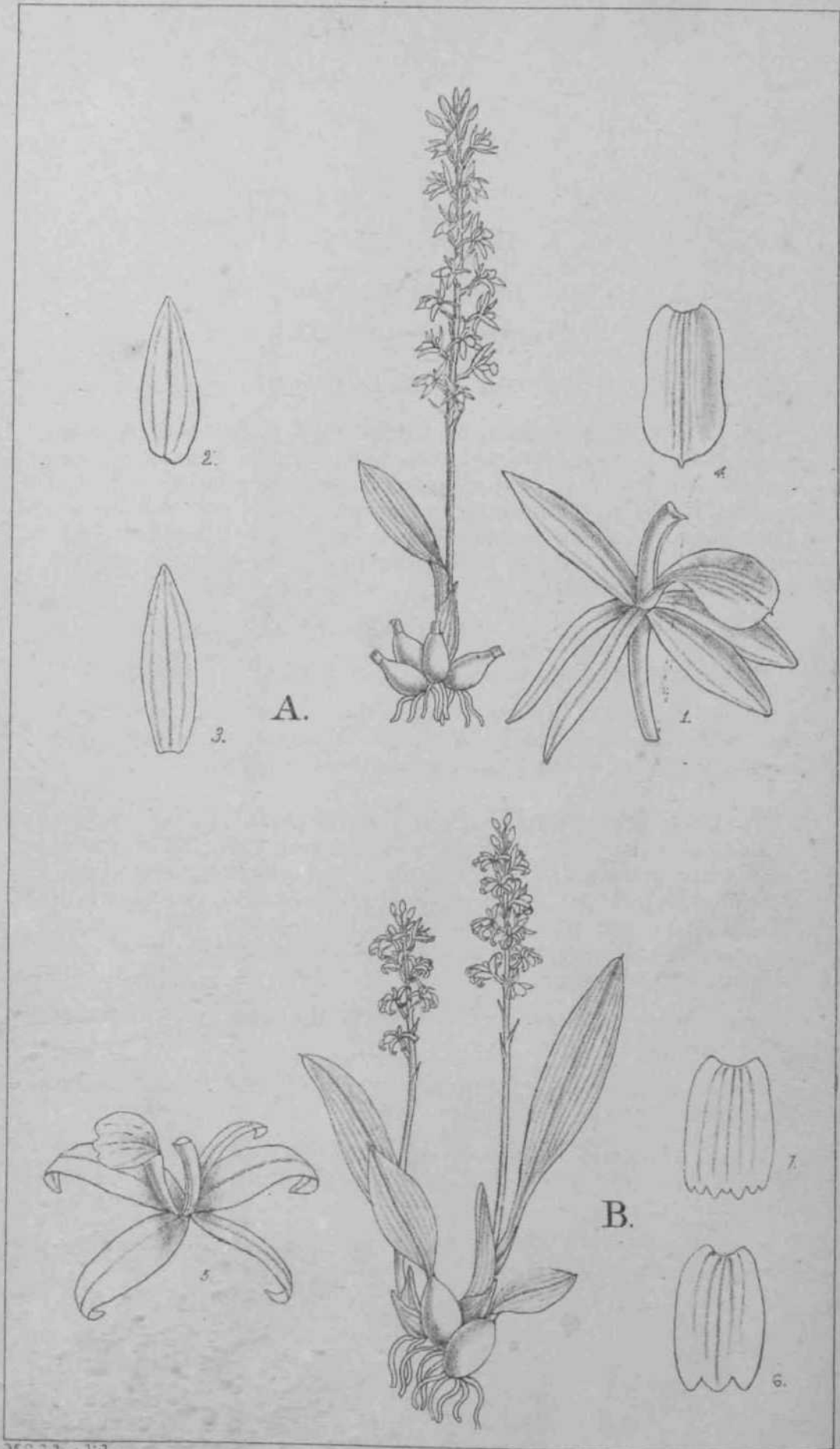
B.—I. (*Coriifolia*) *perpusilla*, *Hook. f. in Fl. Brit. Lid. ined.*; pseudobulbis minutis, foliis 4-6 linearibus acutis coriaceis 1-nerviis basi articulatis, scapo foliis longiore, racemo plurifloro, bracteis subulatis, floribus minutis, sepalis oblongis obtusis 1-nerviis crassiusculis marginibus recurvis, petalis angustis, labello carnosio subquadrato truncato interdum apiculato angulis basi in lobos laterales obscuros dilatatis, columna crassa alis longiusculis.

HAB. Sikkim Himalaya; on trees, alt. 8,000-9,000 ft., *J. D. H., Glarhe, Gamble*.

Planta carnosula, 2-3-uncialis, scapo foliis duplo[^] longiore, floribus viz TV poll, diametro, flavidis; labello forma et magnitudine variabili.—J. D. HOOKER.

A.—L. PUSILLA. Fig. 1. Flower. 2 and 3. Sepals. 4 and 5. Lips. *All enlarged.*

B.—L. PBRFUSILLA. Fig. 6 and 7. Sepals. 8. Ovary, column and lip. 9 and 11. Forms of lip. 10. Flower with reduced lip. *All enlarged.*



A. *Liparis Pratii* Hook. f.
B. ——— *Duthiei* Hook. f.

PLATE 1857.

A.—LIPARIS PR AINU,

B.—LIPARIS DUTHIEL.

ORCHIDEJE. Tribe LIPARIDE-S.

A.—L. (Coriifolise) Prainii, *Hook. f. in Fl. Brit. Ind. ined.*; psilla, pseudobulbis ctespitosi ovoideis, folio parvo elliptico-lanceolato acuto coriaceo basi late vaginante, scapo stricto, racemo multifloro, floribus minutis, sepalis rectis 3-nerviis marginibus revolutis, dorsali linearibrevi-oblongo acuto, lateralibus paulo brevioribus, petalis linearibus 1-nerviis, labello sepalis brevioribus sessili recurvo oblongo apiculato ecalloso, columna elongata exalata.

HAB. Upper Assam; on the Naga hills, *Prain*.

Tota planta 3-pollicaris, folio f-pollicari, floribus $\frac{1}{2}$ poll, expans.

A very distinct little plant, of which the only specimen I have seen was kindly communicated by Dr. King. More specimens may require some modification of the above characters.—J. D. HOOKER.

6.—L. (Coriifolia) DutMei, *Hook. f. in Fl. Brit. Ind. ined.*; pusilla, pseudobulbis caespitosis ovoideis, foliis 1-3 petiolatis elliptico-lanceolatis acutis subcoriaceis basi articulatis, scapo stricto, racemo densifloro, floribus minutis, sepalis petalisque planiusculis revolutis 1-nerviis, sepalis lanceolatis, petalis linearibus, labello sepalis brevioribus sessili subquadrato-oblongo apice truncato crenato v. breviter trilobo ecalloso, columna elongata exalata.

HAB. Western Himalaya; on trees in the Gori valley, Kumaon, alt. 2,000-3,000 ft., *Duthie*.

Pseudobulbi $\frac{1}{2}$ poll, longi, vaginati. *Folia* 1-1 $\frac{1}{2}$ poll, longa. *Bracteae* lanceolatae, ovarium subasquantes. *Flavae* $\frac{1}{2}$ poll, expans., flavae ?.

This in habit and size a good deal resembles *L. Prainii*, but really belongs to a different group, with flat perianth segment.—J. D. HOOKER.

A.—L. PRAINII. Fig. 1. Flower. 2 and 3. Sepals. 4. Lip. All enlarged.
B.—L. DUTHIEL. Fig. 5. Flower. 6 and 7. Lips. All enlarged.



M.S. del. et lith.

Liparis bistrata, Par. & Rehb. f.

PLATE 1858.

LIPIFABIS BISTRIATA, Par. et Reichb. f.

ORCHIDEAE. Tribe LIPARIDEAE.

L. (Coriifoliae) bistriata, Par. et Reichb. f. in Trans. Linn. Soc. xxx. 155 ; pseudobulbis caespitosis demum caudiciformibus elongatis cylindratis bifoliis, foliis sessilibus cum pseudobulbo articulatis, elliptico-oblongis subacutis coriaceis multinerviis, scapo robusto foliis brevioribus, racemo multifloro, floribus parvis, bracteis ovaria sequantibus, sepalis oblongo-lanceolatis obtusis 3-nerviis, marginibus revolutis, petalis angustis 1-nerviis, labello sepalis aequilongo panduriformi v. cuneato-oblongo triincato apice integro v. 3-crenato, columnae alis parvis rotundatis v. sabanciatis, capsulis subglobosis.

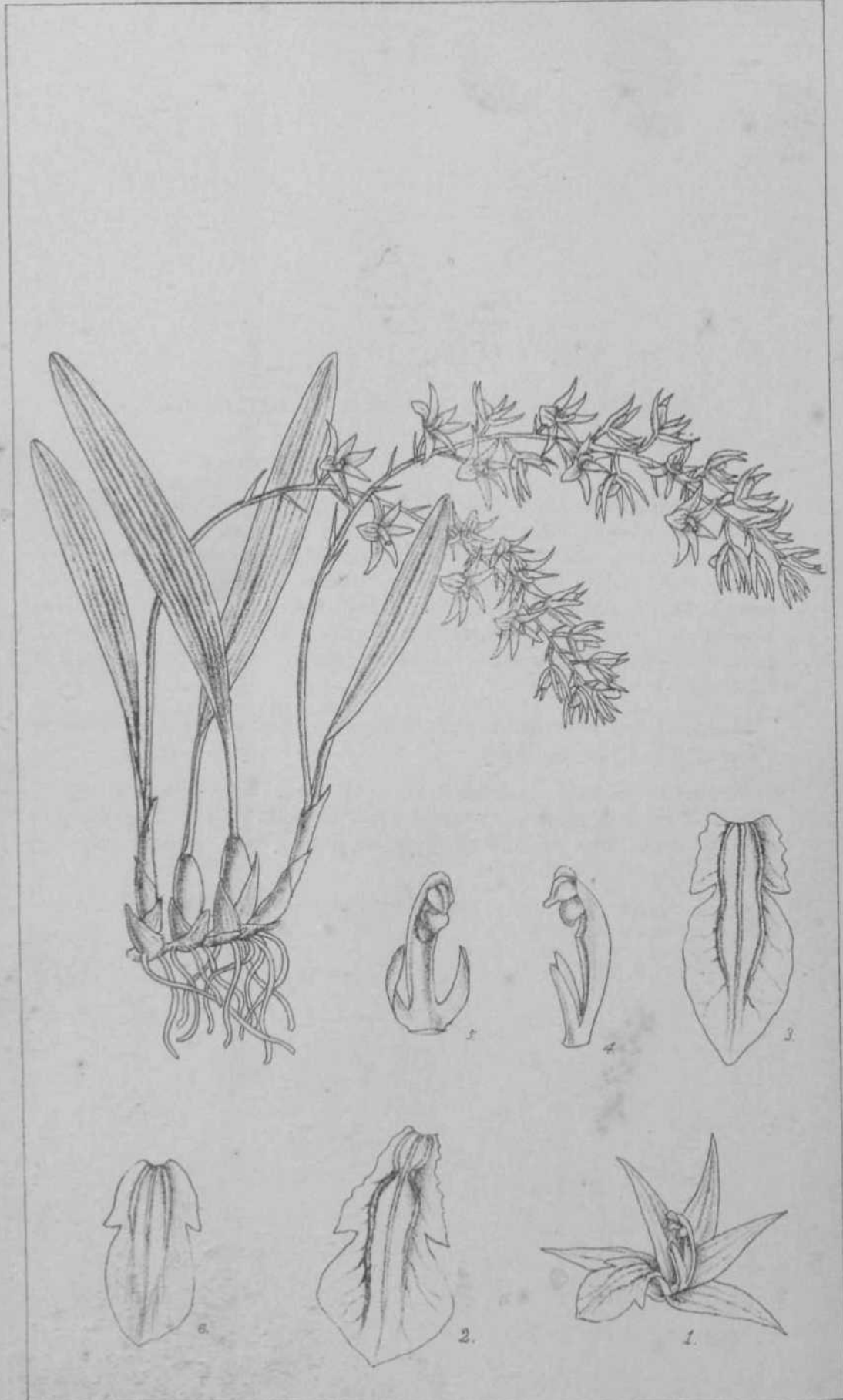
HAB. Sikkim Himalaya, the Khasia mountains, and Tenasserim.

Pseudobulbi sen. caudices demum 3-4 poll, longi, diametro penne coloratis, nudi, teretes, stricti v. torti. *Folia* 3-4 poll, longa, patentia. *Scapus* nunc valde robustus, nudus v. pauci-bracteatus, nunc cum racemo 4-6-pollicaris. *Flores* 1 poll, expansi, flavidi. *Columna* et *labellum* ut videtur varia, alis nunc uncinatis. *Capsula* subglobosa 1 poll, diametro.

Var. robusta; pseudobulbis brevioribus crassioribus vaginis 2 latis obtusis vestitis, scapo incrassato, bracteis floribusque majoribus, labello panduriformi apice cordato, capsulis clavatis.—Naga hills, on Kohima, Prain.

In the specimens from the Naga hills the pseudobulbs are shorter and more robust, fully 1 in. diam. when fresh; the scape and rachis of the raceme singularly robust, and when dry 2-edged from the shrinking of the fleshy outer cellular substance, the bracts and flowers larger, and capsules longer and more clavate. It may be a different species.—J. D. HOOKER.

Fig. 1. Flower. 2 and 3. Lip and column; and 5, petal—all from Tenasserim specimen. 4, 6, and 7. Column and lip from Khasia specimen.



M.S. del et h. a.

Dendrochilum burarifolium, Flook.f.

PLATE 1859.

DENDROCHILUM LINEARIPOLII⁷M, *Hook.*

ORCHIDEÆ. Tribe DENDROBIEÆ.

D. linearifolium, *Hook. f. in FL Brit Ind. ined.*; pseudobulbis parvis ovoideis confertis, folio petiolato oblongo v. lineari-oblongo obtuso crasse coriaceo, scapo gracili decurvo, bracteis subnato-lanceolatis ovaria sequantibus, floribus parvis, sepalis lanceolatis acuminatis petalisque consimilibus 3-nerviis, libello oblongo v. obovato lobis lateralibus parvis acutis, terminali ovato-oblongo v. subquadrato subacuto, disco 3-carinato, columnæ ramis basilaribus linearibus subacutis.

HAB. Malay Peninsula, at Chosang, *Scortechini*; on Batang Padang, alt. 4,900 ft., *Wray*.

Rhizoma crassum; pseudobulbi 1-2 poll, longi, recti v. curvi. *Folium* 1-2 poll, longum, in petiolum 1-2 poll, longum angustatum. *Scapus* una cum racemo 3-5-pollicaris. *Flores* 1/2 poll, expansi, virescentes.—J. D. HOOKER.

Fig. 1. Flower. 2, 3, and 6. Lips of different forms. 4 and 5. Side and front view of column. *All enlarged.*



M. S. de J. et Wh.

Taima macrantha, Hook.f.

PLATE 1860.

TAINIA MACBANTHA, *Booh. f.*

ORCHIDEAS. Tribe **BLETIEÆ.**

T. macrantha, *Hook. f. (sp. nov.)*; glaberrima, pseudobulbis elongatis teretibus, folio longe petiolato elliptico acuminato basi acuto, scapo robusto folio longiore paucifloro 2-3-vaginato, floribus magnis 3 poll, expansis, sepalis acuminatis, dorsali lanceolato, lateralibus majoribus basi latioribus, petalis lanceolatis acuminatis, mento rotundato, labello sessili subliastato, basi cuneato, lobis lateralibus parvis triangularibus rotundatisve obtusis disco inter lobos laterales breviter 2-carinato.

HAB. South China; prov. Lofaushan, opposite Hongkong, in deep shade under the spray of a waterfall, alt. 3,100 ft., *C. Ford.*

Bhizoma crassum ; nodi vestigiis vaginarum fibrosis criniti. *Pseudobulbi* 3-pollicares, diametro pennse olarinae. *Folium* 6 poll, longum, membranaceum, 5-nerve, petiolo 2-pollicare. *Scapus* pedalis, robustus ; vaginae 2-pollicares, appressae. *Flores* distantes, breviter pedicellati; bractea lanceolata 1 poll, longae; labello 9-nerve; nervis crassis arcuatis, gibbo 0.—**J. D. HOOKER.**

This and *T. cordifolia* (Plate 1861) are very handsome species.—**J. D. HOOKER.**

Fig. 1. Lip. Enlarged.



M.S. del et lith.

Taima cordifolia, Hook.f.

PLATE 1861.

TAINIA CORDIFOLIA, *Hook. f.*

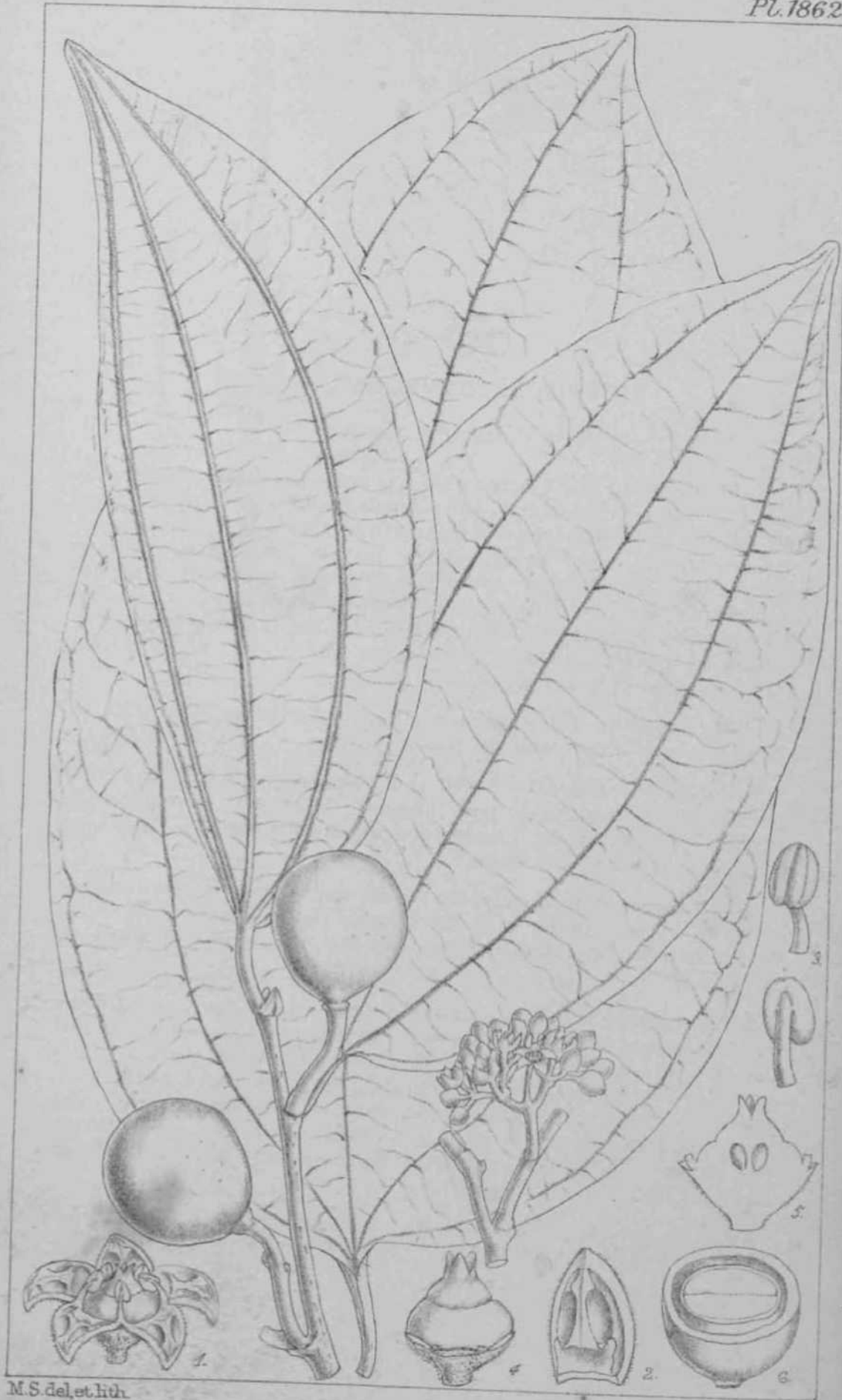
OKCHIDEA: Tribe BLETIE^.

T. cordifolia, *Hook. f. (sp. nov.)*; glaberrima, pseudobulbis brevissimis, folio crasse petiolato late ovato-cordato acuminato, scapo robusto folio multoties longiore paucifloro 2-3-vaginato, floribus 2 poll, expansis, sepalis acuminatis dorsali lanceolato, lateralibus majoribus basi latioribus, petalis lanceolatis acuminatis, mento late conico obtuso, labello sessili ovato acuminato lateribus rotundato-dilatatis, disco medio utrinque 2-lamellato.

HAB. Formosa; at Kelung, *0. Ford.*

Rhizoma crassiusculum, internodiis fere nullis. *Folium* 5-6 poll, longum, 7-nerve, lobis basilaribus rotundatis incumbentibus. *Scapus* pedalis, vaginis 1-2-pollicaribus appressis. *Flores* breviter pedicellati; bractee lanceolatae; sepala et petala brunnea; labellum egibbosum, flavum, basin versus album, roseo-maculatum, 9-nerve, nervis crassis arcuatis, gibbo 0. *Pollinia* 8, parva.—J. D. HOOKER.

Fig. 1. Lip. 2. Column and anther. *Both enlarged.*



Zizyphus Chloroxylon, Oliv.

PLATE 1862.

ZIZYPHUS CHLOROXYLON, Oliv.

EHAMNACEJE.

Z. Chloroxylon, Oliv.; arbor glaberrima ramulis divaricatis inermis, foliis alternis petiolatis ovato- vel oblongo-ellipticis acutiusculis usque ad apicem trinerviis, cymis plurifloris corymbosis breviter pedunculatis, pedicello flore subaequilongo, calycis lobis ovato-deltaideis bifoveolatis medio intus conspicue carinatis, petalis 0, fructibus subglobosis laevibus monospermis, pericarpio crustaceo.—Ceanothus Chloroxylon, *Nees, Syst. Laur.* p. 660; *Laurus Chloroxylon, L. Sp. PL* ed. ii. p. 528; *Browne, Jamaica*, p. 187, t. 7, fig. 1; *Shane, Jamaica*, ii. p. 85, 1. 197, fig. 1.

HAB. Jamaica. (Our specimens were collected by *Messrs. Marsh, T. Harrison, O. Douet, and Dr. Dewar.*)

Folia 4-7 poll, longa, 1½-4 poll, lata, Integra, glabra; nervis subtus prominulis; petiolo ½-1 poll, longis. *Alabastra fulvo-purpurea*. *Fructus* 8-10 lin. diam. *Semen* pericarpio conforme; cotyledonibus plano-convexis, radícula infera.

Specimens recently supplied by the Botanical Department, Jamaica, collected by Dr. Dewar and Mr. George Douet, enable us finally to determine this important timber-tree, the 'Gogwood' of Jamaica, generically.

Dr. P. Browne (*Z. c.*) describes it as 'common in many parts of the mountains,' and the wood as 'very tough and hard'—generally esteemed one of the best in the island. *Z. Chloroxylon* differs from the more typical species of the genus in the absence of petals and in the comparatively thin pericarp, the inner stratum of which is bony. The fruit, however, is closely similar to that of *Z. calophylla*, Wall. For notice of this tree, see June Number (No. 30) of the Kew Bulletin, 1889.—D. OLIVER.

Fig. 1. Expanded flower. 2. Calyx-lobe. 3. Stamens. 4. Ovary, calyx-segments removed. 5. Same, vertical section. 6. Transverse section of fruit. *Excepting fig. 6, enlarged.*



M.S. del. et lith.

Ilex raceuosa, Oliv

PLATE 1863.

ILEX RACEMOSA, *Oliv.*

III CINEJI.

I. racemosa, *Oliv.* (*sp. nov.*); frutex seepe scandens ramulis gracilibus glabris v. hornotinis obsolete puberulis, foliis petiolatis membranaceis oblongolanceolatis graciliter acuminatis basi rotundatis serrulatis glabris (v. sub lente minute puberulis), stipulis minutis subulatis deciduis, floribus abortu dioicis parvis racemosis, racemis saepius in axillis foliorum inferiorum plurifloris, sepalis minutis lanceolatis acutis, petalis calyce subaequilongis oblongo-ellipticis obtusis ciliolatis, filamentis corolla 2-3-plo longioribus antheris rotundatis dorsifixis, pistilli rudimentum in fl. ♂ obtusum breviter cplumnare; fructu ellipsoideo-globoso v. subgloboso saepius monospermo, endocarpio crustaceo stylo brevissimo persistente saepius bidentato lobulis divaricatis coronato.

HAB. Ichang, Prov. Hupeh, China, *Dr. A. Henry C. Noa*. 1863, 3527, 4117A, 7189).

Folia 2-4 poll, longa, f-1[^] poll, lata; petiolus ½-j poll, longus. *Racemi* 1-2 poll, longi, interdum inferne breviter ramosi. *Flores* albidii, 1 lin. lati. *Drupes* leaves 2 lin. longee.

In *fades* this plant recalls the racemose-flowered species of *Embelia*. The fruits I find rarely contain fully developed seed. Although the pistil is normally dicarpellary, the pericarp is usually 1-locular with a globose conformable smooth putamen.—D. OLIVER.

Fig. 1. Staminate flower. 2. Fetal. 3. Rudiment of pistil. 4. Pistillate flower. 5. Calyx and corolla. 6. Young fruit with bilocular endocarp. *Enlarged.*



M.S. del. et lith.

Calanthe phajoides. ReicKb.f

PLATE 1864.

CALANTHE PHAJOIDES, Reichb.f.

ORGHIDEA. Tribe C<ELOGYNEJI.

C. phajoides, Reichb. f. in *Bonpland.* v. 37; *Icon. Orchid.* 207, t. 79, f. 2; glaberrima, foliis longe petiolatis anguste lineari-lanceolatis, scapo foliis brevioris laze pluri-vaginato, bracteis caducis, sepalis ovatis subacutis, petalis elliptico-ovatis subacutis sepalis sequilongis, labello infra apicem columnae inserto deorsum in calcar crassum clavatum columnae adnatum sepalis sequilongum producto, lobis lateralibus late ovatis obtusis terminali late obcordato angustioribus, disco inter lobos laterales lamellis 2 parvis ancto.

HAB. Malayan Peninsula; Perak, *Scoriechwii*; on Gunong Batn, alt. 3,400 ft., *Wrwij*; Sumatra, *Beccari* (No. 389); Java, *Zollinger*.

Folia 12-20 poll, longa, J-1 poll, lata, nervosa, in petiolum angustata. *Scapus* pedalis, vaginis tubulosis laxis 1-2-pollicaribus. *Uacemus* 10-12-florus; bractea non visib. *Flores* f poll., albi fid. Reichb. /., labellum aurantiacum fid. Wray. —J. D. HOOKER.

Fig. 1. Sepal. 2. Petal. 3. Lip and column. 4. Lip. 5. Lobe of column.—All enlarged.



MLS.deUn.3ith.

Diphyllax Tirceolaxa Hook.f.

PLATE 1865.

DIPHYLAX URCEOLATA, *Booh. f.*

ORCHIDEJS. Tribe HABENARIE^.

Diphylax, *Hook. f. (gen. nov.)*. *Sepala* snbsequalia, conniventia, lanceolata, 1-nervia. *Petala* lineari-oblonga, sepalis sequilonga, subacnta, 1-nervia. *Labellum* sepalis sequilongum, recurvum, lineari-lanceolatum, basi concavum, ultra medium teres solidum apice acuminato; calcare incurvo, collo constricto, dein in saccum fusiforme v. conoideum inflate *Oolumna* brevissima, utrinque calcare erecto antherre erectse parallelo instructa; rostellum minutum; anthera sessilis, oblonga, erecta, dorso carinata, carina in aristam terminalem producta, loculis contiguis, adnatis parallelis; pollinia in loculis e granulis grossis, caudiculis brevissimis, glandulis parvis nudis collateralibus.—*Herba parvula, glaberrima, terrestris, caule brevi, vaginato. Folia pauca, infimo elliptico-lanceolato acuto membranaceo sub-5-nervi; cetera multo minora, secus scapum sparsa. Scapus cum racemo decurvus. Floras racemosi, secundi, breviter pedicellati; bracteae ovatae v. lanceolatae, ovario brevi cequilongae; sepala alba; petala rosea; labellum viride.*

D. urceolata, *Hook. f.*; *Habenaria urceolata*, *Clarke in Journ. Linn. Soc.* xxv. 73, t. 30.

HAB. Sikkim Himalaya; Yakla, alt. 10,000 ft.; and Naga Hills, Jakpho, alt. 9,000 ft., *Clarke*.

Tota planta 3-4-pollicaris, decurva; radicibus ignotis. *Folium* infimum 2-pollicare, sessile. *Flores* conferti, sepalis ^ poll, longis.

I know of no Habenarioid genus in which this curious little plant could be placed. The structure of the lip is very curious. The more or less broad lanceolate concave half next the column has the margin involute for the other half, forming a solid body, which appears to be in some specimens grooved above. The spur Mr. Clarke describes in his notes as transparent and glossy. The two slender spurs of the column, one on each side of the anther, and as long as it is, are very curious.—J. D. HOOKER.

Fig. r. Flower. 2. Sepal. 3. Petal. 4 and 5. Ovary lip and column, front and side view. 6. Front view of column and its lateral appendages. 7. Pollen-mass. — *AH enlarged.*



W. Fitch, del.

Isactine oomata. Munro,

PLATE 18G6.

ISACHNE COMATA, *Munro*.

GRAMINEÆ. Tribe PANICEJE.

I. **Comata**, *Munro MSS.*; panícula ampla, spiculis oblongo-ovalibus, glumis sterilibus apice comato-pilosis, gluma fertili floris inferioris \$ superne floris euperioris \$ minute pedicellatis toto dorso hirsuta, quam inferior fere £ minore, foliorum rarioribus.

HAB. Aneitum, in planitie frequens, *Milne*.

Culmi robusti, elati teretes, glaberrimi, fistulosi, ad apicem usque foliati. *Foliorum* vaginæ arctae, internodia superantes, altero margine oreque ciliatae, nodis glabræ; ligula in cilia longiuscula densa soluta; lamina e basi rotundata lineari-lanceolata, longe acuminata, 30 cm. longa, circ. 2 cm. lata, patula, firma, subtus glaucescens, glaberrima, costa media tenui, nervis lateralibus utrinque 6-7, interjectis secundariis 5-7-nis tenuissimis dense confertis. *Panicula* ovata circ. 20 cm. longa, patens, decomposita, rachis glaberrima angulosa, ramis primariis solitariis spirali ordine enatis, mox supra basin ramulosis, in prioribus 10-12 cm. longis, cum ramulis subimbricato-floriferis glaberrimis. *Spiculae* subterminales ramulorum pedicello duplo longiores, omnes 2.5 mm. longæ, oblongo-ovales, biconvexæ, pallide stramineae, pilis comatae: glumæ steriles subaequales fertiles 8-9-quantae, elliptico-lanceolatae, acutae, convexae, membranaceae, 7-9-nerves, superne pilis basi tuberculatis gluma 2-3-plo brevioribus rigidulis comatae; fertilium inferior ovali-oblonga, obtusiuscula, subchartacea, albida, opaca, dorso scaberula, superne marginibusque breviter hirtula, callo basilari minuto barbato, tenuissime 5-nervis, amplexans paleam ei similem sed angustioribus binervem glabram floremque \$, antheris 1.5 mm. longis, ovario parvulo, stigmatibus vix 0.5 mm. longis angustis inclusis; superior (quarta) inferiore minor, ei similis sed toto dorso strigoso-hirsuta, callo longius barbato, subnervis, fovens paleam ovata acutam glabram floremque 5, stigmatibus late oblongis brunnescentibus fere 1 mm. longis infra spicula apicem exsertis.

A very distinct species with the habit of *I. albens*, Trin., but longer spikelets and the glumes very hairy above. There are only a few species with hairy sterile glumes: for example, the Javan *I. firmula*, Biise, with rough leaves, bristly at their base; the Cuban *I. leersioides*, Griseb., with a lax panicle, the subglobose spikelets shorter than their pedicels, Ac.; both slender plants with ascending culms.—
E. HACKEL.

Fig. 1. Spikelet. 2. Empty glumes. 3. Lower flower. 4. The same, more enlarged. 5. Upper flower. 6. Pistil of the latter. *Enlarged*.



M.S. del. et lith.

Tupistra chinensis LS, Baker.

PLATE 1867.

TUPISTRA CHINENSIS, Baker.

LILIACEÆ. Tribe ASPIDISTREÆ.

T. Chinensis, Baker (*sp. nov.*), rhizomate crasso cylindrico elongate folia sessilibus obkneolatis subcoriaccis, floribus in spicam densam erectam aggregatis, pedunculo brevi, bracteis ovatis foliaceis, perianthis segmentis ovatis euspidatis, staminibus ad tubi faucem unguenatis incurvatis filamentis brevissimis antheris subglobosis, stigmatibus sessilibus.

HAB. China; Patung district, *Henry*, 5023.

Folia 0.9 poll, longa, supra medium 15-18 lin. lata, ad basin sensim angustata. *Perianthium* 2 lin. longum. *Bacca* 4 lin. diam.

This is very distinct from any of the species already known, which are Himalayan and Malayan.—J. G. BAKER.

Fig. 1. Flower complete. 2. Front and back view of anthers. 3. Pistil. 4. Transverse section of ovary. All enlarged.



W. Fitch, del.

Andropogon exaltatus. RJ3r.

ANDBOPOGON EXALTATUS, *ft. Brawn.*'

GRAMINEJS. Tribe ANDBOPOONEJE.

A. (*Cymbopogori*) **exaltatus**, *B. Brown, Prodr.*, p. 202; var. *ambiguus*, *Hack, in A. et G. Decand. Monogr. Phan.* vol. vi. p. 596; **foliis anguste linearibus subjunceis, ligula longiuscula, lanceolata, panicala densiuscula, racemis semper erectis, spicularum \$ gluma prima prater nervos carinales 3-5-nervi.** A. *ambiguus*, *Steud. Synops.* i. p. 385.

HAB. Australia (conf. *Benth. Fl. Austral.*, vii. p. 532). The specimen figured was according to Munro, collected by Drummond in W. Australia and his No. 100, which Steudel has called *A. ambiguus*. The genuine *A. exaltatus*, from N. Australia, is somewhat stouter, with the leaves broader, mostly flattened, the panicle yet more compound, the spikes glomerate.

Culmi 30-80 cm. alti, erecti, superne paniculatim ramosi. *Filiorum* vagina laevis, striata, saepe pruinosa; ligala (praecipue foliorum innovationum) 3-8 mm. longa, acuta, inenibranacea, demum fissa, intus basi pilis stipata; lamina elongata, culmum *ss&pe* subaequans, juncea v. fere filiformis, in sicco saepe complicata v. semicylindrica, longe setaceo-acuminata, acumine saepius circinnato, rigida, glauca, glaberrima v. scaberula, intus albida, subtus costis prominulis percurta. *Panicula* spuria (foliis intercepta) 8-20 cm. longa, densiuscula, angusta (fere linearis), ramis primariis 1-5-nodibus, secundarios basilares binos superioresque simplices edentibus, his filiformibus simplicibus v. ramulos tertianos gignentibus, erectis v. demum arcuato-patulis. *Spathae* 2*5-3 cm. longae, quam racemorum pedunculus communis duplo triplove longiores, racemos plerumque aequantes. *Bacemi* (spicac auctorum) bini, semper erecti, circ. 2 cm. longi, 6-7-articulati, articulis pedicellisque spicularum lateralium dorso marginibusque longe sericeo-villosis, villis summis articulo longioribus spiculas fere obtegentibus. *Spiculae sessiles* 5-7 mm. longae, acuminato-lanceolatae, pallidae; gluma prima longe acuminata, sub-bidentata herbaceo-chartacea, bicarinata, carinis anguste marginatis, prater nervos carinales manifeste 3-5-nervis, dorso plana, basi callō pilia dimidiam glumam aequantibus barbato, secunda primam aequans, late lanceolato-navicularis, acuta v. breviter mucronulata, carina scaberula marginibus hyalinis patenti-ciliatis, tertia quam prima paullo brevior, oblonga, hyalina, binervis, ciliata; quarta quam secunda £ brevior, lineari-oblonga, in parte % superiore in lacinias duas subulato-lanceolatas fissa, glabra, aristam ex fissura emittens spiculam plus duplo superantem glaberrimam perfectam, cujus columna fusca quam subula pallida subduplo brevior est. *Palea* 0. *Lodiculce* glabrae. *Antherce* 1*5 mm. longae. *Stigmata* linearia, stylis longiora. *Spiculce pedicellatce* 3-4 mm. long®, steriles, subulato-lanceolatae, ad glumam primam 5-nervem secundamque quam prima triplo brevior redacts. *Spicula* sessilis ima alterius racemi etiam neutra, mutica. *Odore* saporeque acerbo, terebinthino.—E. HACKEL.

Fig. 1. Spathe enveloping the so-called spikes (racemes). 2. Fertile spikelet and pedicel of the sterile ono. 3. Fertile spikelet, much enlarged. ^ 4. Upper portion of the first glume. 5. Flowering glume (gl. quarta) with its awn. 6. Lodicules and pistil. *Enlarged.*



W. Britton, del

Andropogon cerasiaeformis, N. & C.

PLATE 1870.

ANDROPOGON CEBESLSSFORMIS, Nees.

GRAMINEAS. Tribe ANDBOPOGONE^E:.

A. (*Hypogynum*) ceresiformis, Nees, Fl. Afr. Austr. p. 109; pan-
cula spuria simplice, racemis in hujus ramorum apice solitariis spatha
elliptico-naviculari fultis, articulis villosis, spiculis sessilibus g oblongis
superne villosis, gluma prima involuta.

HAB. Common in Natal and Caffraria, extending to Central Africa
and the Niger. Onr figure is from a Natal specimen received from
Dr. Harvey.

Perennis. Culmi graciles, inferno simplices, snperne paniculatim
ramosi. *Foliorum* vaginæ arctse, internodiis breviores, glabrse v.
crispato-villosnse; ligula brevissima, trnncata, glabra; lamina)
lineares, acuminated, 5-8 cm. longse, erecto-patulffi, rigid®, glabrse v.
versus basin pilis crispatis adperssa, prater marginem scaberulum
lffives, nervo medio tenui subtus prominulo, lateralibus tenuissimis.
Panicula spuria (i.e. foliis intercepta) 15-30 cm. longa, linearis,
paupera, ramis ssepins binis v. ternis raro solitariis brevibus suberectis
v. arcuato-patentibus (nutantibusve ?) Sliformibus uninodibus v. bino-
dibns, racemo terminatis, cujus spatha 2-3 cm. longa elliptico-navi-
cularis membranacea, colorata, glaberrima, racemi brevissime pedicel] ati
maximam partem obtegit, nil nisi spiculas £ nudas relinquens.
Eacemu 8 1*5 cm. longus, crassiusculus, densiflorus, multiarticulatus,
articulis pedicellis que (spicularum *d*) lineari-filiformibus villis albis
ipsis 3-4-plo brevioribus vestitis. *Spiculce sessiles* oblongse, 4 mm.
longse, flavescenti-virides et rufo-variegatse; gluma prima coriaceo-
•chartacea, anguste truncata, obscure 3-4-nervis, medio dorso nitens,
superne et margines versus villosa; secunda primam aequans, lanceo-
lato-navicularis, acutiuscula, carinata, ssepius in aristam ipsam
sequantem v. subsuperantem rectam abiens, dorso superne pilosa;
tertia late oblonga, obtusa, hyalina, enervis, ciliata; quarta reliquis
i brevior, ad ^ usque in lacinias subulato-lanceolatas glabras fissa, ex
fissura aristam emittens glabram, spicula 3plo^4plo longiorem.
Palea 0. *Lodiculce* cuneatre, glabrae. *Stamina* 3, antberis 2 mm.
longis. Stigmata lineari-oblonga. Spiculce pedicellate \$ 4 mm.
longaa, oblongaa, obtussB, muticsB, dense imbricatse, gluma prima
7-nervi, secunda 5-, tertia 3-nervi, sine gluma quarta et palea; antheroe
2'5 n|m. longæ.

In some of Schweinfurth's specimens (No. 2191) the spikelets are
awnless. The species has been placed in the subgenus *Gymbopogon* by

Nees in spite of its solitary racemes (so-called spikes), which are always paired in *Gymbopogon*. In this subgenus, moreover, there are always one or two homogamous pairs of spikelets (composed of two spikelets of equal form and sex) at the base of at least one of the two racemes; in *A. ceresiceformis* all the pairs are heterogamous (the sessile g, awned, the pedicellate <?, awnless). I think it allied to *A. spathijloru* Sy Kunth, a tropical American species for which Nees (in *Agrostol. Bras.*) had established the genus *Hypogynium*, and which has been placed under Sect. *Schizachyrium* by Bentham. In my view there is sufficient reason for keeping *Hypogynium* as a subgenus apart from *Schizachyrium* as well as from *Cymbopogon*.—E. HACKEL.

Fig. 1. Spathe enveloping the raceme (spike). 2. Fertile spikelet. 3. The same, opened, without the outer glumes. 4. Lodicule. *Enlarged*.



W. Fitch, del.

Andropogon laniger, Desf.

PLATE 1871.

ANDROPOGON LANIGEB, Desf.

GRAMINERS. Tribe ANDEOPOGONEA.

A. (*Cymbopogon*) **laniger**, Desf. *Fl. Atl.* 2, p. 379; foliis junceis; ligula brevi, truncata; racemis demum deflexis, spiculis fertilis gluma prima praeter nervos carinales enervi. A. eriophorus, Willd. *Sp. Pl.* iv. 910; A. **circinnatus**, Hochstett. *8f Steud. in lib. S chimp. Arab.* 789; A. Olivieri, Boiss. *Diag. Ser. i.* 5, p. 76.

HAB. Our figure is made from a specimen of *A. circinnatus*, Hochstett. in Herb. Un. It. nr. 789; the typical plant of Desfontaines differs scarcely by its leaves a little thinner. The species extends from Morocco to East India (Scinde), where it overlaps the area of the very closely allied *A. Iwarancusa*, Blane, which differs chiefly by the curious way by which the old leaf-sheaths at the base of the culms split along the middle vein into the strap-shaped parts, while they remain entire in *A. laniger*; in this they are much dilated at their base, in *A. Iwarancusa* they are of equal breadth. The panicle of the latter is much more compound than that of *A. laniger*. In spite of these differences, which seem to justify their specific distinction, the two species are sometimes connected by intermediate forms.

Dense caespitosus. Culmii innovationesque basi vaginis emortuis diu persistentibus valde dilatatis incrassati, 20-60 cm. alti, graciles, a medio paniculatum ramosi. Foliorum vagina arcta, teres, glabra; lamina angusta, convoluta siccitate superne subcircinnata, longissime setaceo- v. capillari-acuminata, rigida, glauca, scaberula, culmum subsequans. Panicula (spuria) elongata (15-20 cm. longa), laxiuscula ramis plerisque binis raro ternis, arrectis e vagina folii matricis parum v. non exsertis saepius simplicibus. Spathae scariosae, rufescentes, lineari-lanceolatae, 2-3 cm. longae, glabrae, pedunculum racemorum communem duplo-triplo superans. Hacemi ('spiculae' auctorum) divergentes v. deflexi, inaequales, 2-6-articulati, articulis pedicellisque spicularum lateralium dorso dense niveo-villosis, villis sursum accrescentibus, summis articulo longioribus, patentibus. Spiculae sessiles g 4-6 mm. longae, lineari-lanceolatae, flavo-viridulo v. apice leviter violascentes: gluma prima herbaceo-membranacea, lineari-lanceolata, acuta, bidentata, marginibus late inflexis, flexuris non marginatis, scabris; secunda prima subsequans, late lanceolata, navicularis, breviter acuminata, marginibus scariosis ciliatis, 1-nervis; tertia quam prima paullo brevior, oblonga, obtusa, hyalina, subnervis, marginibus inflexis ciliata; quarta quam secunda brevior, lineari-oblonga, in \—\ superiore bifida laciniis subulato-lanceolatis, ciliata, 1-nervis, ex fissura aristam emittens 5-11 mm. longam (spicula vix v. usque ad subduplo longiorem) rectam v. supra basin subgeniculatam. Palea 0. Lodice cuneatae, truncatae, glabrae. Antherae 2*5-3 mm. longae. Stigmata fusco-purpurea, stylis longiora, e media spicula exserta. Spiculae pedicellate 5-7 mm. longae, lanceolatae, livide purpurascentes; gluma prima 7-9 nervis, secunda et tertia ut in spicula sessili quarta parva, lineari, mutica. Stamina ut in spicula fertili. Spicula sessilis ima alterius racemi etiam <J, mutica. Odore forti, grato.—E. HACKEL.

Fig. 1. Spathe, with one of the two racemes (the other having been removed). 1. Fertile spikelet. 3. Flowering glume of same. 4. 5 Floret. 5. Lodice. Enlarged.



A.D. Nalla, del.

Mcrotoeua cymosa. Prain.

MICROTCENA CTMOSA, *Praim.*LABIATE. Tribe STACHYDE[^].

Microtcena D. Train {gen. nov.}. *Calyx* 5-dentatus obscure sub-10-nervis subibqualiter 5-dentatus, fauce intus nnda. *Corollas* tubus longe exsertus supra medium ampliatus intus exannulatus, limbus 2-labiatus lobo postico erecto integro galeato, antico patente piano 3-fido lobo medio lateralibus multo minore. *Stamina* *i* sequilonga sub galea adscendentia, filamenta barbata, anther[©] juniores divaricate demum confluentia uniloculares explanais, iilamento apice decurvo nutantes. *Discum* antice parum tumens. *Stylus* apice 2-fidus lobis inaequalibus, antico subulato, postico brevissimo. *Nuculce* apice ovatre, basi subtriquetrce, lseves.—Herba *foliis oppositis dentatis*. Cym[©] *opposite laxas thyrsoido-paniculatce, bractcolis linearibus deciduis*. Flores *speciosi pedicellati*.

HAB. Assam; Kbasia apud Sobra, 4,000 p.a.m. (cult.), *Clarke*, apud Sbillong, Assam, 5,000 p.s.m. (cult.), *Mann!* Burma, in collibus Shan, 4,000 p.s.m., *Collett!*

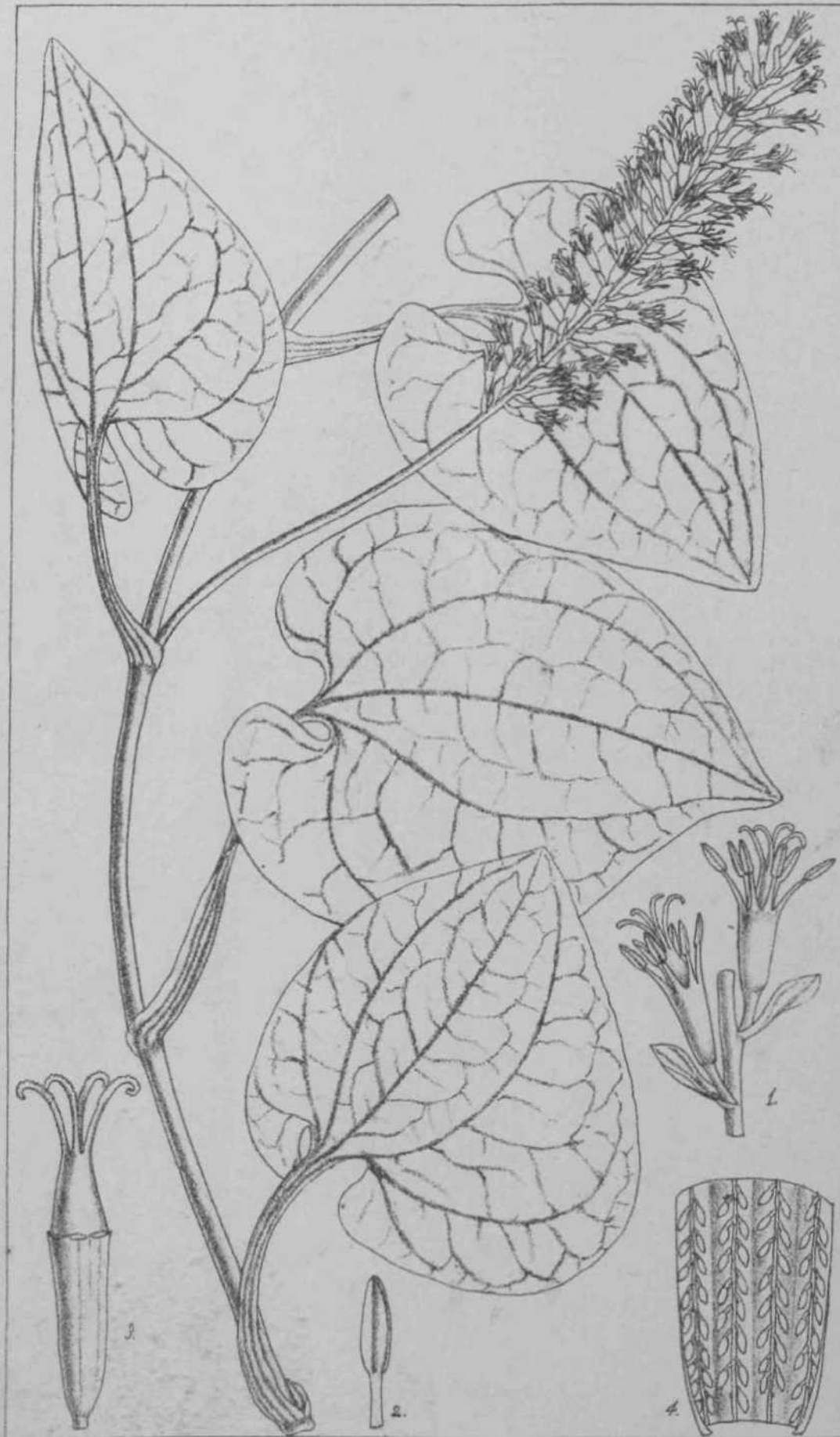
M. cymosa, *D. Train* (sp. unica). Elata erecta ramosa minute tomentosa, foliis petiolatis late ovato-acutis basi subcordatis crenatodentatis, cymis laxe paniculatis, calycis dentibus triangularibus postico ceteros parum excedente; corollas tubo calycem duplo superante, galea cymbiformi fauce inferne minute 2-auriculata apice integra, labio lobo medio anguste elliptico subacuto lateralibus ovato-rotundatis multo minore, staminibus basi villosis, nuculis parvulis.—Plectranthus Patchouli, *Clarke M88. in Hook. f. Flor. Brit. Ind. iv. 624.*

Peremu's, rhizomate serpente, caulibus usque ad 3-ped., ramis inferis 6-9-pollicar.; *foliorum* petiolis |-\| poll, laminis 2 poll, longis 1[^] poll, latis; *calyce* J poll, ovoideo, fructifero, subgloboso; *corollce* tubo J poll., labio £ poll., galea £ poll, longa £ lata; antheris -2V poll, in alabastro divaricatis 2-ocularibus, mox confluentia unilocularibus demum explanatis anguste ovatis, rimis posticarum in flore nondum aperto subsursum directis, postea, uti rimas anticarum, deorsum spectantibus; pollinis micis minutissimis laevibns; nuculis [^] poll, simpliciter et comparate minoribus. In mense Novembri floret; corolla lutea.

Genus habitu foliisquo *Craniotomi* accedit, calyce tamen *Cymarice*, galea *Scutellarice*, antheris cum pari *Acrotomis* antico consentaneis, filamentis sequilongis a *Stachydeis* ceteris differentibus, labioque lobo medio minimo inter *Labiatas* sui juris longe recedit. Ovarium et fructus haudquaquam *Ajugoidearum*.—D. PBAIN.

[Bajbio etymologica : nominis 'Craniotome' litter[©] anagrammatice dispositae.]

Fig. 1. [^]Estivation. 2. Flower before expansion. 3. Ditto, after expansion. 4. Calyx, laid open, and pistil. 5. Half of corolla, from bud. 6. Anterior lip, open. 7. Stamens and style. 8. Young anthers. 9. Adult ditto. 10. Pollen-grain. 11. Ovary. 12. Nucules. *Enlarged.*



M.S. del. et lith.

Crymnotheca chinensis, Don.

PLATE 1873.

GYMNOTHECA CHINENSIS, *Decaisne*.

PIPERACEAE. Tribe SAURUREAE.

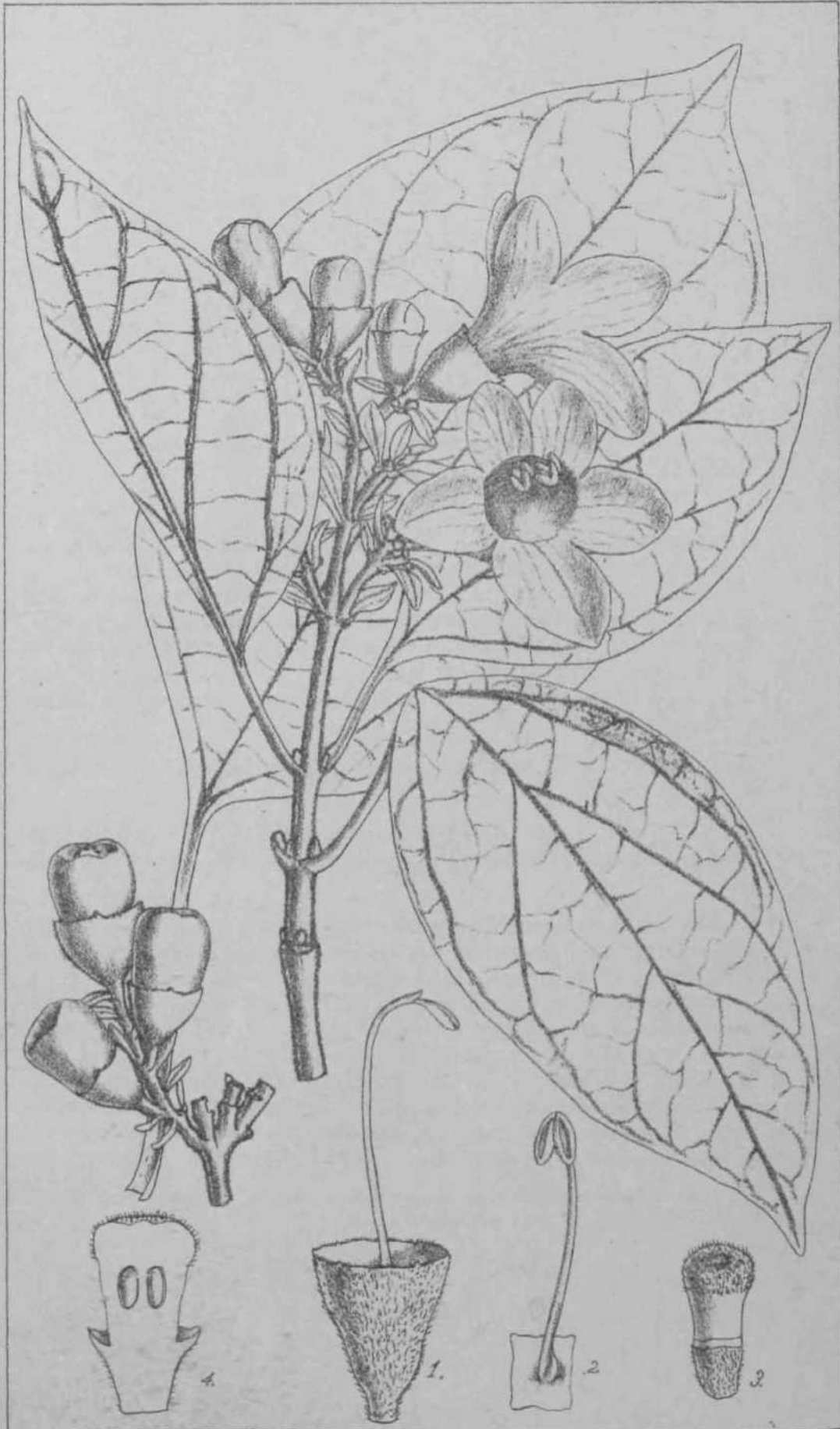
G. chinensis, *Decaisne in Ann. Sc. Nat. Sét. III. vol. iii. t. 5*; herba glabra decumbens v. prostrata interdum nodis radicantibus, foliis reniformi-cordatis apice saepius late acutatis integris v. margine obscure crenulatis membranaceis subtus reticulatis subtilissime punctulatis, petiolo lamina subsequilongo basi dilatato caulem vaginante, racemis solitary pedunculatis oppositifoliis folio saepius longioribus, bracteis oblanceolatis herbaceis ovario brevioribus, floribus breviter pedicellatis, staminibus 6 summo v. supra medium ovarii insertis, stylis 4 inferne coalitis longitudinaliter stigmatosis.

HAB. China, prov. Kwangtung, *G. Ford*, No. 311; prov. Hupeh, Icbang, *Br. Henry* (No. 4180); Szechuen, Omei, *Rev. E. Faber* (No. 897).

Folia 1¹-2¹ poll, longa, 1¹-3¹ poll. lata. *Racemi* 1¹-2¹ poll, longi, pedunculo aequilongi.

The floral structure is described at length by M. Decaisne (*Z. c.*). On the whole, on account of its very different habit and eximious inflorescence, this plant would seem to deserve maintaining as generically distinct from *Houttuynia*, in which it is merged in **Genera Plantarum*, though specimens had not been seen by the authors.—
D. OLIVER.

Fig. 1. Detached flowers. 2. Anther. 3. Ovary, the stamens removed. 4. Ovary laid open. *Enlarged.*



MS.deLethih.

Gmelina chinensis, Benth.

PLATE 1874.

GMELINA CHINENSIS, *Bentli.*

VERBBNACE^:. Tribe VITICB-E.

G. chinensis, *Benth.*, *Flora HongJcongensis*, 272 ; foliis longinscule petiolatis ovato-ellipticis acutis basi cneatis triplinerviis supra glabris subtus pallidioribus glanduloso-canescens, paniculis terminalibus racemiformibus tomentellis, bracteis ovalibus acutis basi angustatis, calyce late campanulato dentibus minutis, corolla obliqua labio antico longiore extus superne pruinosa, labio postico bifido (v. corolla 4-loba: *Bentli.* I.e.), fructu oblongo-ovoideo apice depresso endocarpio crasso lignoso uniloculare.

HAB. Hongkong, *Wright* (*sp. fiorif^*); Lantao Island, *Com. C. Ford* (No. 11, *sp. fructif.*).

Folia 3-4 poll, longa, 1f-2f poll, lata; petiolus f-1f poll, longus. *Calyx* £ poll, latns. *Corolla* 1J-1J poll, longa. *Drupa* exserta ^ poll, longa.

Known to us previously only from the solitary specimen, collected by Mr. Wright and described by Mr. Bentham. Probably very local in Hongkong. I have not found a seed in the two fruits examined, which are unilocular with a very thick hard putamen. We have an allied species from Hainan, collected by Rev. B. C. Henry, who describes it as a fine tree ; flowers white-edged with purple centre. It differs from *G. chinensis* in the broadly ovate-deltoid lobes of the calyx. In other respects of foliage and inflorescence it corresponds closely. The leaves beneath are minutely hispidulous as well as glandular-hoary. It may be called *Q. hainanensis*.—D. OLIVER.

Fig. 1. Calyx and stylo, showing unequally bifid stigma. 2. Stamen. 3. Ovary. 4. Same, longitudinal section. *Enlarged.*



11S.dr. et lith.

Pmellia mtegrifolia. N.E.Br.

PLATE 1875.

PINELLIA INTEGRIFOLIA, N. E. BR.

AROIDEA. Tribo ABINEJB.

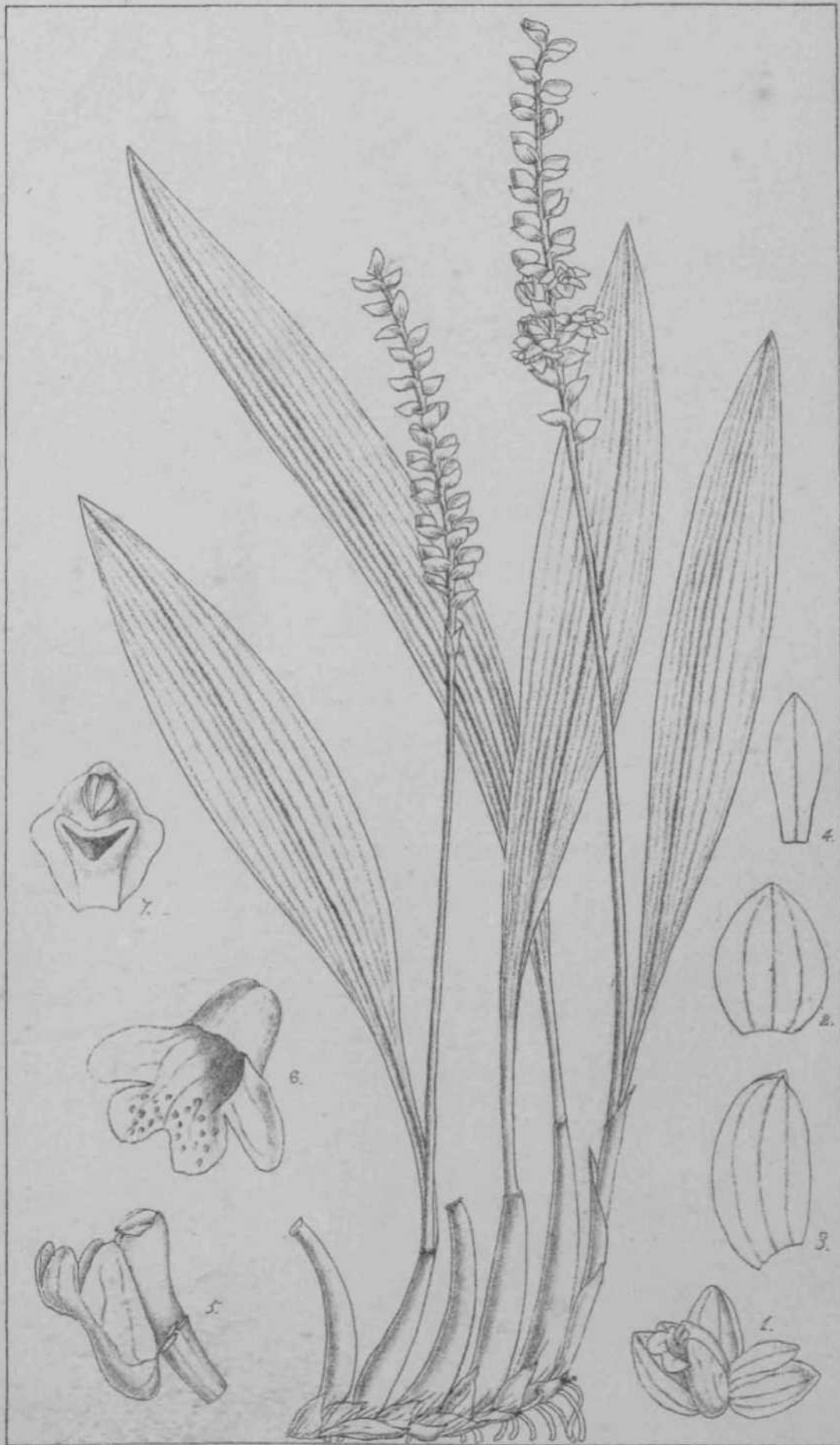
P. integrifolia, N. E. Br. (*jsp. nov.*) ; tubero parvo depresso-globoso, 1-3-phyllis, petiolis tenuibus, laminis integris oblongis vel interdum ovatis, acuminatis vel cuspidatis, nervis lateralibus ascendentibus in nervum intramarginalcm subremotum conjunctis; pedunculo quam petiolus saepe brevior; spatia parva, tubo ovoidco, lamina lanceolata/acuminata, quam tubus triplo longior; Rhadicis appendice sigmoido filiformi, spatham superante; baccis ovoidis, longo rostratis.

HAB. Ichang, China, Dr. Henry, No. GG3, 4323.

Tuber 1-1.5 poll. diam. *Folia* lamina 1-3⁴ poll, longa, 1-1⁴ poll, lata; petiolus 1.5-9 poll, longus. *Scapus* 1.5-3 poll, longus.

Well distinguished from the other known species of this genus by its small size and perfectly entire leaves.—N. E. BROWN.

Fig. 1. Inflorescence, with the apex of the appendix broken off. 2. Stomach. 3. Ovary. 4. Ovary longitudinally cut through, showing the solitary ovule. 5. Fruit. 6. Longitudinal section of fruit. *All enlarged.*



M.S. del. et lith.

Pholidota calceata, Reichb.f

PLATE 1876.

PHOLIDOTA CALCEATA, *EricJib.f.*

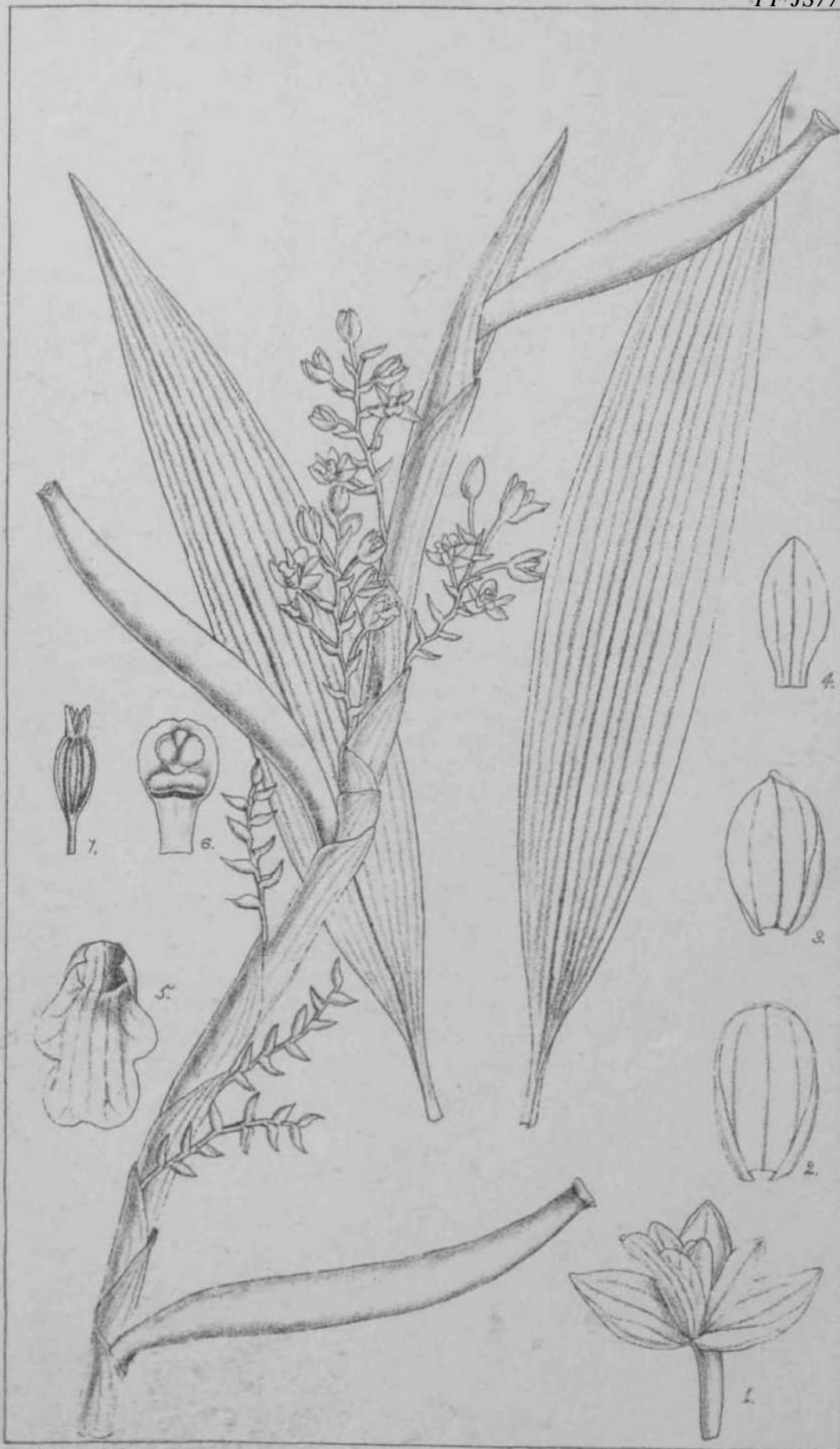
ORCHIDK2G. Sub-Tribe CCELOGTNEII.

P. calceata, *Reichb. f. in Walp. Ann. vi. 238*; pseudobulbis in rhizomate repente confertis angustis curvis 1-foliis, scapo filiformi folio elliptico-lanceolato acuto subsequilongo, racemo gracili, bracteis distichis latis cymbiformibus, sepalis 3-nerviis, dorsali orbiculari, lateralibus ovatis, petalis obovato-lanceolatis 1-nerviis, labello calceiformi 3-lobo, lobis lateralibus oblongis, terminali 2-fido lobulis orbiculatis. *Hook. f. Fl. Brit. Lid. v. V. ined.*; *Ccelogyne calceata*, *Beiclib.f. I.e.* •

HAB. Khasia hills, alt. 4,000-5,000 feet, *Lobb, J. JD. H., &c.*

Ehizoma crassiusculm, radicibus densis, pseudobulbis 1-1[^] pollicaribus fusiformibus v. angustissime conicis. *Folium* 3-6-pollicare in petiolum [^]—1 poll, longum angustatum, tenuiter coriaceum. *Scapus* nudus; racemus 2-4-pollicaris, inclinatus v. cernuus, rachi gracili; bractes [^] poll, longae, acutae v. obtusae; sepala [^] poll, longa, membranacea; labello basi profunde saccato; columna rhomboidea, obtusa, clinandrio magno hippocrepiformi. *Capsula* [^] poll, longa.—J. D. HOOKER.

Fig. 1. Flower. 2. Dorsal, and 3. lateral sepal. 4. Petal. 5. Lip and column. 6. Lip. 7. Column. *All enlarged.*



Pholidota protracta Hk.f.

PLATE 1877.

PHOLIDOTA PROTRACT A, *Book.*].

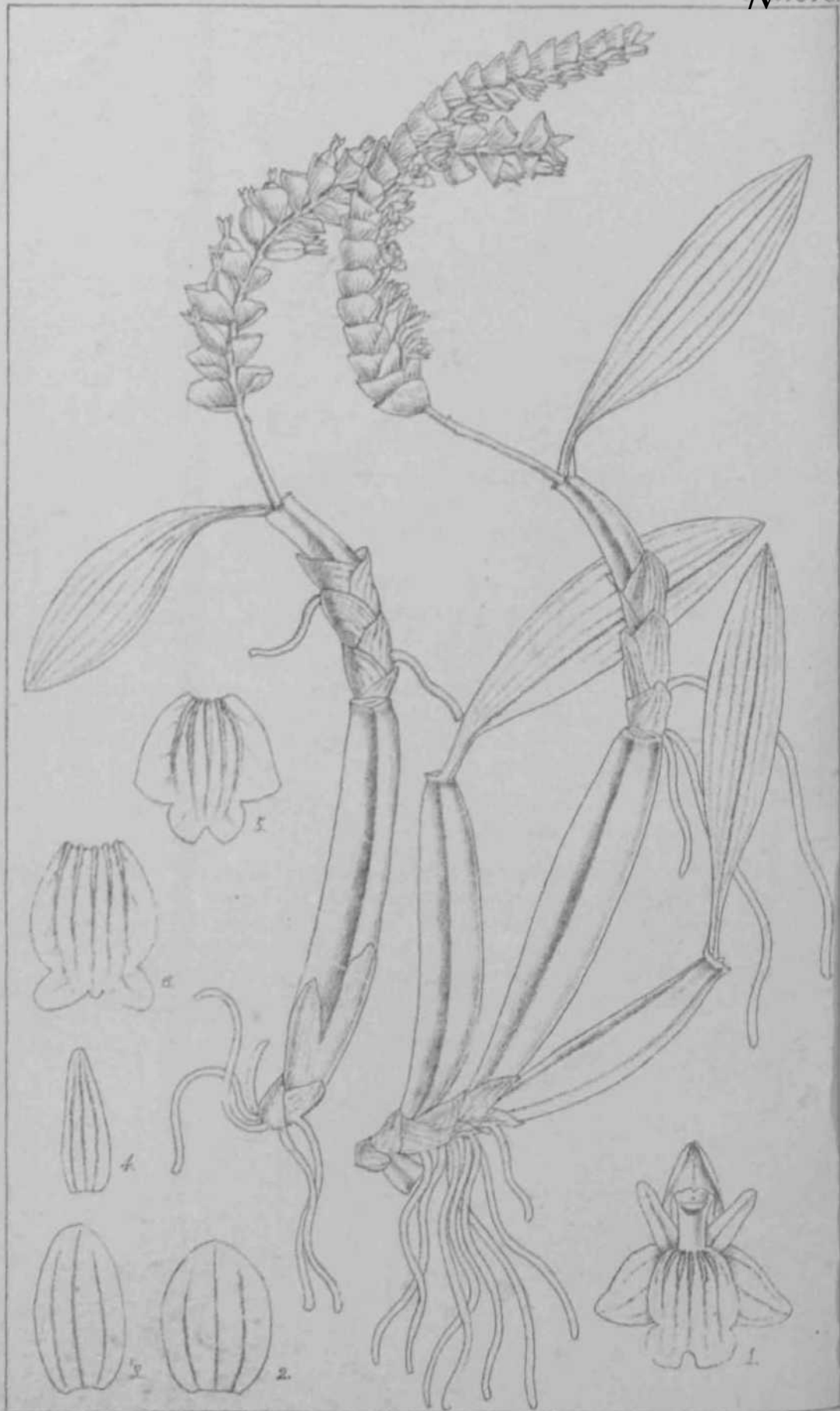
OBCHIDEJ:. Sab-Tribe C<ELOGYNE£:

P. protracta, *Hook. f. in Fl. Brit. Ind. v. V. ined.*; pseudobulbis elongatis angustis rhizomate elongato flexuoso vaginato remotis, foliis elliptico-lanceolatis acuminatis, scapis brevissimis rhizomati insertis, racemo brevi filiformi, bracteis distichis late ovatis acutis, floribus minutis, sepalis late ovatis obtusis pctalisque ellipticis 3-nerviis, labello ovato-oblongo 5-nervi, basi saucato, lobulo terminali suborbiculari retuso, isthmo inconspicuo.

HAB. Sikkim Himalaya, alt. 7,000 ft., *Griffith's Collectors*, *G. B. Clarke*; **Naga hills, Prain.**

Bhizoma 1-2-pedale, crassitie pennse oloringe, carnosum, valde flexuosum, vaginis el on gat is membranaceis, internodiis 2-4-pollicaribns, pseudobulbis li_3-pollicaribus cylindraceis. *Folia* 4-6-pollicaria, breviter petiolata, tenuia. *Bacemi* 1-1^ poll, longi, racbi flexuosa; bractea £ poll.; sepala ^ poll, concava; labelli nervi simplices; columna obovata. *Capsula* }j poll, longa, ellipsoidea.—J. D. HOOKER.

Fig. 1. Flower. **2.** Dorsal, and **3.** lateral sepals. **4.** Fetal. **5.** Lip. **6.** Column. **7.** Capsule. *All, except Jig. 7, enlarged.*



M.S. del. et lith.

Phohdota recurva, Lir. dl.

PLATE 1878.

PHOLIDOTA RECURVA, *Lindl.*

OUCHIDEJE. Sub-Tribe CCELOGYNEJE.

P. recurva, *Lindl. Gen. et Sp. Orchid.* 37; rhizomate carnosio arcuato o pseudobulbis elongatis constanti, foliis 2-nis linearibus v. ellipticobulbosis acutis, scapo brevi, racemo recurvo densifloro, bracteis latissimis imbricatis, floribus parvis, sepalis 3-nerviis obtusis, dorsali lato elliptico, lateralibus oblongis, petalis ovato-oblongis 1-3-nerviis, labello cymbiformi fere loboso nervis 5 basi lamellatis, auriculis 2 parvis terminate). *Hook. f. Fl. Brit. Ind. n. V. ined.* *Coologyne recurva*, *Reichb. f. in Walp. Ann.* vi. 238.

HAB. Subtropical Himalaya; Nepal, *Wallich.*; Sikkim, *Griffith's Collectors* (*Kew Distrib.* 5032).

Rhizoma 6-8-pollicare, nodis radicanibus; internodiis 2-2½-pollicaribus crassitie pensae colorisque, siccis 3-5-nerviis politis. *Folia* 2-3-pollicaria, subsessilia, subplicata. *Scapus* pollicari, basi vaginatus; racemum 2-3-pollicaris; bracteis j-nerviis, longis, lobatis, bifidis, sepala 3-nerviis, longa; columna apice tantum dilatata, clinandrio transverso. *Capsula* ± pollicaris, longa, subglobosa.—J. D. HOOKE.

Fig. 1. Flower. 2. Dorsal, and 3. lateral sepal. 4. Petal. 5 and 6. Lipw. A//enlarged.

PUTS I 879.

PHOLIDOTA RUBRA, *Undl*

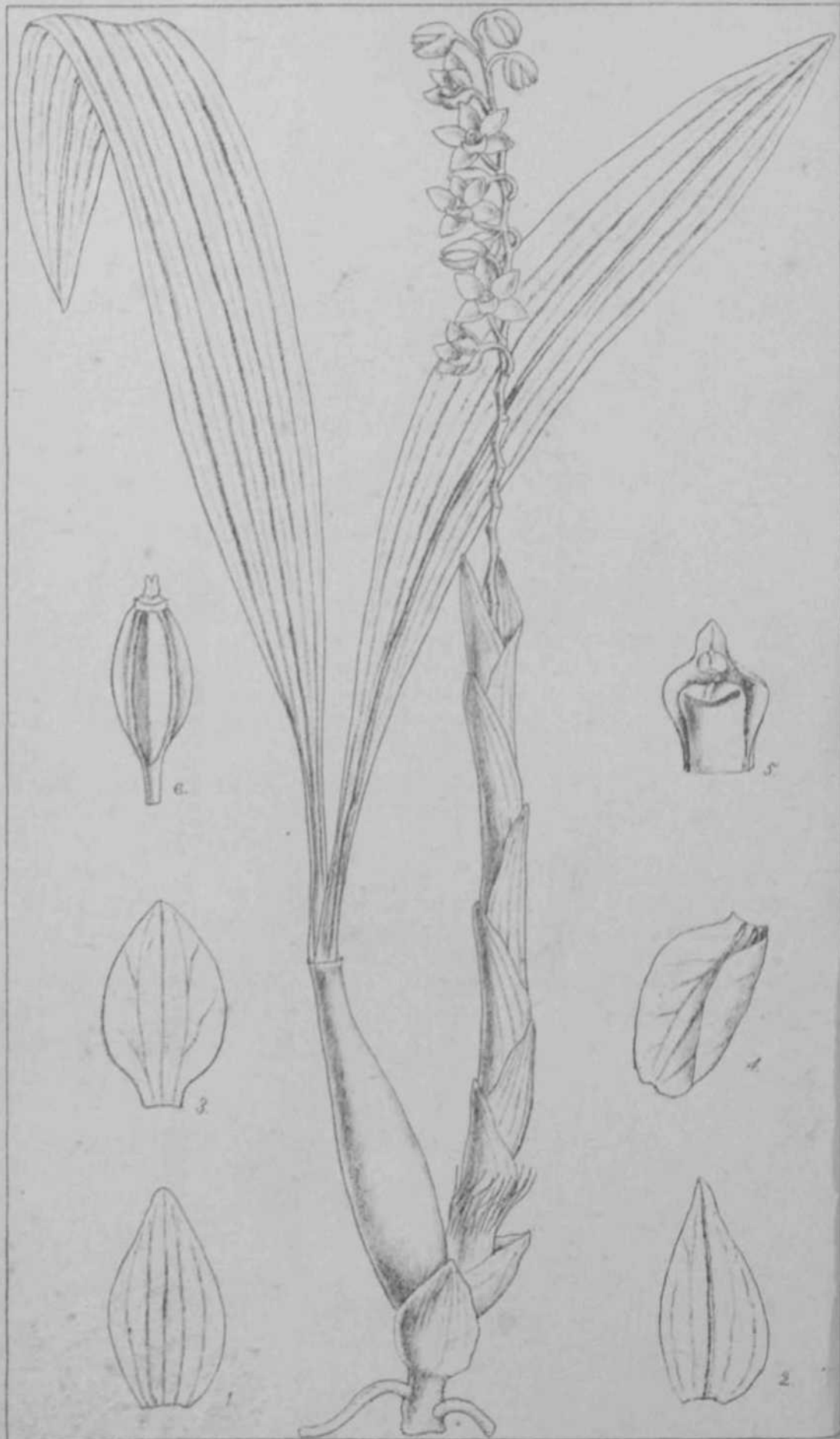
ORCIUDEJE. Sub-Tribe C<ELOGYKZE.

P. rubra, *Lindl. Gen. & Sp. Orchid.* 37; *pseudobalbii* *cluitgato-*
oblyrifonntbtu rhi/muiii. i eruw inaii lentibus, *filiia oil* ptico-lanceolatis
 acuminatis 5-nerviis, scapo brevi bracteis *vacuis reflexis* vaginato,
 racemci *elongaio* gracili decurvo laxifloro, bracteis distichis oblongis
aoutift, Kpalo dorsali ovato obtuso 5-nervi, lateralibtm *iate* ovatis
 acuminatis 3-nerviis crasse costatis, *pet a] i s] i >* baribus 1-nerviis, labello
 Istiore *quant* longo obtuse 3-lobo nervis 5 infra medi am sul4: mellatis.
Wall. Pl. As. Rar. c. iii. p. 21, t. 239; Hook. f. Fl. Brit. Ind. ined.
P. nadalafa, *Lindl. in Bot. Beg. sub t. 1213 and xxvii. Misc. 6. t. OBIO-*
gyjic *rabra un* *Lnlata, BeieSb.f. in Walp. Ann. vi. 238.*

HAB. Subtropical Hima Maya ami Ille Khasia *monnta* ins, alt. 4,000-
 6,000. *i*, *Hilich. &c., Burma, Griffith (Kew Distrib. 538 7).*

Rhizoma *crassiti* B pennm *olorii* æ, ra *Uoibni erebrifl;* *pseudobalbi*
 2-3-pollicares, *oyliodraoei* v. *bi* sin versus anfnatati, *Folia* 1 LO poll.
 lornça, 5-nervia, te uuia. *Scapus* florens basi vaginatus, dein pseudo-
 bulbo evoluto nmlns; *racemus* 1-8 *pi llicaris*, 11xuosus; bractæ
 $\frac{1}{4}$ - $\frac{1}{3}$ poll. longæ, dem *mi* reflæxæ; sepala $\frac{1}{4}$ poll. liiii')i, OOSTH v; ili'la;
columnna *oaneato-oba* vata, obtuse 2-dentata, *clixuwdrio* «ansvei'so.
Capsula 2-3 poll, longa.—*J. i > H OOKER.*

Fig. 1. Flower. 2. Lateral sepal, 8, Petal. 4 and 5. Liptt. C and 7, Column.
All etiluir ed.



MS. do! lith.

Phodota Convallariae, Rchb. f.

PLATE 1880.

PHOLIDOTA CONVALLABLE, *Hook. f.*

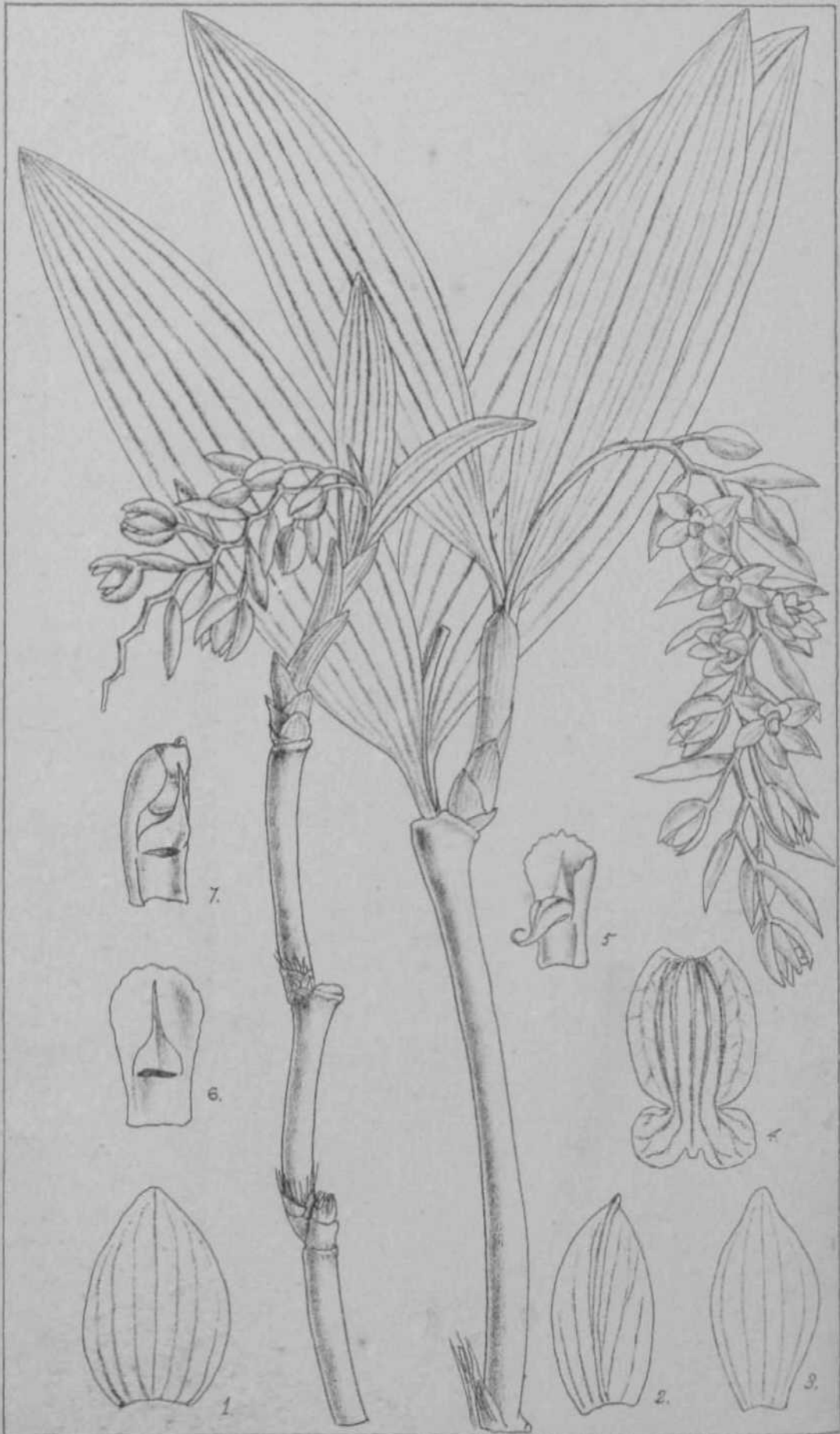
OiticniDE^ Sub-Tribo COLLOGYNE*.

P. Convallari®, *Book.*, *Fl. Brit. Ind. v. V. ined.* \ *pseudobulbia rhh* o-
itudi **ralido** **Insidentibas** **utgaste** **obpy** **riformlboB**, **foliis** **Kneari-lanceolft** <
tis **oblniK**-olatisve **coriaoeia** **obtnri**s, **scapo** **•pfttbii** **tavolato**, **raemo**
erecto, **flori** bus **sec•tnntis**, **bracteis** **angustis**, **lepalodorsalioval** o-oblongo,
lateralibitt **ovatit** **aoamin** >tu, **potnlth** **lar**e **ovati** **obtasi** s 3-neviis, **lal** **illo**
latire **quam** **longo** **concav** > **emarginato** 3-mtvi. **Ocdogyae** **Uon-**
nOlarii, *Reichb. f. in Flora* 1872, §77.

HAIJ. Khasia hills, alt. 3,000–4 1,000 ft., *J. B. TL* af ad *T. T.*; Naga
billa, on Kohima, ult, •1,500 ft., *Prair.* Tenasserim, at Moulmein,
Parith.

Pseudobulbi 1–2-pollicares. *Folia* 6–8 pe!! longa, 4–3 poll, l&ta, in
petiolum angustata. *Scapus* **foliia** **1**revior, strictus; racemus 2–3-pc>lli-
caris, **rachi** **valitlii**; **IHM**teæ $\frac{1}{2}$ poll. longæ, lineares, caducæ; se **paia**
^ poll, **longa**, **dortali** **5-nera**, **oo**sta crassa; **labe** **Elin** **cymbiforme**
callii n.l **basin** **minutia** **olongatis**, *capsula* $\frac{1}{2}$ poll. losga, obovoideo.—
i h. HOOIBB.

Fig. 1. Dorsal, and 2, lateral eepal. 3. Petal. 4. Lip. 5. Cohuun. 6. t, C>isule.
All enlarged.



M.S. del. et lith.

Phoiidota. Gniffithn, Hk.f.

PHOLIDOTA GRIFFITHII, Hook. f.

OsCHIDEJ5. Sub-Tribo CfEr. OGYNEJE.

P, Griffithii, Hook. f. Fl. lirt. hid. v, I. in rbizom&te crauo earnoso articulate e psendobulbia eloagatis constante, Eblu 2-nia elliptico-v. otilMit^n-lanceolatis acnli-, scapi perbreui, racemo breuiusculo gracili floxitoso reorvo laxifloro, bracteis late obiongis sni acutis, dorsali late orato 7 in rvi, lateraliboa B-nerviia cosfca valida, petalis ellipti colanceolatis 3-5-neirviis, labello oymbiformi nervis 5 crassis basi lamel-tatis, lobo terminali 2-anriculato lobalo minnto interjecto.

II, i; Tropical Sikkim Himalaya, *Griffith's OoUeetrs* (*P. recurva?* *Kew Di'strib.* 5045), *l. D. H.*; Kbasia mouutains on Kollong, alt. 5,000 ft., *O. B. Ohu. is.*

RMzoma pedalo, nodis radicantibus; **internocliia** 3-6-p **Jlioaribus**, crassitie pennte oloriiæ cylindracis. *Folia* 3-5 poll, lonjra, sessilia, 5-7-nervia, *Eacomi* L-2-pollicarw, radii flexnoaa; **bractea** ; poll longaj; **sepala** § poll. longa; colnmn, **oboTftft**, **apice** t?iv.H;iU.-civniit;i, **olinandrio** porrecto ovato-acuminato.—*J. D. HOOKEI.*

Fig. 1. Dorsal, and 2. lateral sepals. 3. Petal. 4. Lip. 6, 0, mid 7. Column. *MI enlarged.*



Taima promensis, Hk.f.

PLATE 1883.

TAINIA PROMENSIS, Hook.f.

ORCHIDEJS. Sub-Tribe BLETIEJS.

T. promensis, Hook. f. in *Fl. Brit. Ind. v. V. ined.*; caule gracili vaginato, folio longe petiolato anguste lanceolato acuminato, scapo elato gracili vaginato, racemo 6-8-floro, bracteis elongatis, sepalis oblongo-lanceolatis acatis, petalisque elliptico-obtusis 5-7-nerviis, labello spathulato eroso, disco concavo callis truncatis onusto, calcare edfcgato obtuso. *Eulophia promensis*, Lindl. in *Wall. Gat.* 7365: *Gen. 8[Sp. Orchid.* 181.

HAB. Pegu, on the Prome Hills, *Wallich*.

Folii lamina pedalis, 1½ poll, lata, plicata, in petiolum gracillimum lamina longiorem angustata, 5-nerviis. *Scapus* una cum racemo laxifloro petiolo a3quilongus: vaginro 4-5, 2-3-pollicares; bracteo) pollicares, lanceolatoe, ovariam superantes; sepala f poll, loilga; columna elongata, anguste alata; pollinia, si non fallor, 4, collateralia.

Of this fine species only two specimens are known, one in the Wallichian Herbarium of the Linnean Society, the other in Lindley's, both of course from the same source. It belongs to the first of the two sections into which I have divided the genus; that in which the lateral sepals are free from the saccate or spurred lip, those, in short, that have no true mentum. To this group belong the *Calanthe viridi-fusca*, 'Bot. Mag.' t. 4669; and *Ania angustifolia*, Lindl. (in *Wall. Cat.* 3740), both brought under *Tainia* by Bentham ('Gren. Plant.' iii. 515), together with *T. penangiana*, *Fl. Brit. Ind. ined.*; a new species discovered by *Maingay*.—J. D. HOOKER.

Fig. 1. Flower. **2.** Lip (from Lindley's drawing). **3.** Column. *All enlarged.*

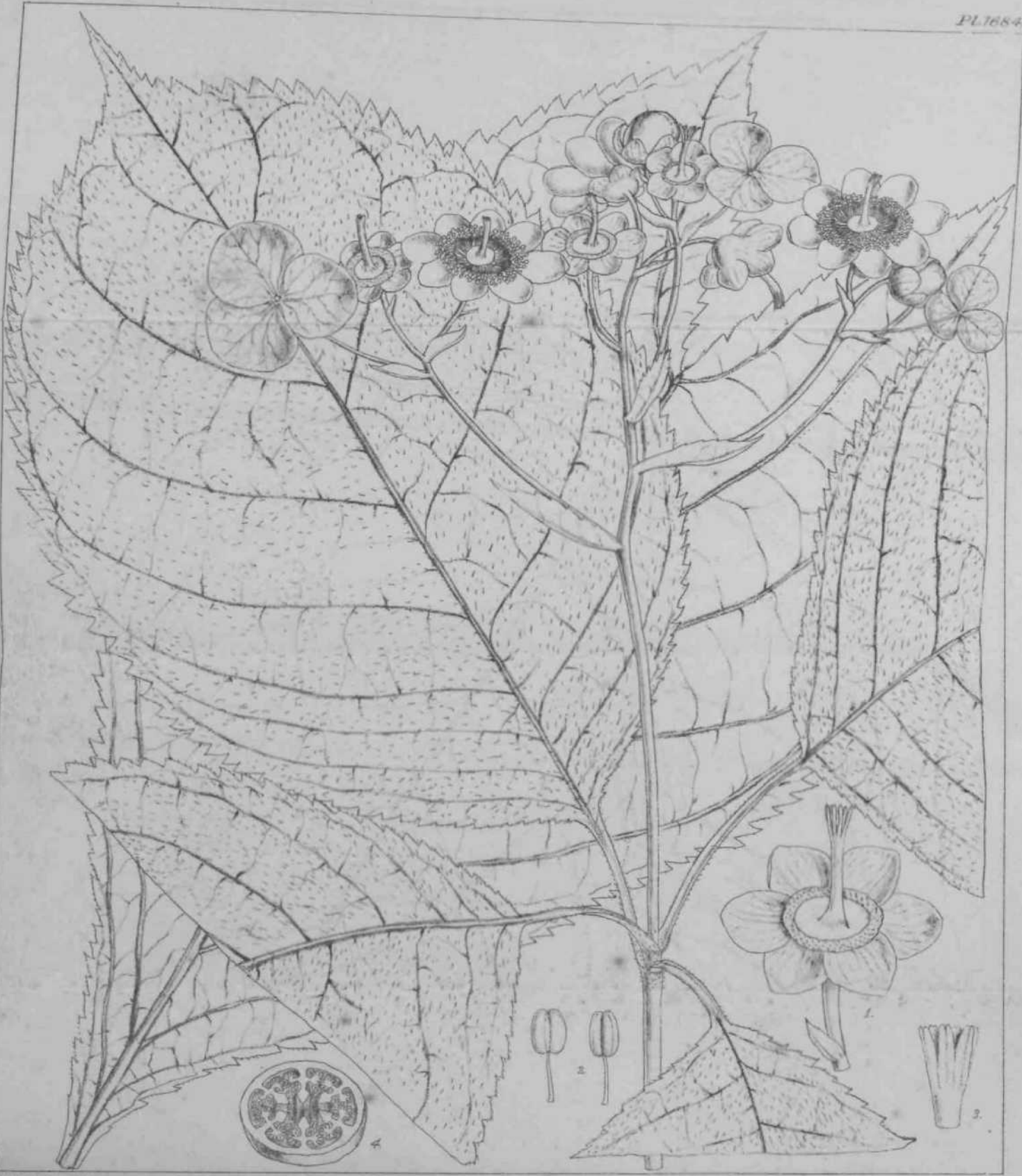


PLATE 1884.

DEINANTHE BIFIDA, Maxim.

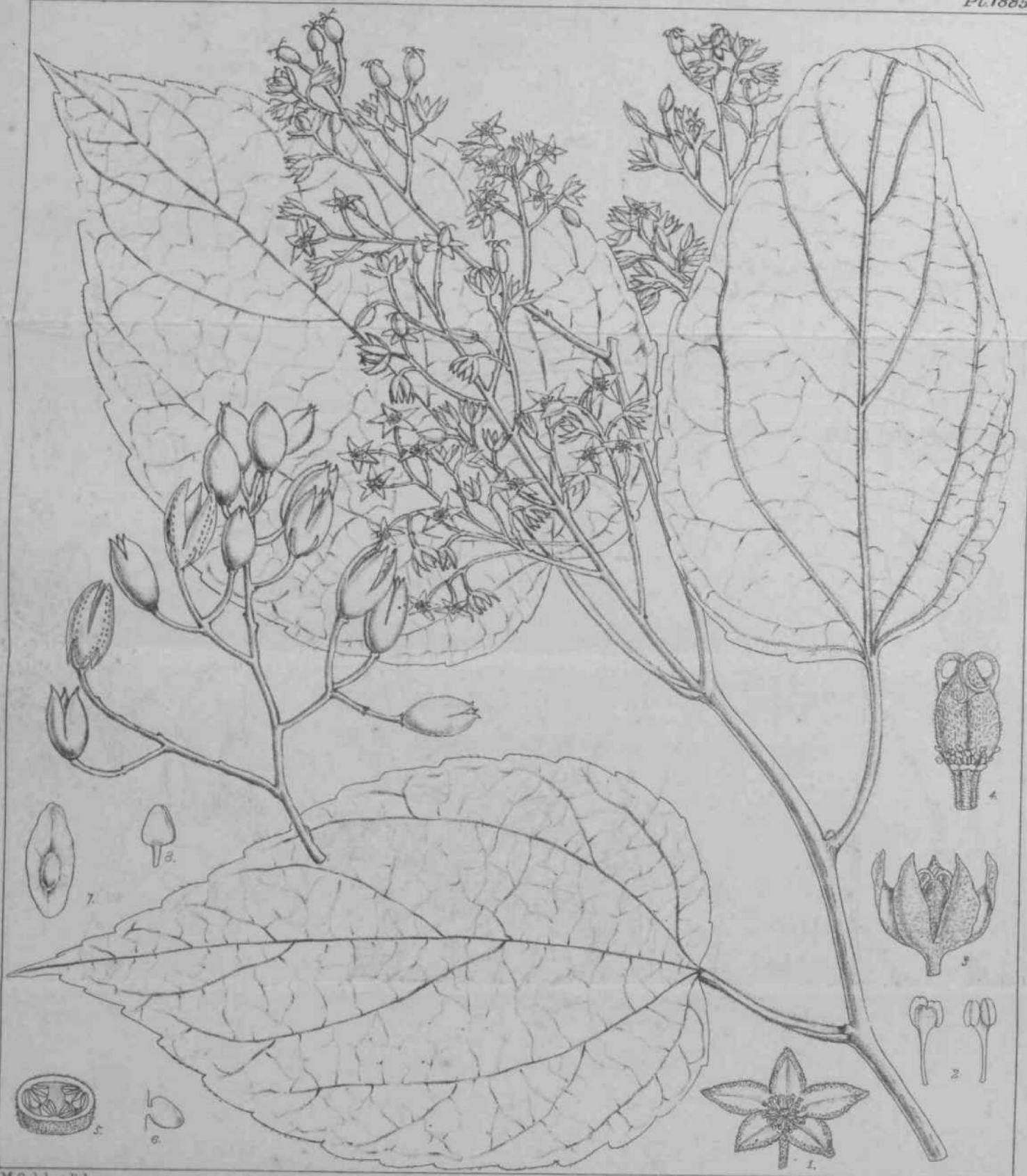
SAXIFRAGACEÆ. Tribe HYDRANGÆA.

D. bifida, Maximowicz in *Rev. Hydrang. Asia Or.* p. 3, **tab.** 1 (*Mém. Acad. Imp. Sc. St. Petersb., ser. vii. torn. x.*).

TCHINA. China, prov. **Hgpeh**, Hsingshan and Nanto, Dr. A. Henry (Nos. 6357 and 6434). **ARo** in Japan.

To the very full and excellent description given by M. Maximowicz (**Ac**) of this fine plant, now first added to the Chinese Flora by Dr. Henry, there is nothing to add. I find our specimens differ simply in the leaves being, in most cases, undivided at the apex, and in the colour of the flowers, which, Dr. Henry says, have the calyx greenish blue, and the petals blue. The flowers also, in our series of specimens, are less numerous in each inflorescence, varying from two or three to eight. It grows in ravines on sides of the cliffs, in similar situation to *Hydrangdk longipes*, and simulating it at a distance.—
U. OLIVES.

Figs 1. Flower, petals and stamens removed. 2. Stamens. 3. Apex of style. 4. Transverse section of ovary. All enlarged.



POLIOTHYRSIS SINENSIS, *Oliv.*

Bixnraas. Tribe FLACOURTIEJE.

Poliothyrsis, *Oliv.* (*gen. nov.*); *flares* abortu unisexuales monoici apetalii in paniculis multifloris dispositi. *Calyx* 5-partitus segmentis ovato-lanceolatis acuminatis, dorso marginibusque tomentellis, »stivatione valvatis. *Petala* 0. *Fl. #*: *Stamina* circ. 20-25 calyce breviora libera inaequilonga, filamentis glabris; antherse cuneato-ovoides bilobatae biloculares longitudinaliter dehiscentes, coimectivo inappendicalato latiusculo basi in filamentum angustato; ovarii rudimentum centrale minutum. *Fl. ?*: *Staminodia* parva numerosa kypogyna ovario breviora. *Ovarium* ovoideum vel oblongo-ovoidem, tomentellum, uniloculare, placentis parietalibus 3 multiovulatis; styli 3 divergentes demum recurvi puberuli; stigmata breviter bifida. *Fructus* capsularis ellipsoideus acutiusculus incano-tomentosus, polyspermus: pericarpio ab apice profunde trifido, valvis ovalibus acutis exocarpio saepe ab endocarpio plus minus secedente. *Semina* alata (plurima abortiva), albuminosa; albumen carnosum; embryo axillis albumine sequilongis rectus, cotyledonibus planis ellipticis radícula terete paullo longioribus.—Arbor 10-30~pedalis, ramulis teretibus, novellis tomentellis. Folia alterna longiuscule petiolata ovata v. ovato-elliptica acutata remotiuscule interdum obscure serrata, basi triplinervia pilosula v. glabrata. Inflorescentia terminalis breviter pedunculata v. sessilis paniculata canescens, pluri- v. multi-flora, floribus terminalibus sapius?.

P. sinensis, *Oliv.* (*sp. unica*).

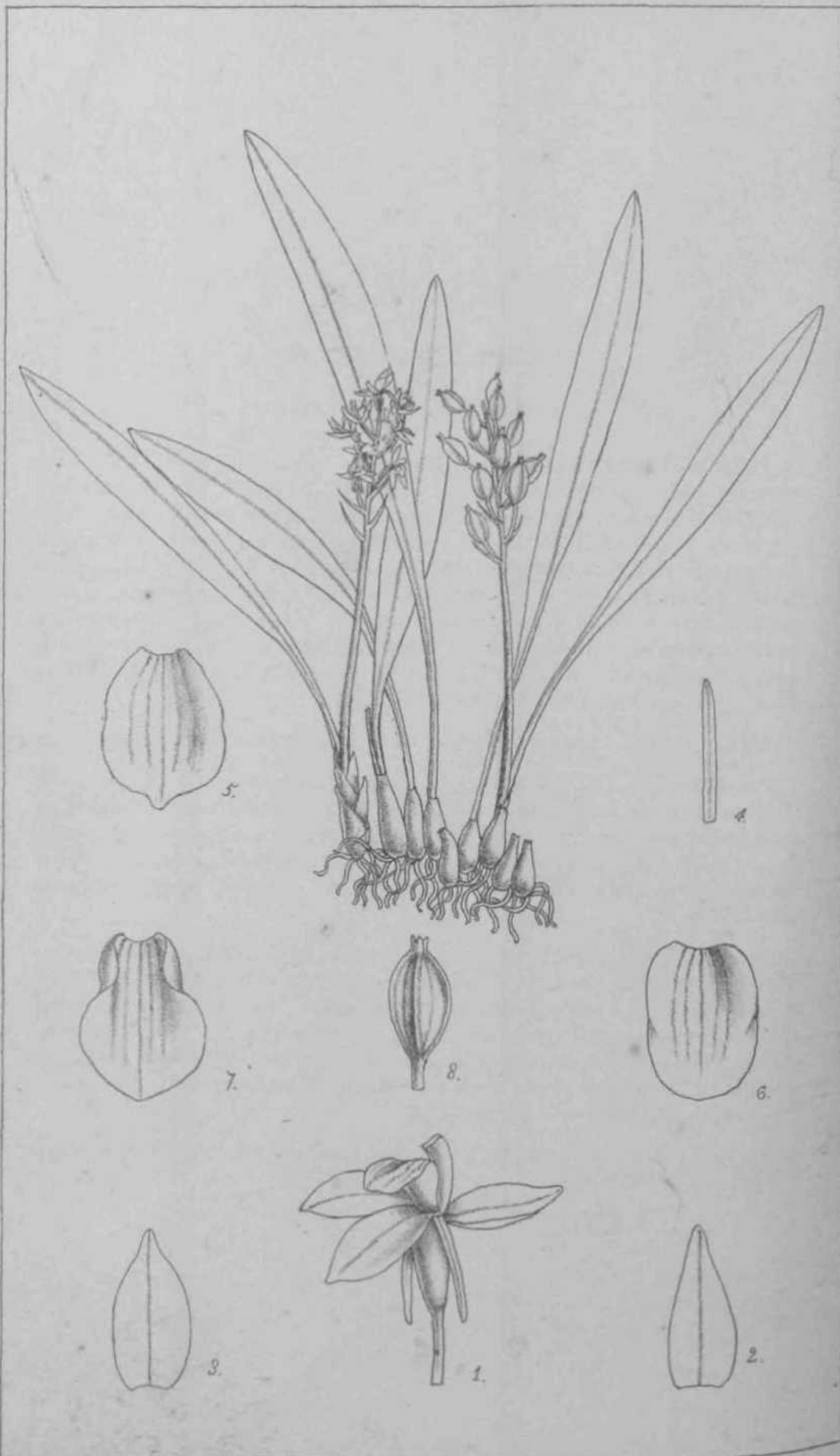
HAB. China, prov. Hupeh; Hsingshan, Changyang and Fang districts; prov. Szechwan, Wushan district, *Dr. A. Henry* (Kos. M22, 6566, 7140, 7588).

Folia 4-6 poll, longa, 2-5 poll, laeva; basi obtusa v. cordata, glabrata v. subtus pilosula, exstipulata. *Flores* circ. ½ poll, diam. albido-florescentes. *Capsula* ½-¾ poll, longa.

This remarkable addition to the Order Bixineae in general facies reminds one much of *Idesia*, which has also been sent us recently from Yhina by Dr. Henry. Besides other characters, it differs from *Idesia* in its capsular fruit, but it is near this genus that, I think, it should be placed.

In the more matured fruits the thin **outer hoary** epicarp separates from a bony endocarp, the valves of the latter sometimes remaining attached to the peduncle by the parietal indurated persistent vascular cords of the 3 placentas. While the dehiscence of the pericarp is by separation from the apex § or | of its length into three valves, the line of dehiscence alternating with the placentas, the valves tend also to separate less to split a short way from the base upwards, and it is along this line of fission that the placentary **cords are set free**, as noted above.—D. OLIVER.

4 ^F ^{stam} ^{inate} ^{flower}. 2. Stamen, back and front view. 3. Pistillate flower, a ^{stam} ^{inodia}. 5. Transverse section of ovary. 6. Ovule. 7. Seed. H. Embryo. *Enlarged*.



M.S. del. et lith.

Liparis obscura. Htsf.

PLATE 1886.

LIPARIS OBSCUBA, *Hook.f.*

ORCHIDEJS. Sub-Tribe LIPARIDEJS.

Liparis (Coriifolia) obscura, *Hook. f. in Fl. Brit. v. V. 70 1. M*; pseudobulbis parvis caespitosis anguste 1-foliatis, folio petiolato elliptico-lanceolato v. anguste oblanceolato acuto, scapo nudo totho brevior v. subsequente, racemo brevi paucifloro, bracteis anguste lanceolatis ovarium superantibus, floribus minutis, sepalis lanceolatis acutis 1-nerviis recurvis v. revolutis, petalis anguste linearibus, labello recurvato oblongo v. subquadrato angulis rotundatis, basi truncata, apice subacuto, columna brevi suberecta alis obscura.—*U angustifolia*, *Thwaites, Enum. Pl. Geyl. 296 (wmUndl.)* *L. caespitosa*, *Eidley in Journ. Linn. Soc. xxii. 290 (non Lindl.)*.

HAB. Ceylon; in the central province, alt. 2,000-5,000 ft. *Thwaites**

Pseudobulbi ±-i poll longi, anguste obpyriformes, rectiv. curvi. *Folia* 3-4 poll, longa, in petiolum angustum cum pseudobulbo articulatum angustata, subcoriacea, enervia. *Scapus* erectus, subrobustus; racemus 1 poll, longus; bractea 1/2 poll, longior; flores 1/2 poll. lati, flavi; sepala marginibus non recurvis. *Capsula* 1/2-1 poll, longa, globoso-ellipsoidea.

L. angustifolia, Lindl., of Java, differs in the much smaller flower and fruit and shorter lip. The Mauritian *L. caespitosa*, Lindl., to which it has also been referred, differs in the lanceolate lip. I am indebted to Dr. Trimen for the loan of specimens from the Peradenya garden, which have enabled me to complete the description and give a figure of this little-known plant, of which the specimens in Kew Herbarium are very imperfect.—J. D. HOOKER.

Fig. 1. Flower. 2. Dorsal, and 3. lateral sepals spread out. 4. Petal. 5, 6, and 7. Lips. All enlarged.



M.S.doLetlith.

Liparia resupinata, Hidl

PLATE 1888.

LIPABIS RESUPINATA, *Eidleyi*.

ORCHIDE-E. Sub-Tribe LIPARIE-E.

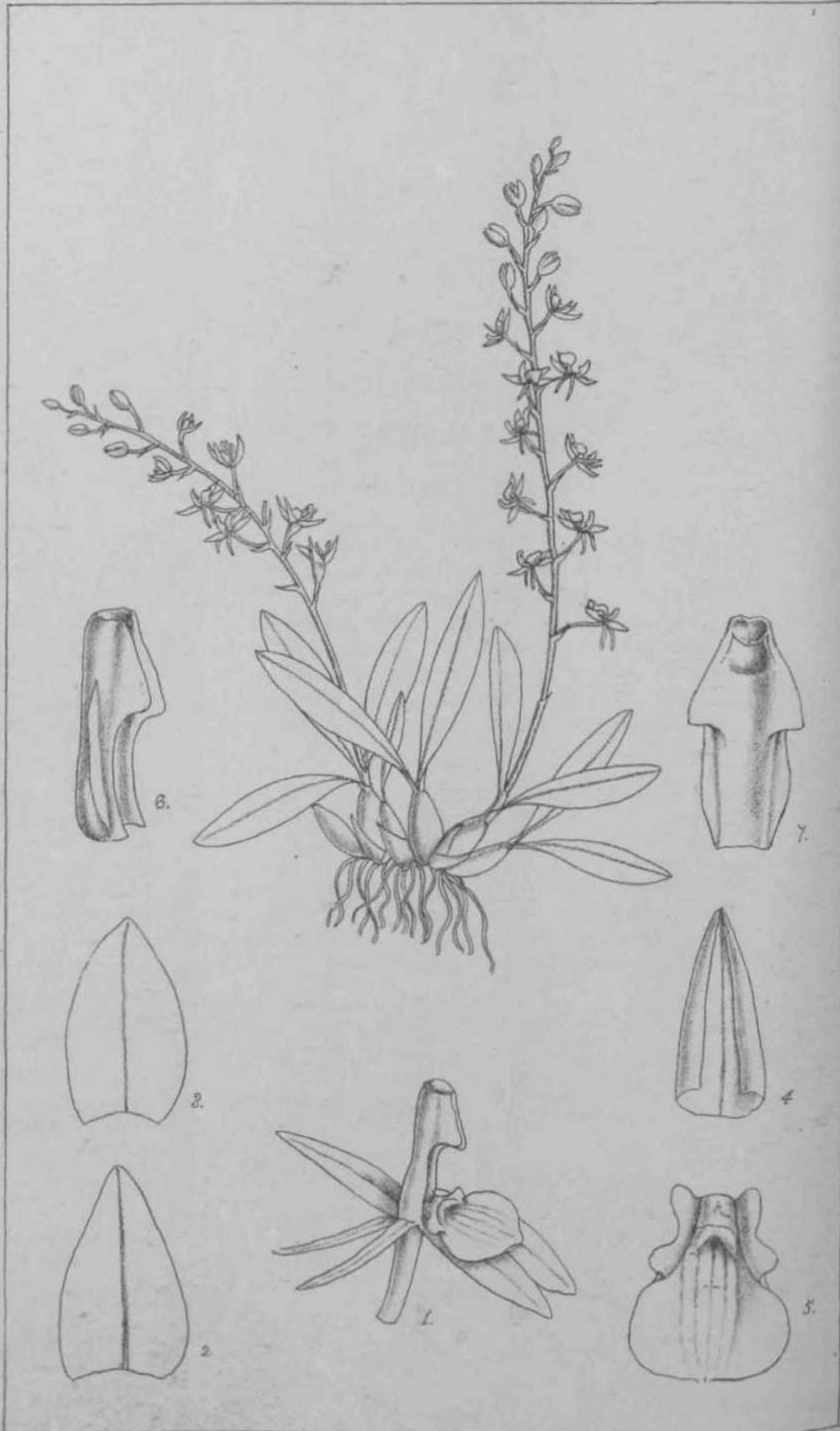
L. (*Coriifolia*) *resupinata*, *Ridley in Journ. Linn. Soc.* xxii. 290 (*in parte*); foliis 3-4 lineari-lanceolatis acuminatis scapo gracili multo brevioribus, racemo elongato multifloro, bracteis lanceolatis pedicel) is longioribus inferioribus vacuis, sepalis late oblongis obtusis rectis naarginibus recurvis, petalis angustissimis, labello late ovato-oblongo basi ^-auriculato 2-callosa, apice rotundato, columna late alata alis medio ailatatis et filamento pendulo instructis.—*Hook. f. Fl. Brit. Lid.* v. V. '05, *ined.*

HAB. Sikkim Himalaya, alt. 5,000-6,000 ft. (*Platystylis 2 in parte wh. Ind. Or. H.f. fy T.*); Khasia mountains, alt. 4,500-6,500 ft., common, *Griffith (Kew Bistrib.* 5082); Nilghiri mountains {*fid. Eddley*).

Herba dense caespitosa, interdum pseudobulbosa, pseudobulbis ovoideo-oblongis subcylindraceisve. *Folia* alterna, submembranacea. *capus* una cum racemo 5-7-pollicaris, multiflorus; bractefB intensiores 1£-^-pollicares; pedicellum cum ovario ^ poll, longum; flores **Davidi.**

Under *L. Eidleyi* I have indicated the difference between that species ¹⁸ - Ridley gives the Nilghiri mountains, Wight, as a habitat, ¹⁸ but I find no specimen in Wight's Herbarium, and I should doubt the record.—J. D. HOOKER.

¹⁸ in ¹⁸ Flowep* 2 - Dorsal, and 3. lateral sepals spread out. 4. Dorsal sepal, showing the recurved margins. 5. and 6. Lips. 7. Column. *All enlarged.*



M.S. «JsL.et,Kth.

Liparis delicafula, Hk.f.

PLATE 1889.

LIPABIS DELICATTLA.

ORCHIDÆ. Sub-Tribe LIPARIEJ.

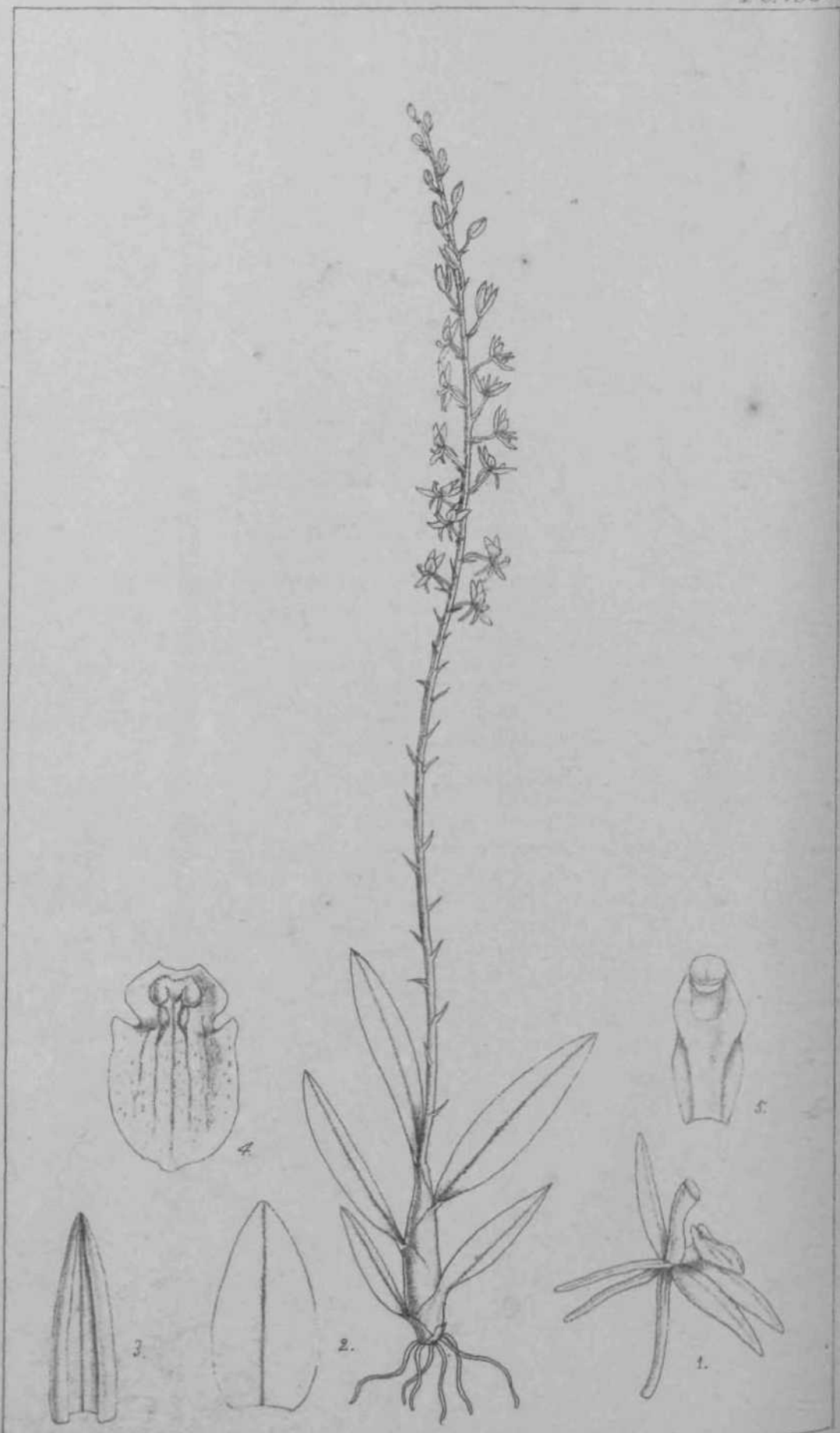
t. (*Coriifolia*) *delicatula*, *Hook. f. in Fl. Brit. Ind. v. V. 705, ined.*; *parvula*, foliis 2-nis petiolatis elliptico-lanceolatis membranaceis scapo filiformi multo brevioribus, racemo laxo multifloro, bracteis ovatis pedicellis brevioribus, floribus parvis, sepalis late oblongis obtusis rectis 1-herveis marginibus recurvis, petalis angustissimis, labello sub-orbiculari sepalis multo brevioribus, basi lato truncato 2-tuberculato et auriculato, apice rotundato abrupte caudicalato, columna late alata. — *Liparis decurrens*, *Ridley in Jour. Linn. Soc. xxii. 291* (the Khasia plant only).

HAB. Khasia mountains, alt. 4,000-5,000 ft., *Lobb, J.D.H. and T. T. (Platystylis decurrens, Reichb. f.)*; Mishmi hills in Upper Assam, *Griffith*. **

Herba caespitosa, 3-6-pollicaris; pseudobulbis parvis angustis v. obsolete. Folia 1-1¹ poll, longa, 1/2-1/2 poll. lata. Scapus cum racemo 2-3 bracteis lanceolatis membranaceis; flores 1/2 poll, lati, albi; columnae alae infra apicem hamatis.

— Referred by *Ridley (l.c.)* to the Japanese *L. decurrens*: also by *Reichb. f.*; but differs in the filiform scape, ovate bracts, and eciliate sepals and petals.—*J. D. HOOKER*.

Fig. 1. Flower. 2. Dorsal, and 3. lateral sepals spread out. 4. Portion of sepal, showing the recurved margins. 5. Lip. 6. and 7. Side and front view of column. All enlarged.



M-S.deLetHda

Liparis platyrachis, Hk.f.

PLATE 1890.

LIPARIS FIATYBACHIS.

ORCHIDÆ. Sub-Tribe LIPARIEA.

L. (Coriifolia) platyrachis, *Book. f. in Fl. Brit. Ind. v. V. 706, ined.*; foliis 2-3 petiolatis lineari-lanceolatis acuminatis membranaceis scapo complanato v. 2-alato multo brevioribus, bracteis minutis subdistichis subulatis, floribus minutis, sepalis lateralibus subfalcatis oblongis acutiusculis 1-nerviis marginibus revolutis, petalis angustissimis, labello sepalis multo brevioris quadrato subpandurato recurvo basi 2-auriculato et 2-callosa, columna breviuscula alata.

HAB. Sikkim Himalaya, alt. 4,000-5,000 ft., *Dr. Trentler, O. B. Clarke.*

Herba pusilla, cespitosa, 2-3 poll, alta, basi subpseudobulbosa. *Œcapus* gracilis, lente curvus, ad basin fere floriferus; racemus laxe multiflorus; bractee subulatae, inferiores vaeuae; flores $\frac{1}{11}$ poll, lati, distantcs, albidi, breviter pedicellati; labellum hypochilo brevi auriculato, epichilo latiore quam longo recurvo, apice rotundato apiculato, basi breviter angulato; columna viridis.

The minute flowers are difficult of analysis, especially the lip. Its nearest ally is *L. jperjpusilla* (Tab. 1856 B.).—J. D. HOOKER.

Fig. 1. Flower. 2. Sepal, spread out. 3. The same, showing the revolute margins. 4. Lip. 5. Column. *All enlarged.*



MS.de) et, rth.

Pholidota parviflora, Hk.f.

PLATE 1891.

PHOLIDOTA PABVIFLOBA, *Boole, f.*

OROHIDBJ. Sub-Tribe C<EK>GNEJB.

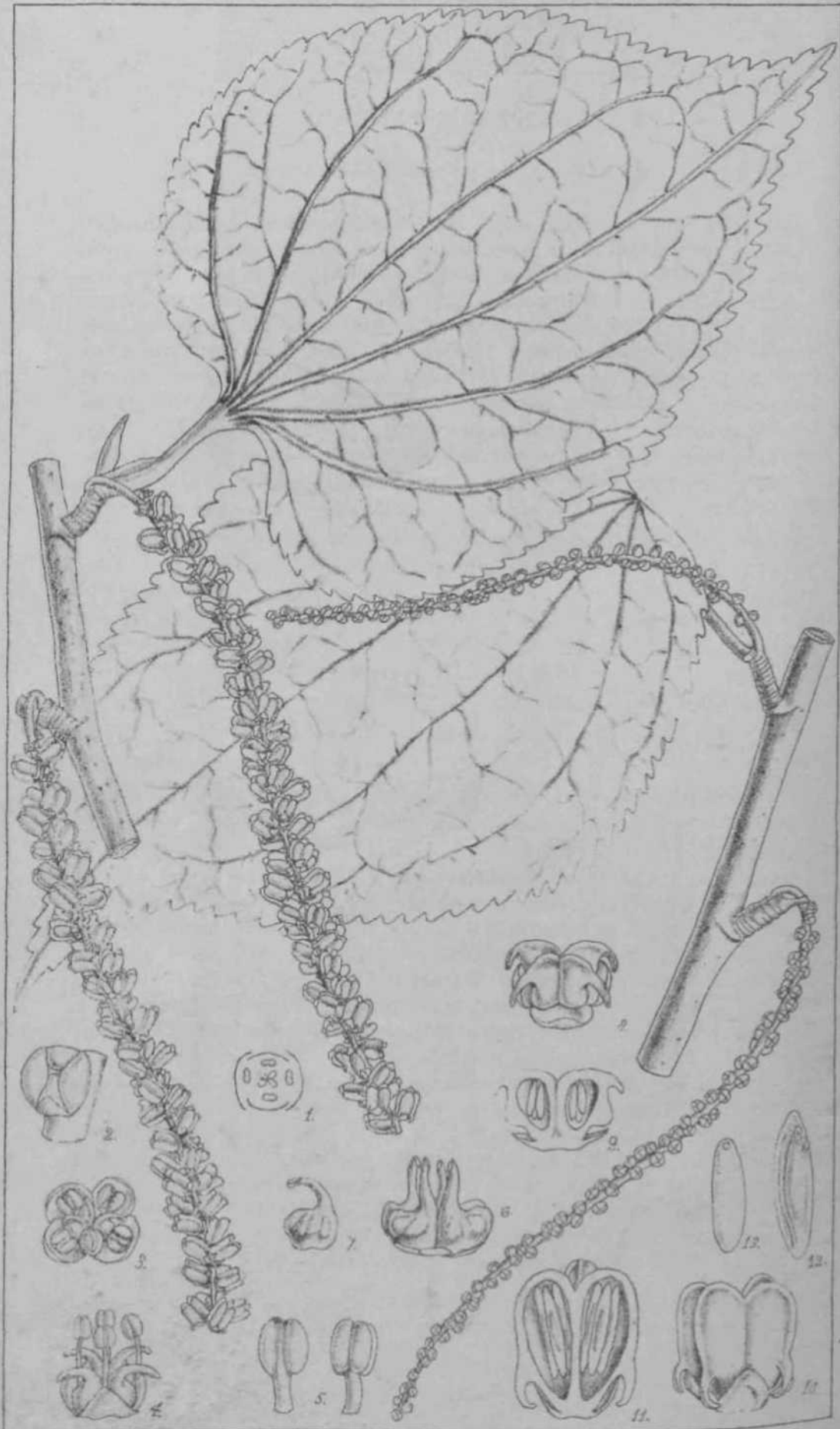
P. parviflora, Boole, f. pseudobulbis simplicibus rhizomati valido vaginato foliis ellipticis lanceolatis, racemo de lanceolata, sepalis late ovatis subacatis 1-nerviis, labello cymbiformi carnosissimo rotundatis, disco apicem versus callis 2 magnis mstructo.

HAB. Perak, summit of Gunong Batu Pateh, alt. 6,000 ft., Fray.

Bk&uma flexuosum, ut videtur, vaginis membrunaceis; pseudobulbx 1-2-pollicares, *Folia* li-3 poll, longa, aouta, tenmter oqnao*, racemo 3-4-pollicaris; flores palhde rosei; columna fere orbicularis, apice sub-3-dentata ellipsoidea.

The flowers resemble those of the Javan *P. carnea*, but the pseudo-bulbs and lip are very different.—J. D. HOOKER.

Fig. 1. Flower. 2. Borland 3. lateral sepal. *. Petal. 5. Lip and column, 6. Lip. All enlarged.



M.S.3e! et l'ch.

Tetracentron sinense, Oil^v.

TETRACENTRON SINENSE, Oliv.

MAGNOLIACEÆ. Tribe TROCHODENDEÆ.

Tetracentron, Oliv. {gen. nov.}. Flares sessiles spicati herrnapluuum.
Periavthium 4-phyllum, segmentis ovato-rotundatis obtusis per paria
 aecusaatis, lateralibus aestivatione exterioribus, imbricatis. *Stamina*
 •I segmentis perianthii opposita inter lobos carnosulos e baai carpel-
 lonim horizontaliter productos inserta: anthers basifixre bilocnlares
 longitudinaliter dehiscentes. *Garpella* 4 inferne' coalita staminibus
 alterna; styli liberi snbulati, alabastro centrales erecti, mox recurvi
 demum temp, fructifero basilares; ovula ad suturam inserta demum
 pendnja pauca (circ. 4) oblonga anatropa. *Semina* linearia v. oblonga
 albuminosa, embryo minutissimus; testa lax a cellularie, raphe **tata**,
 foramen fungosum.—Arbor 20-50-pedalis, glaberrima. Folia alterna
 ^ettofaia ^ ovato-elliptica breviter acwninata basi obtusa v. subcordata
 ^ (^nervia obtuse serrata, extipulata (v. stipulu anrjusils ad basin peHoU
 vrrunuuu4u—i omnino adnatis), SpicsB multijlorce breviter pedunculhvy,
 fructiferae smpwis decurvcce, in ramuiis brevibus lateralibus **monophyllis**
 perulatis oriundtB. Fl ores parvi, ftavescentes, bracteati; bractea viinuta
 rotundata ^ coriacea alabastro niulto breoior, Frnctus colam.toiris tetra.
 gonus, u7m. degareitus, ban rib ttylo» persistentes baaUcavs4t-eaicwratus.
A- siaense, Oik. (sp, unica).

HAB China, prov. Hupeh, districts Chiensih and Fang, Dr. A.
 i (Noa. 6243, 6090, 7417).

Folia 4-5 poll, longa, 2£-3 (-ty) poll, lata; petiolns ^-1 poll, longus;
 ferula? lanceolatte coriac^ffi ^-^ poll, longffl. *Spicm* 2H poll, longs.
 M poll, lougus.

•m Pl the TMny plants of singular botanical interest for which we are
 I tl v to ^"" ^enr y» tm*8 ia certainly one of the most interestintr.
 ^t»nk I am right in referring it to the Tribe *Trochodtmtea*, which
 s w includes four genera, monotypic or at most with two or three
 pecies. In habit this plant is nearest to *CercMiphyUwm* of **M. Mari-**
whS 2* a g^eciB g with it in the curious short pernlate lateral **ramnli**
 en appear annually to produce each one I -leaf and an in-
 escence, m **OerridvphyUum** a single flower, in T- a mm*-
 But M ^ K H * P y y probably be regarded as stipular.
 The behaviour of the carpels in *Tetracentron* is somewhat similar to
 strongly re cu ved st les > which in *Tetracentron*, owing to the excessive
 "bliou t i deTeIn I ill ^ t of the enlarging ovary, become dorsal and
 final y basal. The obtuse teeth of the leaves are glandular, as they
 appe a* to be in the other members of this Tribe.—D. OLIVER.

Fig. 1. 1. Branch with leaves and flowers. 2. Bud. 3. Sanifl lrtLi <D. 4. Flower. 5. SUmen,
 back ont. 8. Pistil. 7. 8-headed carpel. 8. Pistil, more advanced. 9. Long
 "linal section of same. 10. Longitudinal sectOD. 12. Seed.
 13. Same, testa removed. Bntaned.



M.S. del. et. lith.

Toricellia angulata, Oliv^v

PLATE 1893.

TORICELLIA ANGULATA, *Oliv.*

CORNACEJE (*genus anomalum*).

T. angulata, *Oliv.* (*sp. nov.*) ; foliis breviter palmatim 5-7-lobatis lobis caspidatis integris sinuatisve, basi truncatis subcordatisve.

HAB. China, prov. Szechwan, So. Wushan, Dr. A. Henry (No. 5524).

Arbor 50-pedalis. *Emuli* crassiusculi teretes, ultimi primum puberuli. *Folia* 3-4 poll, longa atque lata, membranacea parce puberula glabrata; petioli $1\frac{1}{2}$ -3 poll. longi, basi semiamplexicaules dilatati. *Panicula* (fl. ♀) terminalis multiflora puberula. *Bractee* lanceolatae acuminatae. *Pedicelli* flore saepius breviores. *Styli* saepius 3 lineari-oblongi crassiusculi papilloso. *Ovarium* 3-loculare localis 2 vacuis; ovulum solitarium pendulum.

A genus previously known to us only from the Himalaya. Staminate flowers we have not seen.—D. OLIVER.

Fig. 1. Pistillate flower. 2. Longitudinal section of same. 3, 4, 5. Transverse sections of ovary at different levels. *Enlarged.*



MZ-W. et Lich.

Cercis racemosa, Oliv.

PLAra 1894.

CEHCIS RACEMOSA, Oliv.

LEGUMINOSÆ. Tribe MAUINIIX.

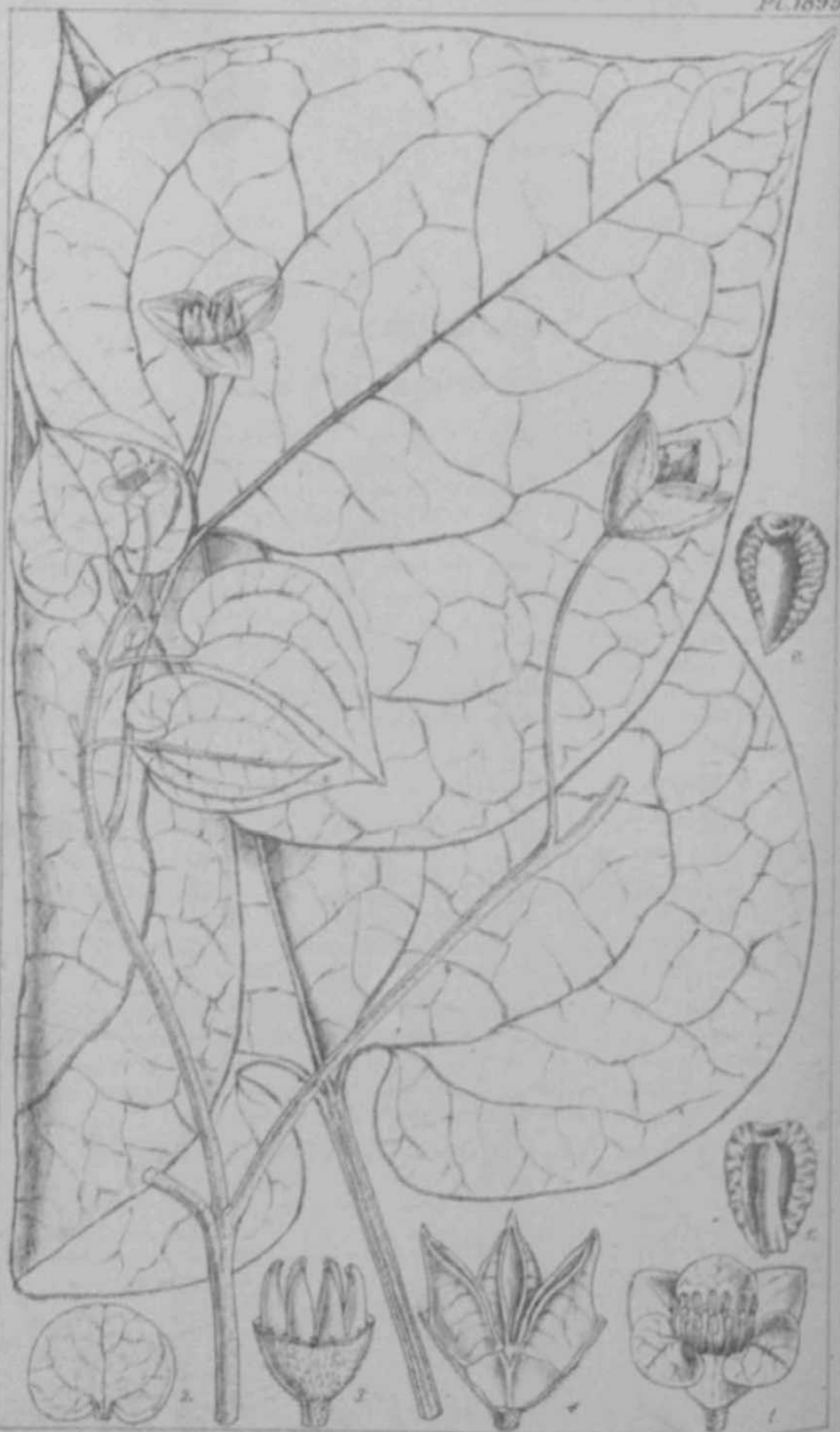
C. racemosa, *OUt.* (*sp. nov.*); foliis forrafbtu v. bui braicatis
breviter cuspidatis, supra glabris subtus pilosulis, floribus
racemosis, racemis multifloris (10-30) in ramos annotinos dispositis,
pedicellis gracilibus divergentibus flore longioribus legamine (imma-
tur.) lineari-oblongo brevissimi g, g
angustissime alata. me Ittjritato glabro ttutuni BU perioro

HAB. China, prov. Siechwan, district Wusliar., 1V. it HMty (No. 5602).

^rfttwc^a 20-podalis. BCMHIU hornotini piloaulj. Folia 2-4 poll.
on™ L-4 poll, lata; petiolus f-1j poll, bngis; stipulae oblongae
dec. Jwotpoll. lngæ. Racem/2-4pofl. longi. Bractea cymbiformes
par vfflglabrat.: (,,),I(P. P<iiarfK|4poU.longi, /fiores rosei. Legu-
men 8-4 poll, longum, \ poll latum.

A BMO(s whic i, it Wtml() ^ very d^inj.i., (n itHI, oduce into cnJtiva-
tion, Km » uI » r in *''• ganai from its loosely racemose infloreBconce.—
D. IVER.

Fig. 1. Flower, petals removed >L Potal8_ 3, Longitudinal action of ovary and calyx. Enlarged.



M.S. del. et lith.

Saruma Henryi, Oliv.

PLATE 1 S96.

SARUMA AIT K MI VI, Oliv.

AfclKTDLOCBUCUE. Tribe ASA RI*.

Saruma, Oliv. (*gen. nov.*). *Calyx* basi carpellis adnatus, limbo trilobo lobis ovato-rotundatis. *Petala* 3 lobis calycinis alterna tempore florifero æquilonga rotundato-reniformia brevissime et latiuscule unguiculata. *Stamina* 12 stylis æquilonga; anthera connectivo crassiusculo loculis extrorsum adnato, loculis 2 parallelis longitudinaliter introrsum dehiscens. *Carpellis* 6 dorso inferne calyci adnatis, inter se fere a basi liberis. *Semina* Asari.—Herba perennis caulescens 2-3-pedalis, caule puberulo v. parce pilosulo. Folia cordiformia membranacea basi sinu latiusculo, apice breviter acuminata. Flores solitarii pedunculati terminales folio breviores flavescens. Carpella fructifera ovata folliculatim dehiscens. Semina ovoidea cymbiformia, testa crustacea dorso transverse rugosa; embryo minutissimus ovoideus bifidus.

8. **Henryi**, (H'p. ^*sp. unica*).

China, prov. Hupoh, district Fang, Dr. A. Henry (Nos. 6676, 6683).

Folia 3-5½ poll. longa, 3½-6 poll. lata, lobis basalibus rotundatis, quinque plus minus puberula v. supra glabra. Pedunculi 1½-2 poll. longi. Calyx hemisphæricus extus puberulus, tempore florifero ½ poll. diam.; fructifero ¾ poll. diam. Petala ¼ poll. lata.

A most interesting addition to the Order, remarkable in the presence of distinct petals¹ and in the follicular dehiscence of the carpels, which are free *inter se* from near the base, though adhering more or less dorsally to the calyx-tube. The seeds, with their characteristic raphe sheathed in their concave face, are as in *Asarum*.

Fig. 1. Flower. 2. Petal. 3. Calyx-tube mid-veins. 4. Section of fruit. 5 and 6. Seed. E*1, tr, jtd.

¹ Count Solms has kindly called my attention to Prof. Alex. Braun's discovery of rudimentary subulate petals, alternating with the calyx-lobes in *Asarum canadense* (noted by M. Duchartre, DC. *Prodr.* [*Aristolochiaceæ*] xv. pt. i. p. 424).



M.S. del et lith

Acer Henryi, Pax.

PLATE 1896.

ACER HENRYI, Pax.

SAPINDACEJ. Tribe ACERINE2E.

Acer Henryi, Pax (*sp. nov.* ex affinitate *A. cissifolii*, C. Koch) ; arbor ramulis junioribus plus minus pilosis; foliis membranaceis opacis concoloribus subtus plus minus pilosis in nervorum axillis barbatis longe petiolatis trifoliatis; foliolis breviter petiolulatis oblongis acuminatis basi acutis integerrimis; petiolo foliolo medio subsequilongo adpresse piloso basi brevissime vaginato; inflorescentia foliis cosetanea in ramulis lateralibus subaphyllis terminali etiam fructifera adpresse pilosa spicata; floribus — ; disco extrastaminali crasso; ovario glaberrimo ; stylis liberis; fructu glaberrimo sessili loculis oblongis planis usque ad ascendentes, alis subduplo longioribus angulo recto minore divergentibus obtusis, medio latissimis, basin versus angustatis.

HAB. China, prov. Hupeh, Dr. A. Henry leg. (No. 5644 B !); prov. Szechwan, Dr. A. Henry leg. (No. 5644 !).

Arbor ad 10 m. alta ('tree 10 ft.,' 'tree 30 ft.'). *Petiulus* 6-7 cm. longus ; *petioluli* 1 cm. longi. *Foliola* inter se fere aequalia 6-7 cm. longa, 2-3 cm. lata. *Inflorescentia* 13-15 cm. longa. *Fructus* *loculus* 8 mm. fere longus, vix 5 mm. latus; *ala* 1-2 cm. longa, 8-10 mm. lata; fructus juvenilis coccineus.

Allied to *A. cissifolium*, C. Koch, from which it differs by the pubescent and entire leaflets, and the spicate not racemose flowers.—
F. PAX.

Fig. 1. A young fruit showing the two free styles. *Enlarged.*



MS del. et lith.

Acer tenellum, Pax.

PLATE 1897.

ACER TBNBLLUM, Pax.

SAPINDACEJB. Tribe ACERINEJB.

Acer tenellum, Pax (sp. nov. ex affin. *A. Lobelii*, Ten.); arbor glaberrima cortice ramulorum cinereo; foliis tenuiter membrunaceis supra opacis subtus nitidulis utrinque glaberrima graciliter petiolatis basi cordatis 5-nerviis trilobis, lobis lateralibus brevibus acutis vel obtusis, terminali producto acuminato, omnibus integerrimis, sinuosis inter lobos obtusissimis; foliis indivisis cordatis acuminatis hinc inde inter triloba immixtis; petiolo glaberrimo gracillimo laminam roquante vel paullo superante; inflorescentia in ramulis 2-4-foliatis terminali glaberrima corymbosa, pedunculis filitrbmibus; floribus luteis andromonoicis mediocribus; sepalis et petalis 5 Hubuoquilongm glaberrimis obtusissimis, illis obovato-oblongis, his spatulatis; staminibus 8-10 etiam in floribus masculis petalis 8 subaquilongis por^ynis, filamentis glaberrimis disco medio crasso insertis; ovario glaberrimo; stylis basi connatis superne liberis recurvis; fructu (juvoniili; aiiis angulo obtusissimo divergentibus loculos 2-3-plo superantibus.

HAB. China, prov. Szechwan, Dr. A. Henry leg. (No. 5612!).

Arbor 7 m. alt. ('12 ft. tree'). Folia 5-6 cm. longa et late; lobi laterales 1-1.5 cm. longi, terminalis 2-3 cm. longus. Inflorescentia 0.5-1 cm. longus.

A very distinct, most interesting species, which must be placed near *A. Lobelii*, the thin texture of the leaves, which are trilobed or in part undivided and wholly entire, distinguish it from every species of the suction *Platanoidea*.—F. PAX.

Fig. 1. Stominate flower. 2. Section of «... 3. Stamen. 4. Petal to flower. Enlarged.

The small but very interesting collection of 'A**' made by Dr. A. Henry in Central China, in the provinces of Hapeh and Szechwan, contains several new species besides the foregoing, which may be here described.

1. *A. sinense*, Pax (sp. nov. ex affinitate *A. Campbelli*, Hook. f. et Thorns.); arbor ramulis glaberrimis; foliis coriaceis supra nitidis subtus opacis polliduribus glaucescentibus tenuibus, modice petiolatis latioribus quam longis basi apertae cordate obovatis, lobis ex ovato-acuminatis apicem versus argute fimbriatis, sinuosis inter lobos acutis; petiolo limbo breviter basi nervedo glaberrimo; inflorescentia foliis comitanea vel postea in ramulis 2-foliatis terminali glaberrima composita-paniculata;

sepalis et petalis in flore deflorato reflexis, sepalis triangulari-oblongis, petalis oblongis; disco extrastaminali crasso; stylo elongato; stigmatibus 2 stylo multo brevioribus reflexo-patentibus; fructu juvenili parcissime piloso, alis ocellatis angulo fere recto divergentibus.

HAB. China, prov. Hupeh, leg. *Dr. A. Henry* (No. 5831!)

Folia 9-11 cm. fere lata, 6-8 cm. longa. *Petiolus* 3-4 cm. longus. *Stylus* 2 mm. fere longus.

The allied *A. Cahipbellii*, Hook. f. et Thorns., differs in the caudate leaves green on both sides, the shorter style, and the orbicular-ovate plicate petals.

2. **A. Oliverianum**, *Pax* (sp. nov. intermedia fere inter *Spicata* et *Palmata*); arbor ramulis glaberrimis; foliis membranaceis utrinque praesertim subtus nitidis concoloribus glaberrimis graciliter petiolatis eaeque longis ac latis basi truncatis 5-lobis, lobis triangularibus acuminatis toto margine argute serrulatis, sinus inter lobos acutis; petiolo limbo paullo brevior glaberrimo; inflorescentia foliis coactanea vel posteriore in ramulis 2-foliatis terminali fructifera glaberrima corymbosa; disco extrastaminali incrassato; fructu glaberrimo, loculis globosis prominenter nervosis, alis horizontalibus vel angulo obtusissimo divergentibus obtusis medio latissimis; embryo diploleobio.

HAB. China, prov. Hupeh, leg. *Dr. A. Henry* (No. 6512!)

Arbor 5-metralis; ('15 ft. tree'). *Folia* 7-9 cm. lata et longa; *petiolus* 5-6 cm. longus, gracillimus. *Fructus* locus 5 mm. tere longus, ala 2*5 cm. longa, 10-12 mm. late.

A very pretty species, recalling in habit the section *Palmata*, but distinct in the 5-lobed, not 7-11-lobed, leaves, and much larger fruits; it must be placed in the section *Spicata*, near *A. caudatum*, Wall., from which it may be easily distinguished by the leaves, inflorescence, and fruit.

3. **A. oblongum**, *Wall.*; *Pax, JEJngl. Jahrb.* vii. 208.

HAB. China, prov. Hupeh, leg. *Dr. A. Henry* (No. 6392!)

4. **A. oblongum**, *Wall.*, **var. concolor**, *Pax* (var. nov.); foliis subtus viridibus opacis nee glaucescentibus a typo difert.

HAB. China, prov. Hupeh, leg. *Dr. A. Henry* (No. 7677 !)

5. **A. tovigatum**, *Wall.*; *Pax, Engl. Jahrb.* vii. 209.

HAB. China, prov. Szechwan, leg. *Dr. A. Henry* (No. 5538 !)

6. **A. cordatum**, *Pax* (sp. nov. ex affin. *A. Icevigati*, *Wall.*); arbor glaberrima cortice ramulorum cinereo; foliis chartaceis vel subcoriaceis utrinque nitidis (exsiccatis) brunneo-viridibus glaberrimis breviter petiolatis longioribus quam latis oblongis vel obovatis basi cordatis trinerviis apicem versus acuminatis minute serrulatis; petiolo glaberrimo limbo multoties brevior; inflorescentia in ramulis 2-foliatis

terminali fructifera glaberrima corymbosa; floribus——; disco ex*
trastaminali; fructu glaberrimo loculis globosis non carinatis, alis
angulo obtuso divergentibus obtusis medio latissimis extrorsum falcatis.

HAB. China, prov. Hupeh, leg. *Dr. A. Henry* (No. 7721!)

Arbor 5 m. alta (' tree, 15ft.¹). *Folia* 5-8 cm. longa, 2f-4 cm. lata.
Petiohi 8 **11-13 mm.** Jongus. *Fruttus loculus* 4 mm. diam. *Samaia*
2 cm. longa, 1 cm. lata.

Near *A. Icevigatum*, Wall., but distinct by the, cordate less reticulate
leaves, and the wings of the fruit diverging under an open, not acute
angle.

7. A. Davidi, *Franch.*; *Pax, Engl. Jahrb.* vii. 216.

HAB. China, prov. Hupeh, leg. *Dr. A. Henry* (No. 6910 !)

8. A. Davidi, *Franch.*, var. **glabrescens**, *Pax* (var. nov.); foliis fructi-
basque adultis glabrescentibus, junioribus lana rula adspersis.

HAB. China, prov. Szechwan, leg. *Dr. A. Henry* (No. 7085 !)

Similar to *A. Hodkeri*, Miq., from which it may be distinguished by
the crenulate-dentate leaves and the larger fruits.

9. A. Lobelii, *Ten.*, subsp. *isetum* (C. A. Mey.), *Pax*, var. **indicum**;
Pax, Engl. Jahrb. vii. 237.

HAB. China, prov. Hupeh, leg. *Dr. A. Henry* (No. 5347!
5480(?))

10. A. erosum, *Pax* (spec. nov. ex aflBnitate *A. rufinervis*, Sieb. et
Zucc.) ; arbor foliis subcoriaceis opacis supra glaberrimis subtus secus
nervos et in nervorum axillis rufo-tomentosis longe petiolatis basi
cordatis 5-nerviis 5-lobis, lobis lateralibus terminali minoribus, infimis
quam intermedia minoribus, terminali et intermediis subcordato
acuminatis, omnibus inaequaliter satis grosse serrato-dentatis, dentibus
cuspidatis; petiolo glaberrimo oraasiuscuJo laminain superante; in-
florescentia in ramulis foliatis terminali (fructifera) subglabra nwiemosa;
flonbiis——; fructibus breviter pedicellJatis, pedicellis parce pilosis ;
loculis glabris globosis adscendentibus, alis aogulo recto minore diver-
gentibus, medio latissimis obtusis quam loculi duplo longioribus paullo
extrorsum falcatis.

HAB. China, prov. Hupeh, leg. *Dr. A. Henry* (No. 6937!)

Arbor 4-metralis (' tree, 12ft.¹). *Folia* 7-9 cm. lata, 7-8 cm. longa.
Petiolus 8-10 cm. longus. *Loculus J'ructus* 6 mm. longus, *ala* cum
localo 2 cm. longa, 1 cm. lata.

This species is nearly allied to *A. rufinerve*, of Japan, but may be
hardly considered as a variety of this species; the firm texture of the
distinctly 5-lobed erose leaves, which on the nerves of the lower
surface are tomentose, and the petioles, much longer than the leaves,
distinguish the new species from *A. rufinerve*; the wings surpass the

cell of the fruit in length 4-5 times in *A* rufinerve*, once or twice in *A. erosum*.

11. *A. Maximowiczii*, Pax (spec. nov. ex affinitate *A. Tschonoskii*, Maxim.); arbor ramulis glaberrimis cortice ramulorum brunneo; foliis chartaceis -opacis supra glaberrimis subtus tantum in nervorum axillis barbatis ceterum glaberrimis longe petiolatis basi cordatis vel truncatis vel rotundatis 5-nerviis 5-lobis, lobo medio valde producto, lateralibus et infimis multo minoribus, omnibus acuminatis vel cordato-acuminatis argute duplicato-serratis subincisis; petiolo glaberrimo laminam aequante vel superante; inflorescentia in ramulis 2-foliatis terminali glaberrima simpliciter racemosa multiflora; floribus—; fructibus breviter pedicellatis glaberrimis, loculis globosis horizontalibus, alis quam loculi triplo longioribus angulo obtusissimo divergentibus fere subhorizontalibus obtusis medio latissimis basin versus paullo angustatis; embryo pleurorhizo.

HAB. China, prov. Hupeh, leg. Dr. A. Henry (No. 6857! et 6857A!).

Arbor 3-metralis ('tree, 10ft.'). *Folia* 5-9 cm. longa, 4-9 cm. lata. *Petiolus* 3-10 cm. longus. *Fructus* *loculus* vix 5-6 mm. longus, *ala* cum *loculo* 2 cm. longa, 5-6 mm. lata.

The species just described is to be placed in the neighbourhood of *A. micranthum*, Sieb. et Zucc. and *A. Tschonoskii*, Maxim., from which it can hardly be distinguished without seeing flowers or fruits. *A. micranthum* has much smaller fruits; the cell reaches half the length of the wing. *A. Tschonoskii*, next allied to our species, has leaves which on the nerves of the lower surface and on the petiole are pubescent; the raceme, moreover, only consists of 6-10 flowers. Also no species of Japan hitherto has been found in the southern parts of the Chinese empire.

12. *A. Franoheti*, Pax (spec. nov. ex affinitate *A. villosi*, Wall.); arbor foliis chartaceis opacis vel supra paullulo lucidulis supra glaberrimis subtus et adultis tomentosissimis petiolatis basi rotundato-cordatis 5-nerviis 3-lobis, lobis triangularibus acutis remote serratis; petiolo crassiusculo leviter pubescente lamina brevior; inflorescentia in ramulis vetustioribus laterali simplici corymboso-racemosa pauciflora j[^]floribus—; fructibus inajusculis, loculis horizontalibus globosis elevato-reticulato-cristatis pilosis, alis angulo fere recto divergentibus rectis obtusis medio latissimis basin versus parum angustatis; embryo diploleobio.

HAB. China, prov. Hupeh, leg. Dr. A. Henry (No. 6456!).

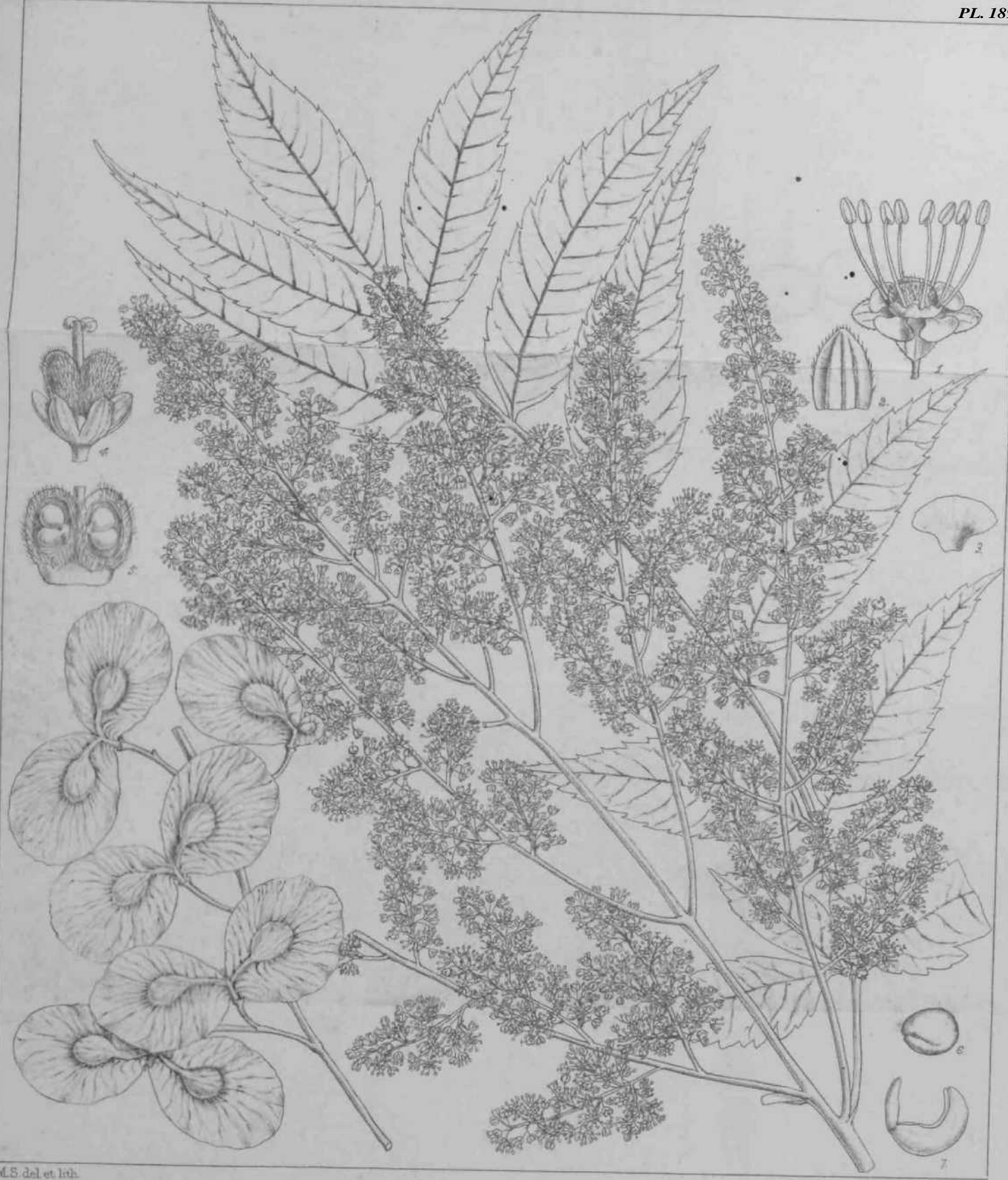
Arbor ad 4 m. ('tree, 12ft.') alta. *Folia* 11-12 cm. lata et longa. *Petiolus* ad 6 cm. longus. *Inflorescentia* subsexflora. *Loculus* *fructus* 12 mm. fere diam., *ala* cum *loculo* 5 cm. longa, 18 mm. lata.

Nearly allied to *A. villosum*, Wall., but easily distinguished from it by the trilobed leaves, the small teeth on the leaf-margin, the simple inflorescence, &c.

A. tetramerum, Pax (spec. nov. ex affinitate *A. arguti*, Maxim.); aubor foliis juvenilibus (vix e gemma brtis) subtus incanis rugosis plicatis brevissime petiolatis; perulis 4 glaberrimis, exterioribus coccineis, interioribus luteo-viridibus elongatis lanceolatis obtusis apiculatis; inflorescentiis umbeliato-fasciculatis 5-6-floris ortis e gemmis proprius 4-perulatis aphyllis secus ramulos breves laterales (rami elongati) apice folia producentes sessilibus; floribus mediocribus cum folijs nascentibus tetrameris Intescentibus breviter pedicellatis cum pedicellis glaberrimis, dioicis; sepalis in flore masculo orbiculari-ovatis obtusissimis; petalis ssepe deficientibus quam sepala brevioribus spathulatis obtusis; staminibus 4 episepalis' inclusis, filamentis niformibus brevibus; disco glandulis 4 alternisepalis intra filamentorum basin et prsertim intra stamina evolutis, glaberrimis; pistillodio in flore masculo nullo.

HAB. China, prov. Hupeh, leg. Dr. A. Henry (No. 5313 !).

This is the most interesting species of *Acer* Dr. Henry collected in Central China; and although leaves and fruits are unknown, it must be considered as a very distinct species. It has some affinities with *A. wrgutum*, Maxim.; in both the flowers are dioecious, and the stamens in number equal to the sepals and opposite them; in both the inflorescence is lateral on short branchlets of an elongate branch. But there is no possibility of uniting the two species into one; for in *A. tetramerum* the flowers are tetramerous and dioecious, in *A. "WTMTM* pentamerous and androdicecious; in the first the TM * « « » f » fasciculate, in the last racemose; the young leaves of *A. argutum* are glabrescent, those of *A. tetramerum* densely pubescent.—a. TAX.



M.S. del et lith.

Dipteronia sinensis, Oliv.

PLATE 1898.

DIPTERONIA SINENSIS, Oliv.

SAPINDACEÆ. Tribe ACERISEJÆ.

Dipteronia, Oliv. {gen. nov.}. Flores polygami. Calyx saepius 5-partitus segmentis ovatis v. ellipticis brevibus sestivatione apertis. Petala cum laciniis calycinis alterna calyce subasquiflonga transverse oblonga v. rotundata brevissime et late unguiculata. Discus annularis lobatus. Fl. 8 : Stamina saepius 8; filamenta glabra calyce 3-4-plo longiora; antherse mediofixae ellipticæ biloculares longitudinaliter dehiscentes. Rudimentum ovarii hirsutum. Fl. 9 : Ovarium lateraliter compressum bilobum hirsutum biloculare; ovula oblique geminata; stylus apice breviter bifidus lobis stigmatiferis recurvis. Carpella fructifera divergentia basi tantum connata, ala latiuscula membranacea circumdata. Semina solitaria ezalbuminosa; embryo incurvus, cotyledonibus planis falcatis radícula longiuscula longioribus.—Arbor 20-pedalis. Folia opposita imparipinnata, foliolis lateralibus petiolulatis v. subsessilibus 4t-7-jugis lanceolatis v. ovato-lanceolatis acuminatis acute et grosse serratis glabris v. utrinque parce pilosulis. Flores paniculati, panicidis terminalibus amplis multifloris ramosis glabris; bracteis patois oblongis ciliatis caducis.

D. sinensis, Oliv. (sp. unicâ).

HAB. China, prov. Hupeh, districts Hsingshan, Chienshih, and Patung; prov. Szechwan, So. Wushan, Dr. A. Henry (Nob. 5696, 6505, 7259).

Folia f-1½ ped. longa, petiolata; foliola membranacea 3-5 poll, longa, 1-2 poll. lata. Flores floescentes parvi pedicellati, pedicelli graciles calyce saepius 3-6-plo longiores; stamioa longe exserta. Carpella fructifera compressa oblique obovata, circ. 1 poll, longa, 1-f poll, lata.—D. OLIVER.

Fig. 1. Staminate flower. 2. Sepal. 3. Petal. 4. Pistillate flower. 5. Longitudinal section of ovary. 6. Seed. 7. Embryo. Enlarged.



M.S. del. et lith.

Erythrospermiia hypoleucura, Ohv.

PLATE 1899.

ERYTHROSPERMUM HYPOLEUCUM, *Oliv.*

BixiNE.fi. Tribe FLACOURTIE-E.

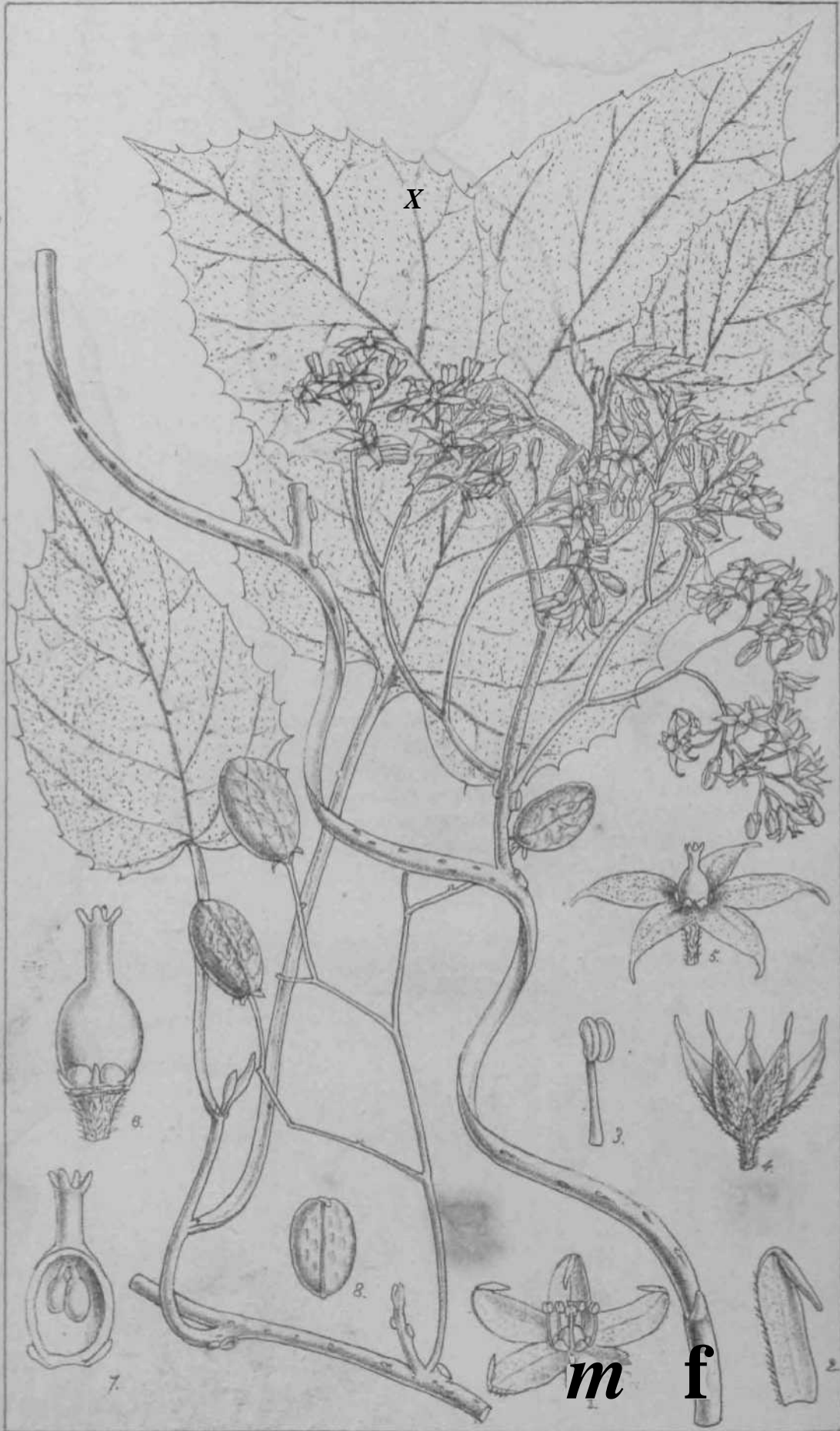
E. hypolencum, *Oliv.* (*sp. nov.*) ; giaberrima, foliis ellipticis breviter acuminatis apicem versus obscure serratis, basi rotundatis cuneatisve, subtus albido-glaucis tenuiter coriaceis petiolatis, floribus in racemis terminalibus breviter pedunculatis dispositis, bracteis anguste linearibus deciduis, capsula globosa.

HAB. China, prov. Szechwan, Wushan ; prov. Hupeh, Patung ; and prov. Hunan, Shih-m6n, *Dr. A. Henry* (Nos. 5877, 5887A, 7553).

Folia 3-4J poll, longa, 1i-2 poll, lata ; petiolus J-| poll, longus. *Bacemi* 3-4 poll, longi, aepius 8-12-flori. *Capsules* ^-^ poll. diam.

Another genus new to the Chinese Flora. Distinguished at first sight by the leaves glaucous-white beneath.—D. OLIVER.

Fig. 1. Flower. 2. Same, calyx and petals removed. 3. Fetal. 4. Stamen, back and front. 5. Seed and arillus. 6. Fruit after dehiscence. 7. Seed. 8. Embryo. *Enlarged.*



M.S.asLetlith

Naitsiatum sinense, Oliv.

PLATE 1900.

NATSIATUM SINENSE, Oliv.

OLACNEB. Tribe PHTTOCRENEA.

N. sinense, Oliv (*sp. nov.*); scandens, foliis cordiformibus apiculatis repando-dentatis pilosulis strigosive membranaceis longiuscule petiolatis, floribus in paniculis laxis ssepe ex axillis foliorum delapsorum dispositis; pedicellia flore seapius longioribus.

HAD. China, prov. Hupeh, So. Patung and Chiensih; prov Szechwan, So. Wushan, Dr. A. Henry (Nos. 5598, 7342).

Ramuli teretes novellis homo tin is appresse hirtis strigosive. *Folia* alterna exstipulata 2-4 poll. longa, 1-3 poll, lata; petiolus 1-3[^] poll, longus. *Flores* viridescentes 1-1.5 poll. diam. *Calyx* parvus 5-pdus lobis camosulis corolla multo brevior. *Petala* oblongo-lanceolata apice uncinulato-acuminata, basi coalita, intus glabra y. sursum puberula, extas parce strigillosa. *Stamina* 5 petala altera libera, squamulis 5 crassiusculis alterna; filamenta glabra corolla breviora; antherae parvae ellipticae biloculares inappendiculatee. *Ovarium* parce strigosum 1-localare; ovula 2 pendula (1 abortivum). *Fructus* compressus monospermus ellipticus crustaceus, 1 poll, longus. *Semen* albuminosum, cotyledonibus latis planis.

The ovary of the staminate flowers contains geminate ovules, and possibly they may sometimes mature, but it is not improbable that in general the plant is functionally dioecious.

The only species of the genus previously known is the Himalayan *N. herpeticum*, Ham., in which the flowers are in narrow elongate racemes.—D. OLIVER.

Fig. 1. Flower. 2. Petal. 3. Stamen. 4. Pistillate flower. 5. Same laid open. 6. Pistil and glands of disk. 7. Longitudinal section of ovary. 8. Seed. Excepting fig. 8, enlarged.