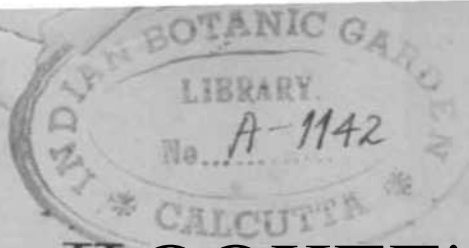


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HOOKEE'S ICONES PLANTARUM;

OB,

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

SKLEITED FROM THE

KEW HERBARIUM.

FOURTH SERIES.

EDITED FOR THE BENTHAM TRUSTEES BY

DANIEL OLIVER, F.R.S., F.L.S.

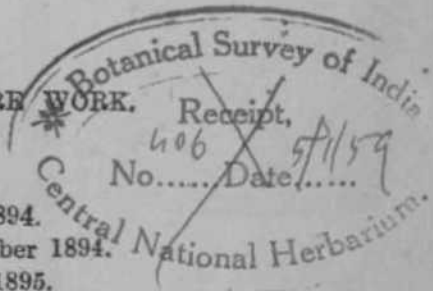
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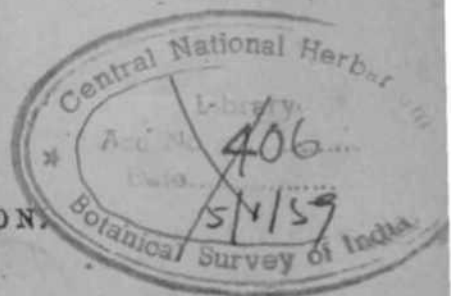
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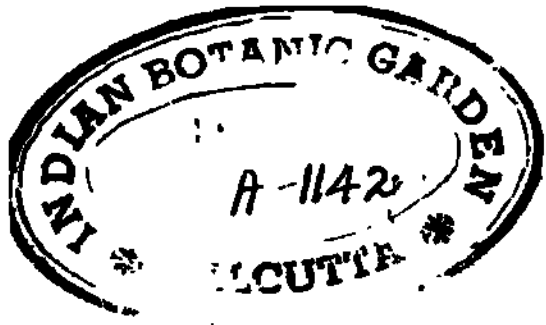
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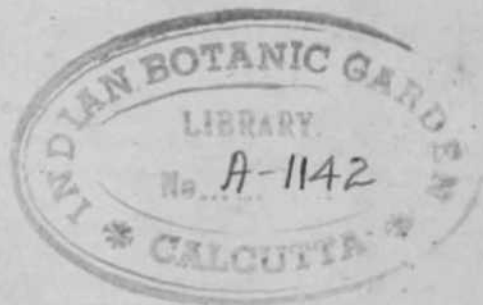
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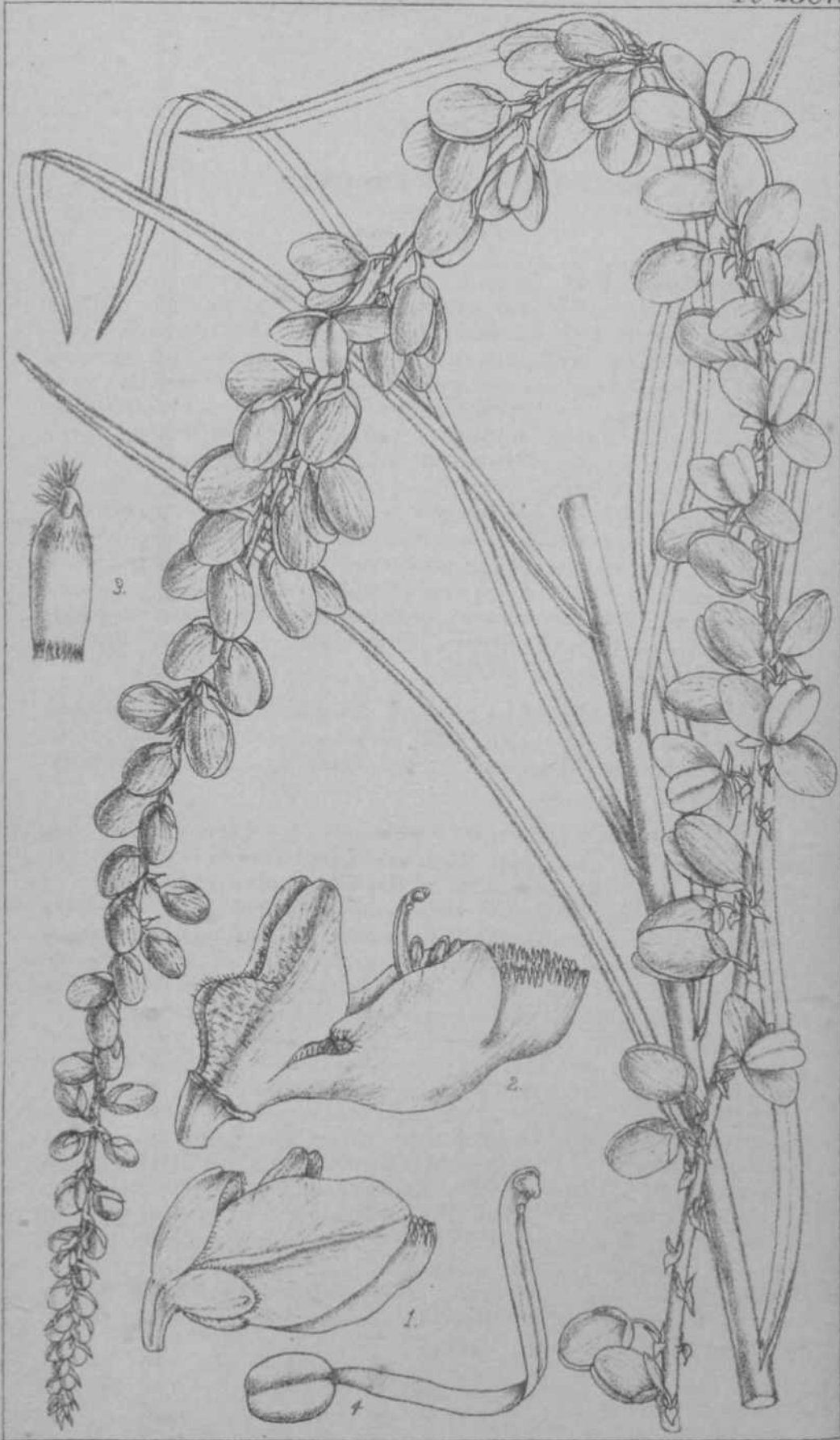


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M S del et lith.

Polydala oulyrai Hea, Heckel.

POLYGALA BUTYBACEA, *Ueckel*.

POLYGALACEÆ.

P. butyracea, *Heck*, in *Bull. Soc. Gdogr. Marseille*, 1889: '*Les Végétaux ntilés de VAfrique tropicale*;' frutex pluripedalis caulibus elongatis virgatis hirtis pilosulis, foliis elongato-linearibus apice attenuatis hirtis costa subtus prominente, racemis terminalibus elongatis niultifloris basi ssepe ranios 1-2 erectos enrítettibus, bracteis persistentibus ovatis acuminatis recurvis, bracteolis geminatis erectis lanceolatis oblongisve quam bractea brevioribus, pedicellis recurvis bractea paullo longioribus, sepalis anticis liberis late ellipticis obtusis concavis, sepalo postico majore cymbiformi apice dorsaliter minute apiculato, alis ovato-v. obovato-ellipticis obtusis integris reticulato-venosis, corollse carina fimbriato-cristata, petalis posticis carina paullo brevioribus apice obliquo obtusis v. obtusiusculis, ovario obovato-elliptico apice retuso glabro, styli marginibus integris, capsula elliptica emarginata angustissime marginata, seminibus oblongis conipressiusculis apicem basinque versus parce albido-pilosulis. *P. oleifera*, *Treub* in *Versl. 's Lands Plantentuin*, 1868, 46 (without description).

HAB. W. Tropical Africa; Sierra Leone, or the interior from thence, *Hart*, *Scott-Elliot* (No. 4072, cultivated near Kitchom); cultivated, S. Leone and indigenous in the Timne' and Koranko country, *fde* *Heckel* (*I.e.*).

Professor Heckel, to whom we are indebted for a specimen enabling us to identify his plant with other examples in the Kew Herbarium, all received since the publication of the first volume of the '*Flora of Tropical Africa*' was the first to describe and call attention, in the memoir cited above, to the economic value of this plant as affording in its seeds on pressure a fatty matter 'of excellent quality and of very agreeable taste.'¹ Professor Heckel says (*I.e.*) that the only *Poly gala* described at the date of his publication 'qui r6ponde de loin' to his plant is *P. rarifolia*, D.C. But this species belongs, as shown in the '*Flora of Tropical Africa*' i. 126, 132, to a different section of the genus in which the anterior sepals are connate. The species most nearly allied to it in the **Flora*' are *P. multijlora*, Poir., and *P. tenuicaulis*, Hook, f., or rather the plant of Barter's which I there called var. *longifolia* of that species, a plant which I observe M. Chodat, in his fine **Monographia Polygalacearum*' (Genève, 1893), regards as a distinct species which he calls *P. Baikiesi*. Professor Heckel gives the indigenous name of *P. butyracea* as *Maloukang* or *Ankalaki*. Mr. Scott-Elliot calls it *Black Beni-seed*. For a detailed account, and analysis, of the 'butter' afforded by the seeds, see Professor Heckel's memoir, which I only know as a separate issue, extracted from the '*Bulletin of the Geogr. Society of Marseilles*.'—D. OLIVER.

J^g- 1. Lateral view of flower. 2. Same, sepals removed. 3. Seed. 4. Pistil. *'AH mlnrged.*



M. S. del et lith.

Iris tloroidi, Baker

PLATE 2302.

IRIS THOROLDI, *Baker.*

IRIDACEJE. Tribe MOREJEEA:

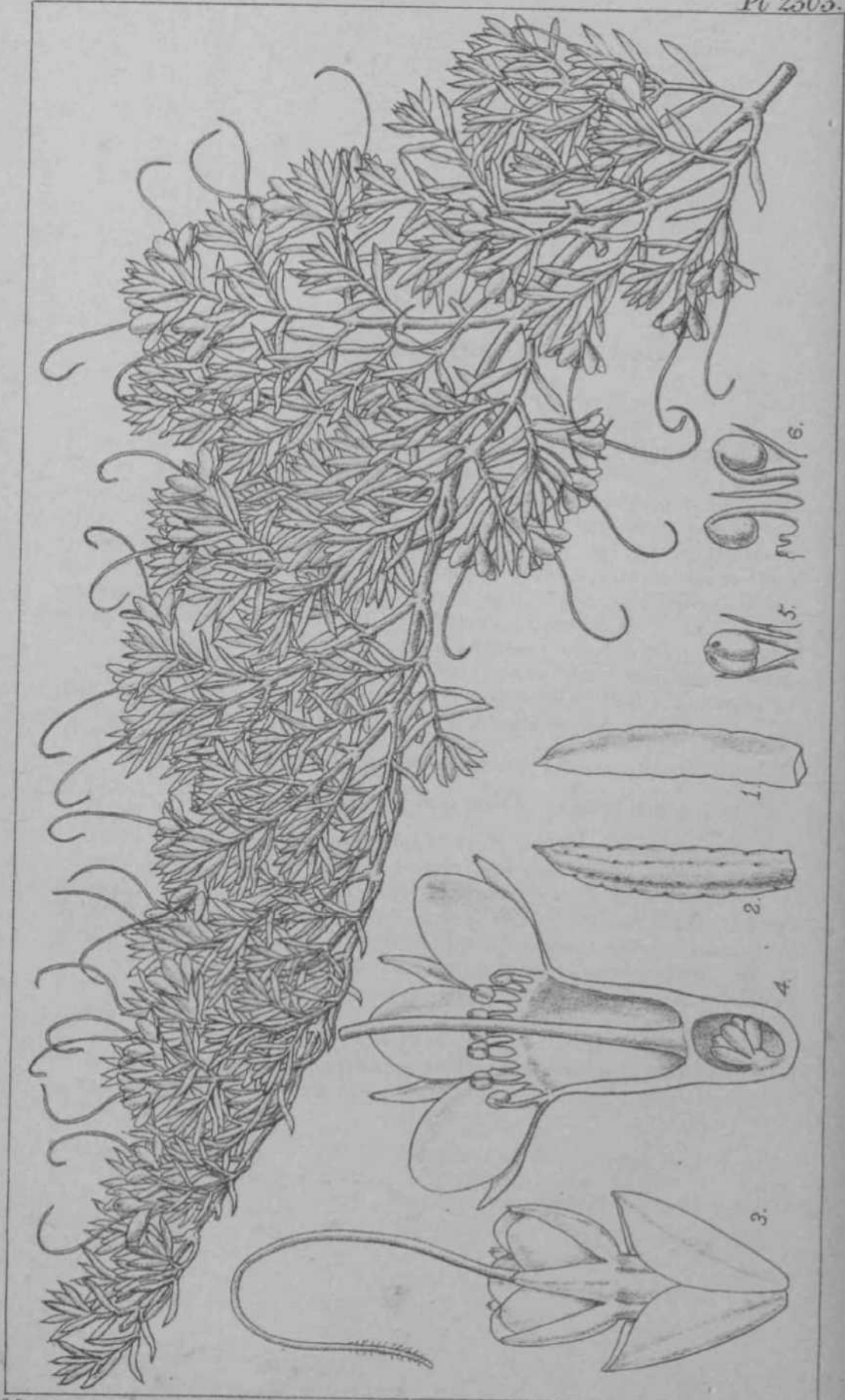
Iris v§ *Apogon*) *Thoroldi*, *Baker in Journ. Linn. Soc.* xxx. 168; *humilis*, fibris radicalibus numerosis graciliter cylindricis, caulibus brevissimis unitloris dense cespitosis foliorum vetustorum reliquiis copiosis recurvis crinitis, foliis anguste linearibus acutis rigidiusculis marginibus leviter incrassatis longitudinaliter 3-5-nervosis glabris v. minute papilloso-scaberulis, spathse valvis plus minus membranaceis, floribus pallide luteis, perianthii tubo sursum leviter dilatato, segmentis exterioribus obovatis plus minus barbatis in unguem adscendentem gradatim angustatis, segmentis interioribus oblanceolatis erectis exterioribus vix brevioribus.

HAB. Central Tibet, *W. W. Bockhill*, alt. 17,800 feet, *Surgeon-Capt. W. G. Thorold* (No. 116, *bis*).

Folia 2-3 poll, longa, 1-1½ lin. lata. *Perianthii* tubus 12-14 lin. longus, limbus 9-12 lin. longus.

Mr. Baker regards this as a well-marked novelty belonging¹ to the group of beardless *Iris*es with a produced perianth-tube. Its other near neighbours are *I. Bossii*, Baker, of Corea and Northern China, and *I. Ludvigi*, Maxim., a plant of the Altai mountains/—D. OLIVER.

Fig. 1. Anther, back and front. 2. Stigma and bipartite ciest. *Enlarged.*



M S. del et lith.

Darwinia Schuermanni, Benth.

PLATE 2303.

DARWINIA SCHUERMANNI, *Benth.*

MYRTACEÆ. Tribe CHAM[^]LAUCIEJE.

D. Schuermanni, *Benth. in Journ. Linn. Soc.* ix. 181 ; *Flora Australiensis*, iii. 14 ; decumbens, fruticulosa, ramosa, foliis linearibus mucronatis subsessilibus triquetris facie superiore subplana eglandulosa caeteris glanduloso-pustulatis, floribus folio duplo longioribus in axillis superioribus breviter pedicellatis solitariis, bracteolis geminis calycis basi insertis rotundatis apiculatis conduplicatis tubum calycis glabrum valide 5-costatum aequantibus lobis calycinis lanceolatis acutis petalis late ellipticis v. obovato-rotundatis subsequilongis, filamentis apice incurvis corolla dimidio brevioribus, staminibus subulatis, ovulis c. 6-8 prope basin cavitatis ovarii oblique insertis, stylo longe exserto. *Schuermannia homoranthoides*, *F. v. Muell. in Linnaea*[^] xxv. (1852) 387 ; *Genethyllis Schuermanni*, *F. v. Muell. Frag.* i. 12.

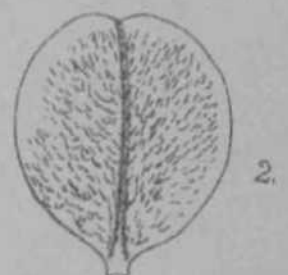
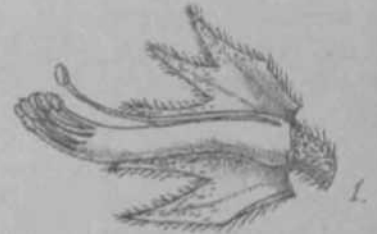
HAB. South Australia, near Port Lincoln, *WUhelmi*.

Folia J-J poll, longa. *Flores* 5-6 lin. longi.

At the suggestion of Sir F. v. Mueller we willingly accord space to a figure of this 'very rare and almost extinct' species, which has not, so far as we are aware, been collected since it was first gathered by Herr C. Wilhelmi in 1851, whose researches in the neighbourhood of Port Lincoln were greatly forwarded by the kindness of the late Rev. C. W. Schuermann, whose name the species commemorates. Mr. Bentham describes the ovules as geminate, but we find them 6 to 8 in number, as they are also represented by Herr Eckert, in an elaborate drawing of the plant communicated by Sir F. v. Mueller. They should be examined in the fresh state, their appearance in the few dried flowers examined being unusual, possibly from early shrivelling up or abortion.

—I). OLIVER.

Fig. 1. Leaf, upper side. 2. Under side of same. 3. Flower and sheathing bracts. 4. Vertical section of flower. 5. Stamen and staminodes, front view. 6. Back view of two stamens. *All enlarged.*



M.S. del et lith.

Calophaca depressa. Oliv.

PLATE 2301.

CALOPHACA DEPRESSA, *Oliv.*

LEGUMINOSÆ. Subtribe ASTRAGALEJE.

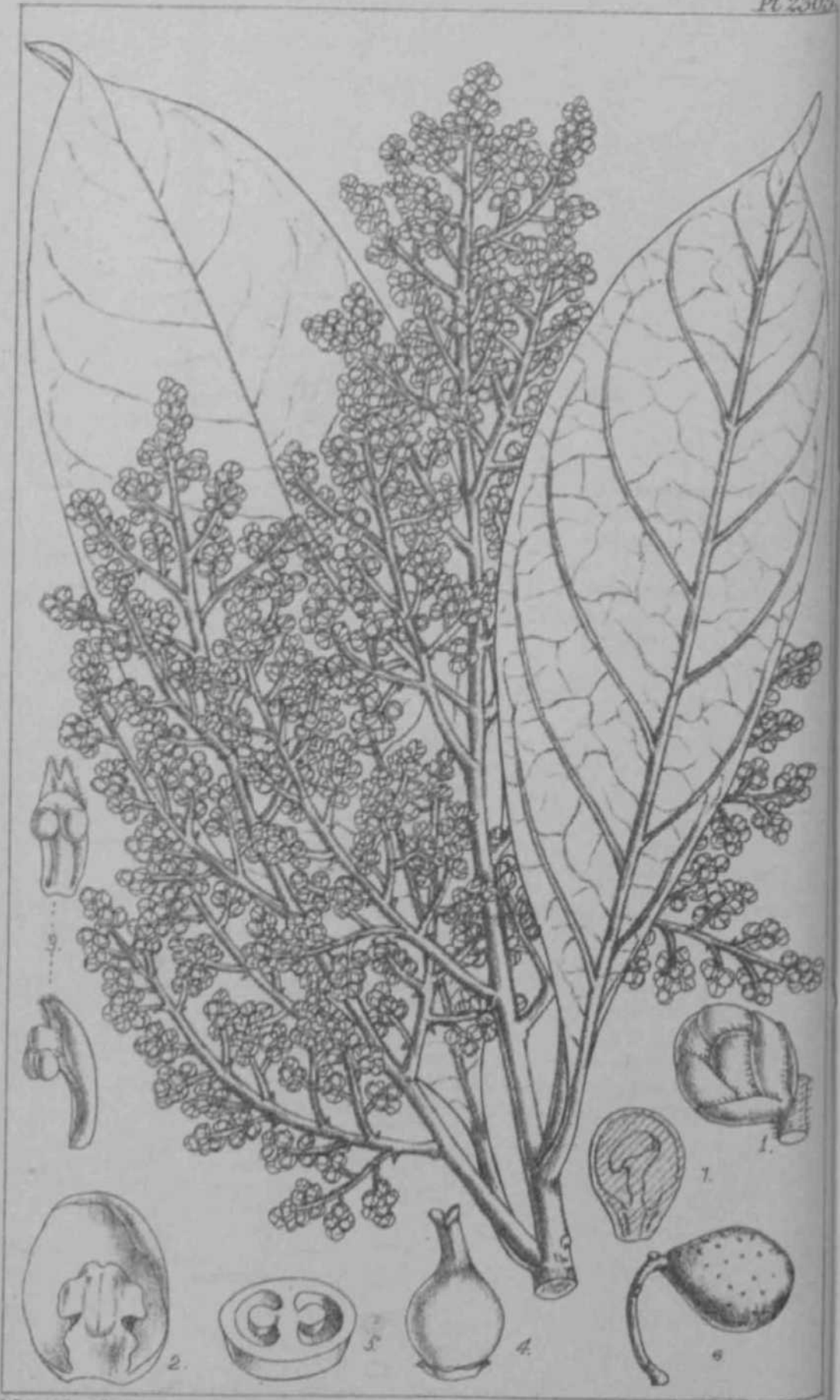
C. (Chesneya) depressa, *Oliv. (sp. nov.)*; fruticulosa, depressa, canotomentosa, foliis 5-7-10-foliolatis, imparipinnatis, foliolis alternis oblongo- v. obovato-ellipticis v. terminali obovato-cuneato, mucronulatis sericeo-villosis, stipulis minutis ovato-lanceolatis, Hoibus solitariis, calycis 5-fidi segmentis deltoideo lanceolatis acutis v. 2 posticis angustioribus lineari-subulatis, vexillo calyce duplo longiore carina subquilingo rotundato breviter unguiculato, alis breviter obliquis oblongis obtusis brevissime unguiculatis auricula brevi obtusa, carina obtusa, legumine turgido cylindrico mucronulato villosulo 5-G-spermo.

HAB. Kashmir, Prov. Baltistan, Gilgit Expedition, 6,000 feet, *Dr. Giles* (No. 385), Indus Valley near Katzura, 7,000-8,000 feet, *Butt* (No. 12083).

Folia $\frac{1}{2}$ -1 poll, longa, breviter petiolata; foliola 2-3 lin. longa, brevissime petiolulata. *Flores* $\frac{1}{2}$ - $\frac{3}{4}$ poll, longi, breviter pedunculati, axillares, folio siepe breviores; pedunculo sericeo-villoso. *Legumen* 4-5 lin. longum, 1-2 lin. 1 at urn.

Perhaps more nearly resembling *C. parviflora*, *Jaub. et Spach*, than any other species in this herbarium, but the flowers are solitary and very much smaller than those of *C. parviflora* besides a very different calyx; the legume also is much smaller.—D. OLIVER.

Fig. 1. Calyx laid open, showing diadelphous stamens. 2. Vexillum. 3. Alae. 4. Winal petal. 5. Pistil. G. Wood *All. aihrycd.*



M.S. del et lith.

Meliosma herbertii Herbert & Rolfe

PLATE 2305.

MELICCSMA HERBERTII, Rolf*.

HAUIACKA.

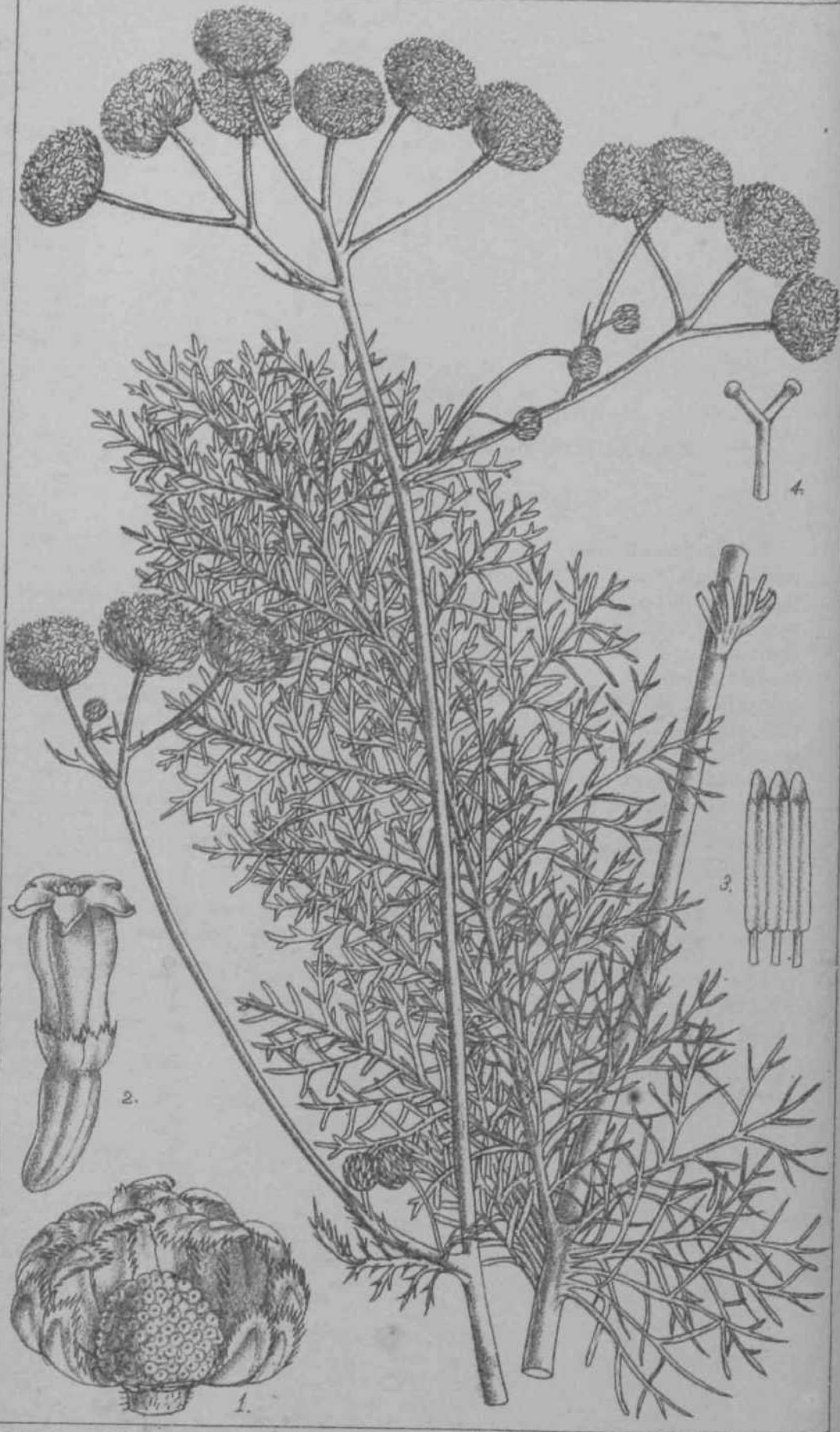
M. Herbertii, *Ritfflt in AVw BulUtin*, 1K93, 244 ; foliis simplicibu*
P(*tiolntis ovali- v. oblongo-ohlanceolatis basi cuneatiin angustatis apieo
c < sp i ut v. breviter aeunrinatis inte^ris v. leviter repundis coriuceis
glabris v. costa subtus nervuMjue parco setulosis, nervis late ml i bus
utrim(6) 7-9 -11, paniculis teriniialilnis folia vix suporaiitibus (luisHi-
floris frrrru^inno toiiinntollis, floribus HubscHsilibuM, fructibus obovoideis
endocarpio os><o.

HAH. Went Indies ; St. Vincent, *Jfestr. Herbert II. it-* (J. W. Smith
(N. 830, 1837).

·\rhor 30-60-podalis. *Folia* 4 7 poll, longa, 11| 2{ poll, luta;
i^tioluB J K poll. longiiH. *SrjMila* orbicularia concavnciliolata. l**tala
<\ njajora rotundata ^labnv calycn paullo inajoni Htaininodia totidmn
^M adnata ; petala ininora Ktamina antlimifrra oppositji B(jiainiforinia
bitida connectivum incurvum foro HUmTantia. *Ovarimn* ovoidfinn
glabrum 2-ocularo. *Fructua* § poll, longum, 6-7 lin. diam.

This is perhaps the most interesting novelty contained in the (inn
collections made by thn Messrs. Smith in the Windward Islands in INS!)
""1 JH\H) ut the cost of Mr. F. Jucane (CMIIIUI, and j)resent<d by him
to tho Uoyal Gardens. Of this collection a detailed enumeration is
K>ven in the Kew Hulletin cited above. The genus is chiefly Indian
""id Malayan with a few species extending northward in Kustern Asia
from Formosa to Japan. None is known from Africa, and very few in
the N(ow World. *M. opposittfotia*, Griseh., of Cuba is the only West
Indian species in the Kew Jierbarium.—D. OLIVKK.

Fi^ 1. Bud. 2. Ono of lurgor petals and oppOH>d Htaminodo. 3. Sqimtnifortn,
bi Hil. binuller petal mid opposed Htiimon. 4. pIMUI. & TnuHverNM section of ovary.
c* ^mit mid itN pvticol. 7. Longiludial uectioii of fruit, ahowing intruded endo-
carp. *AUcnt<m/ed*.



M.S. del et lith

Tanacetum tripartitum, 01iv

PLATE 2306.

TANACETUM TRIPINNATIPIDUM, *Oliv.*

COMPOSITE. Tribe ANTHEMIDE[^].

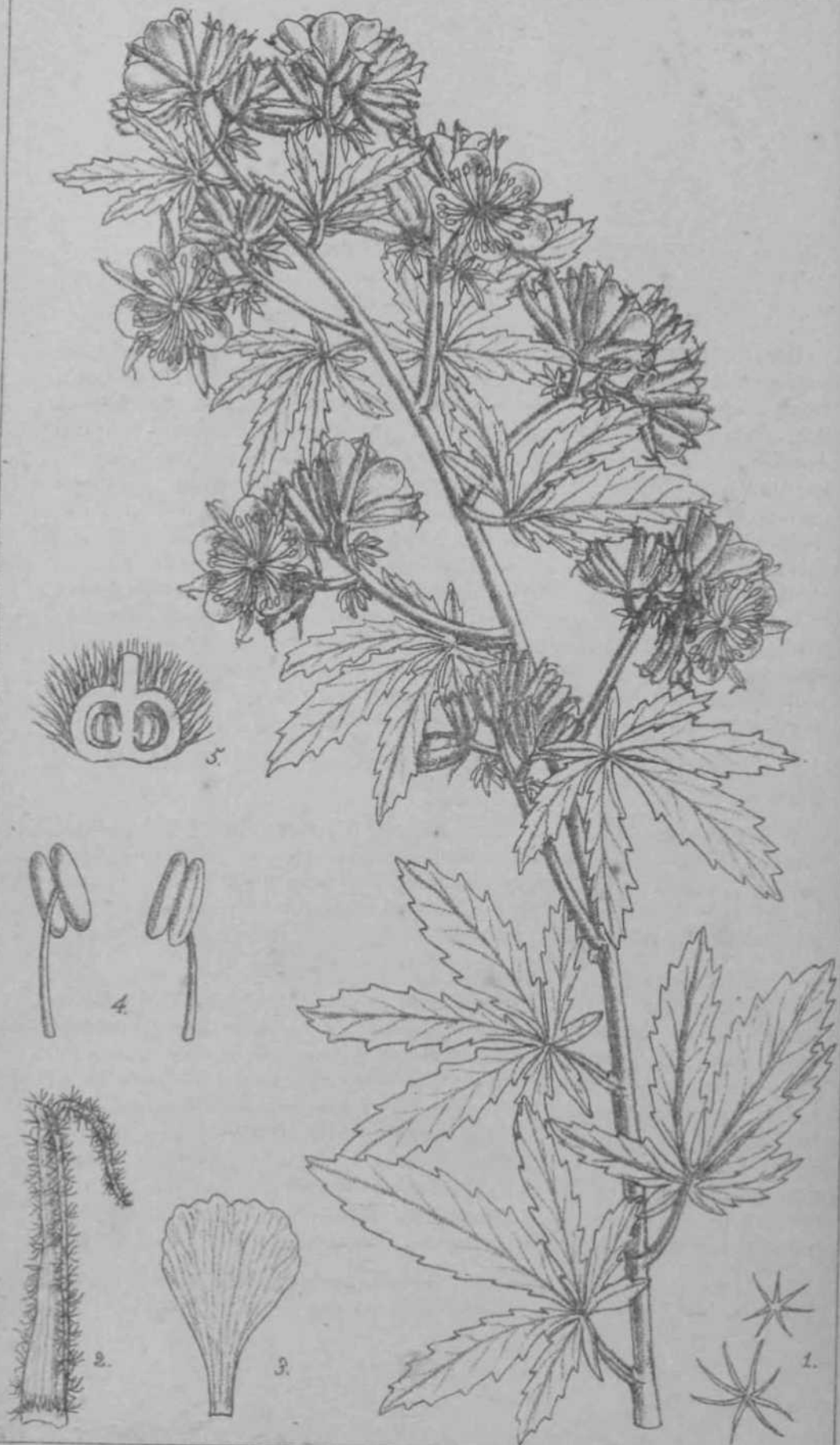
T. tripinnatifidum, *Oliv. (sp. nov.)*; herba erecta 2-4-pedalis caule costato glabro v. prope nodos pilis sparsis villosulo, foliis caulinis sessilibus bi-tripinnatipartitis segmentis linearibus rigidiusculis setoso-apiculatis glabratis v. pilis sparsissimis gerentibus, capitulis mediocribus toultifloris hemisphsericis pedunculatis homogamis in cymis 3-7-cephalis dispositis, pedunculis apicem versus involucrisque plus minus pilosulis, involucris bracteis exterioribus lanceolatis acuminatis interioribus oblanceolatis margine scariosis dentatis fimbriatisve, receptaculo convexo, achaeniis (iminaturis) leviter incurvis 5-costatis, inferne angustatis apice truncatis pappo scarioso ovario 3-4-plo brevioribus inaequaliter inciso v. 5-6-partito segmentis acute dentatis coronato.

HAB. Kashmir, Prov. Baltistan, alt. 9,000-10,000 feet, *Duthie* (No. 12128).

Folia inferiora caulina 5-6 poll, longa, pinnis primariis 1-[^]2 poll, longis ; segmentis ultimis [^] lin. latis. *Capitula* 5-6 lin. lata.

The foliage of this plant is very similar to that of *T. millefolium*, §*• & J/., and of some forms of *T. longifolium*, Wall. In habit it is allied to *T. setaceum*, It & 8. (*sub Pyrethro*).—I>. OLIVER.

Fig- 1. Receptacle, part of involucre removed. 2. Floret. 3. Anthers. 4. Style-wanches. *All enlarged.*



M.S. del et lith.

Ceratosepalum digitatum, Oliv.

PLATE 2307.

CERATOSEPALUM DIGITATUM, *Oliv.*

. TILIACEAE.

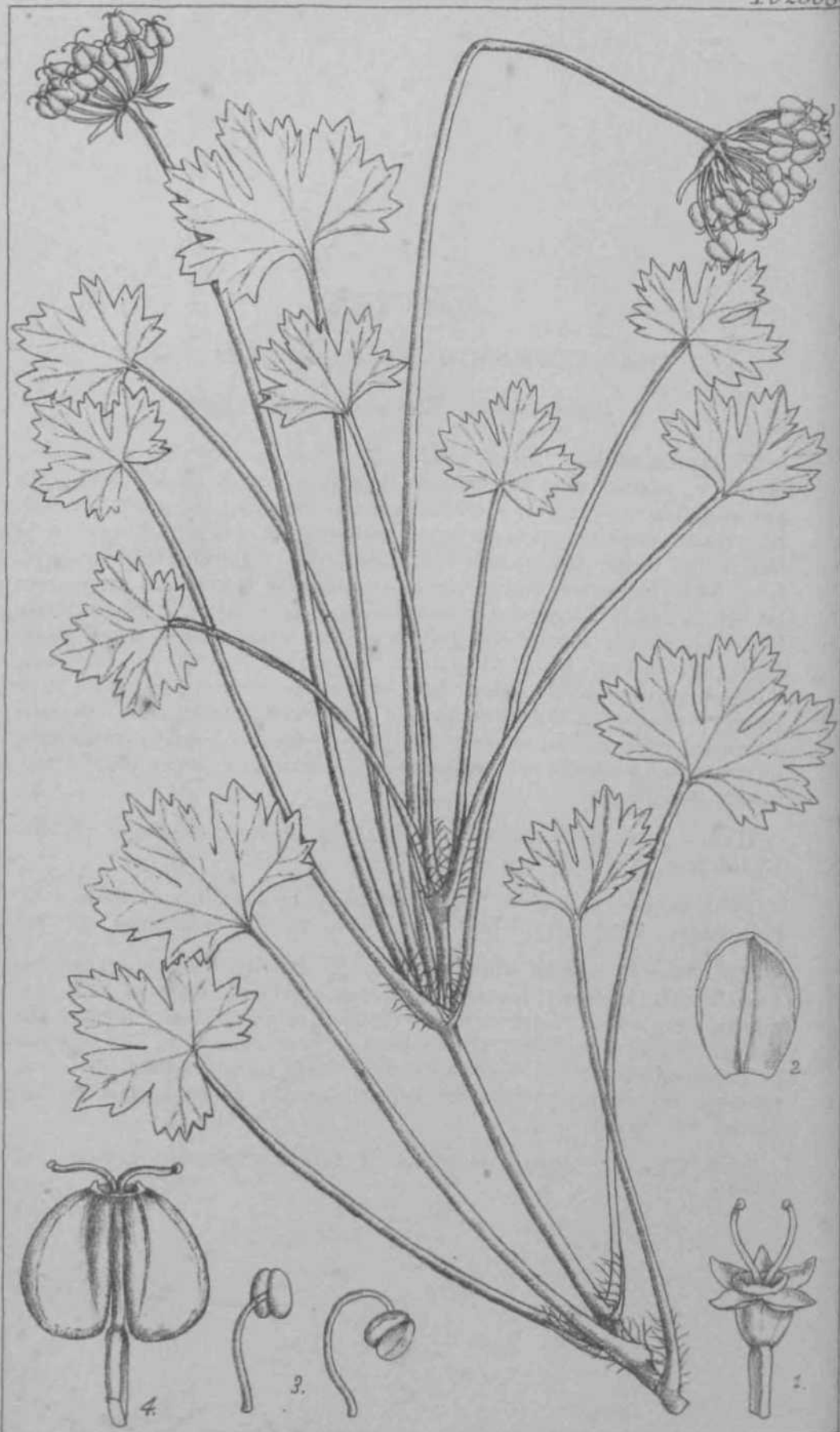
Ceratosepalum, Oliv. (nov. gen.) Calyx 5-partitus, segmentis sesti-
yatione valvatis, linearibus extus hirsutis apice cauda cornuiformi
nirsuta appendiculatis. Petala libera, calyce breviora, obovato-cuneata
uiiguiculata apice emarginata v. etiam eroso- v. crenato-dentata.
Stamina indefinita, omnia antherifera; filamenta gracillima glabra;
antherae versatiles, oblongse, didymse, loculis linearibus parallelis
corollam leviter superantes. Ovarium depresso-globosum, 5-6-loculare,
dense hirsutum, sessile; stylus elongatus, filiformis, glaber, apice vix aut
leviter incrassatus minutissime denticulatus. Ovula geminata, adscen-
dentia, infra medium affixa. Fructus . . . Frutex ramis erectis,
virgatis. Folia alterna, petiolata, prqfunde 5-7-partita, segmentis
oblongo-ovalibus oblanceolatisve, acutis, dentato-serratis, supra pilis
Mellatis scabrida, subtus stellatim cano-tomentosa. Flores in cymis
paucifloris v. plurifloris pedunculatis terminalibus et in axillis superioribus
dispositi, bracteolati; bracteolce lineari-subulatce.

HAB. Tropical Africa; neighbourhood of Lake Tanganika, A. Carson (No. 1).

C. digitatum, Oliv. (sp. unica). Rami floriferi erecti 1-2-pedales,
tomentelli et stellato-hirsuti, basin versus excepti foliiferi. Folia
petiolo 1-1 1/2 poll, longo; segmentis majoribus basi angustatis 1-1 1/2 poll.
longis, 4-5 lin. latis; in foliis 7-partitis segmentis exterioribus multo
minoribus 1/2-1 poll, longis; stipulae obsoletse. Flores 1/2-1 poll, longi.

I believe the affinity of this interesting plant to be with *Honckenia*
and Spnriannia. It differs from both genera in all the stamens being
antheriferous, and in its geminate ovules. The leaves are divided so
deeply that it is, only on close examination one can discern that they
are compound. The withered petals are, in our dried specimen, of
a dull yellowish colour. The appendix of the sepals is curious, but I
believe there is indication of similar processes in *Honckenia.* The name
which I have adopted, referring to these appendices, has been applied
generically by Oersted to a species of *Passiflora,* but by common
consent it is regarded as having no claim to generic rank. The
name is too applicable to the present plant to be wasted.—D. OLIVER.

Fig. 1. Stellate hairs of indumentum. 2. Sepal, showing apical appendix. 3. Petal,
4. Stamen, back and front. 5. Vertical section of orary. All enlarged.



It S. did «tlith

Trachymene saniculasfoha, I Ik.f.

PLATE 2308.

TRACHYMENE SANICULI^{EPOLIA}, *Stajrf.*

UMBELLIFERS. Tribe HYDROCOTYLEJE.

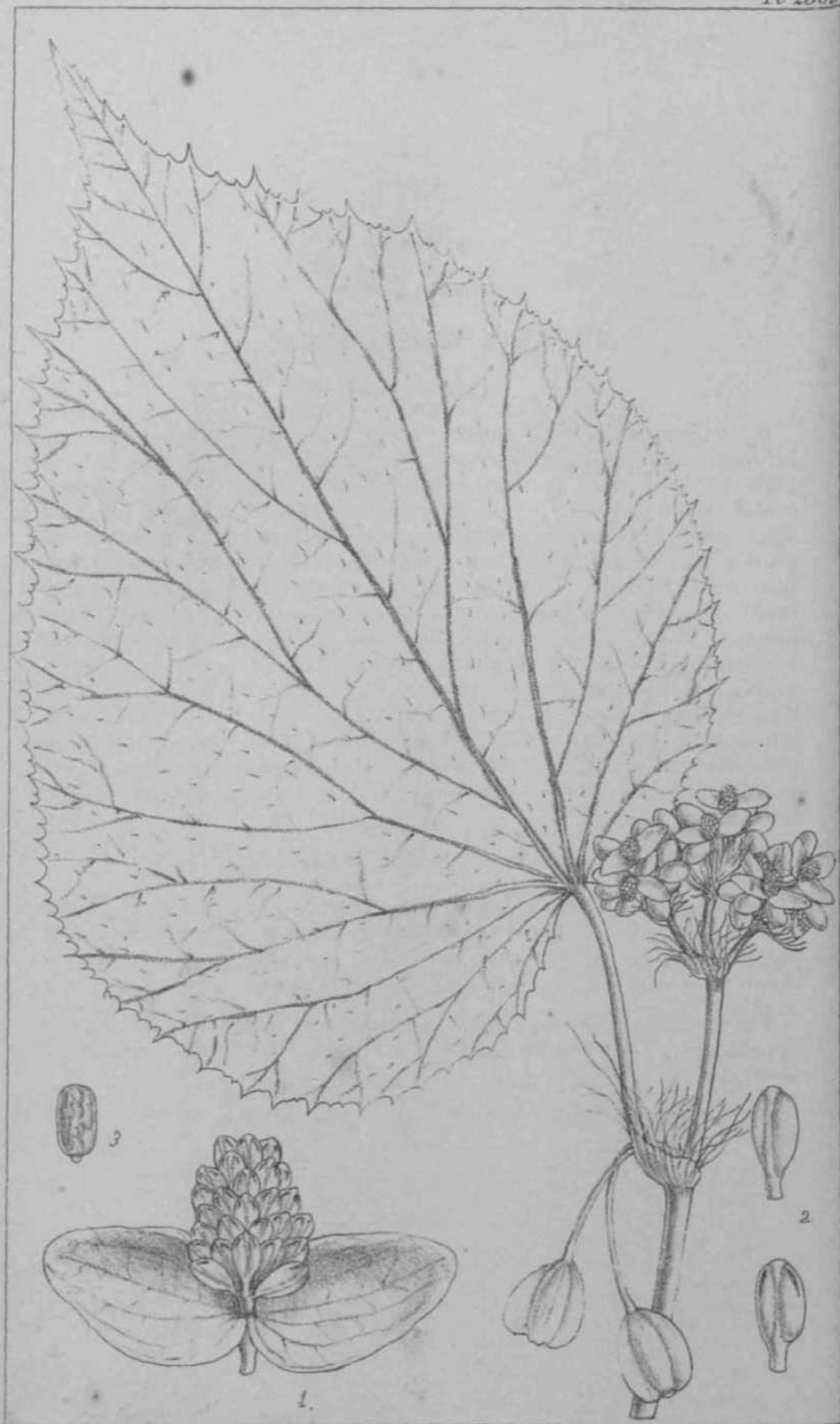
T. sanicnlfifolia, *Stapf.* (*sp. nov.*); perennis, rhizomate prostrato v. adscendente ramoso, in stirpibus rupicolis valde abbreviate dense foliorum reliquiis squamiformibus vestito, in stirpibus soli humidioris ssepe elongato in parte subterranea crebre radicante et e basi longe prostrato adscendente, internodiis interdum folio longioribus, foliis longe petiolatis cordato-rotundatis plerumque transverse latioribus 3-5-fidis segmentis obovato-cuneatis 3-lobulatis lobulis acute 3 (2-4)-dentatis, cum petiolo glabris v. laxe setoso-pilosis, scapis quam foliis longioribus, involucri foliolis linearibus v. lineari-lanceolatis floribus aequilongis v. eisdem brevioribus, pedicellis compressis flore longioribus, calycis dentibus parvis deltoideis, petalis albis ellipticis obovatisve, fructibus a latere valde compressis late cordato-rotundatis, mericarpiis aequalibus v. subaequalibus glaberrimis exalatis jugis intermediis tenuissimis.

HAB. Borneo, Kinabalu, 7,000-11,000 feet, *Lowe, Burbidge* ; 7,700-13,400 feet, *Haviland*.

Folia petiolo 2-5 poll, longo, lamina §-1J poll. lata. *Scapi* 3-10 poll, longi. *Umbellce* §-1 poll. diam. *Fructm* £-£ poll, latus.

The nearest ally of this plant is *T. humilis*, Benth. (*Didiscus humilis*[^] Hook. f. in 'Icones Plantarum/ 304), of Victoria and Tasmania, from which it differs in the distinct calyx-teeth and form of the leaves. It is a variable species, both in stature and in the absence or presence of copious loose-spreading rusty-purplish hairs on stem, petioles, and scape, paler when present on the upper surface of the leaves.—O. STAPF.

FIG. 1. Flower and compressed pedicel. 2. Fetal. 3. Stamens. 4. Fruit. *All enlarged.*



M. S. del. et lith.

Begonia inostegia, Stapf.

PLATE 2309.

BEGONIA INOSTEGIA, Stapf,

BEXOIACEJE.

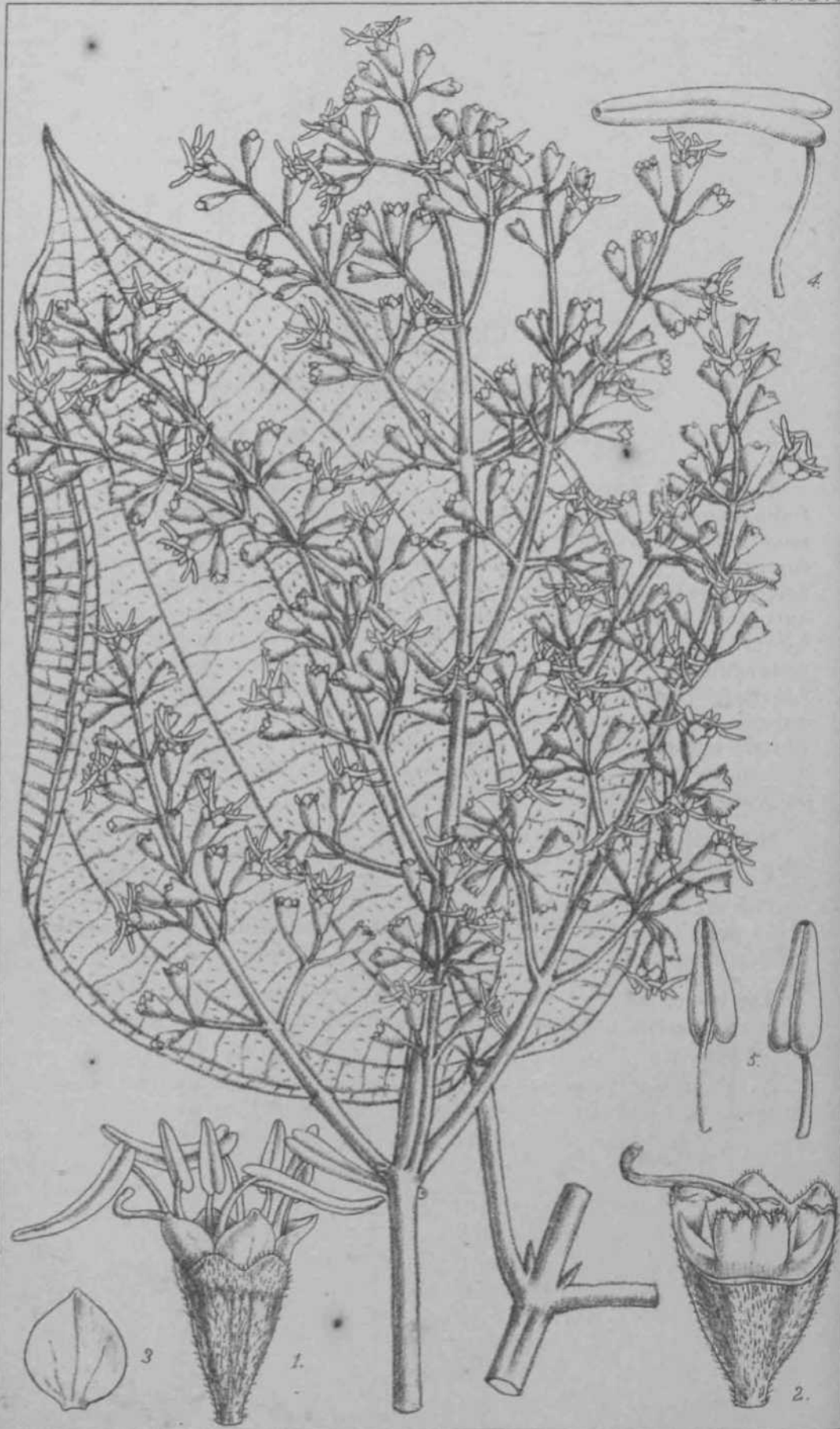
B. (§ *Fetermannia*) *inostegia*, Stapf (*sp. nov.*); caule ut etiam petiolis inflorescentiaque breviter et parce crispule hirsuto inferne glabrato, foliis longe petiolatis circ. 9-nerviis late et oblique cordato-ovatis sinu latissimo apice breviter acuminatis margine repando-denticulatis tenuiter membranaceis fere concoloribus, supra basi excepta glaberrimis subtus in nervis minute setulosis, stipulis persistentibus ovatis acutis v. rotundatis nervis crebris pluribus excurrentibus crinito-fimbriatis, inflorescentia mascula pedunculata terminali folio breviora 2-3-choroma, cymulis plurifloris bracteatis, bracteis stipulis conformibus, floribus pedicellatis, sepalis 2 albis ovatis v. elliptico-ovatis, petalis 0, androecio oblongo-ovoideo, staminibus pluribus in toro elongato insertis, antheris obovatis, inflorescentia feminea ex axilla folii summi orta in spec. nostro fructifero tantum biflora, capsulis longe pedicellatis recurvis, capsulis obovoideis alis 3 basi ultra loculos productis, placentis bifidis, seminibus minutis breviter cylindricis laxereticulatis.

HAB. Borneo, Kinabalu, 6,000 feet, *Haviland* (No. 1190).

Folia 5-6 poll, longa, 4-5 poll, lata; petioli 1-3\ poll, longi. *Stipules* 4-7 lin. longae; nervis excurrentibus elongatis lamina interdum 2-3-plo longioribus. *Pedicelli* JL masc. 1-2 lin. longi; *fi. fern.* H poll, longi. *Capsula* 5-6 lin. longa, alis 1-1J lin. latis.

The excurrent nerves of the stipules are very singular. *B. inostegia* approaches *JB. borneensis*, A. DC, in habit and floral structure.—O- STAPF.

Fig. 1. Staminate flower. 2. Anther, back and front view. 3. Seed. All enlarged.



M.S. del et lith.

Anerinoleistus c or data, Stap f

PLATE 2310.

ANERINCLEISTUS CORDATA, *Stapf.*

MELASTOMACEÆ. Tribe OxYSPOREJÆ.

#

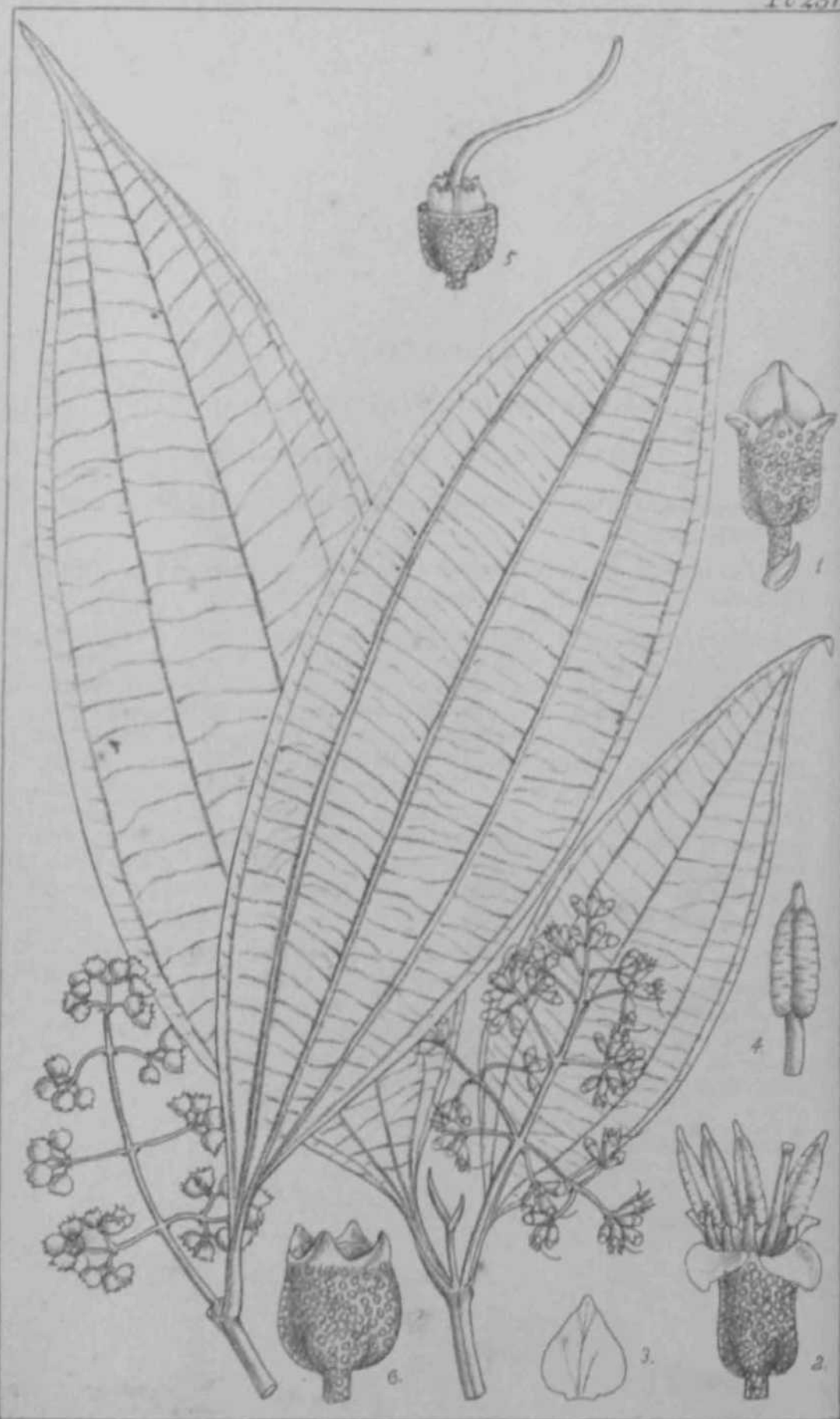
A. cordata, *Stapf (sp. nova)*; frutex, ramis dense fulvo-tomentellis, foliis petiolatis late rotundato-ovatis basi breviter cordatis apiculatis membranaceis 7-9-nerviis supra in nervis setulosis præterea setulis minutis fulvis aspersis subtus pallidis præcipue in nervis venisque fulvo-pilosulis tomentellisve, venis transversis, panicula terminali folia superante pedunculata multiflora fulvo-tomentella, floribus ad ramulorum secundi ordinis apices umbellatim 1-6 congestis umbellis pedunculatis v. sessilibus, calycis turbinati hirto-setulosi dentibus Wevissimis late delroideis, petal is albis rhomboideis acutis, staminibus suba»(jualibus (4 paullo majoribus) antheris fere linearibus basi bilobis obtusis inappendiculatis, ovario vertice coronula 4-loba lobis emarginatis ornato, capsula turbinata 4-valvata, valvis deorsum visis triangu-
Wibus eniarginatis.

HAB. Borneo, Kinabalu, Penokok, 3,500 feet alt., *Haviland* (No. 1281).

Folia 5-9 poll. longa, 3^{^-6J>} poll, lata; petiolus dense tomentellus 1₁-4 poll, longus. *Panicula* semipedalis; pedunculus c. 4 poll, longus; pedicelli calyci sequilongi v. breviores. *Calyx* 1£ lin. longus.

The leaves may not be quite equal in each pair; the petioles at any rate are unequal in the only pair remaining attached in our specimen.—
O. STAFF.

Fig. 1. Flower. 2. Same, part of calyx-limb, petals and stamens removed.
3. 1'etal. 4. Larger, and 5. smaller, stamens. *All enlarged.*



M.S. delet lith.

Blastus Cogniauxii, Stapf

BLASTUS COGNIAUXII, Staff.

MELASTOMACEAE. Trilic-DXYSPOREAE.

B. Cogniauxii. *Staff* < toththoohariap*rrifli ora, Cm> '***' DC. *Monogr.*
(*Melastomaceae* v. 48).

SAB, Borneo, Sanwak, Beccari (*o. 1403); Haviland (No. M0),
Kinabalu, 4,000 feet alt., //.-n-ttaml (Sn. L280).

*Frutex, rev. mull.** L-i.iriitith **puberalii** gl>brsl isve crassitie pennae cor-
vinae. *Folia* consimilia v. in...lein jugt jtnull" aaynial:rica, petiolatn,
ovato-r. oblongo-lftnceolata konminikta, bad ounoAta 5-nervia nervis
lateralibus inframstrginalibot, membraum sea repando-denticulata supra
obscuiv paberula v. gJabra, tubttu paroe gtaodafo so-punctata et in nervis
intelium minttte furJ'mvui i, i-7 poll. •onga, 1-2 1/2 poll. Iata; petioli
1/2-3/4 poll, longi. *Inflorescentiae* pauciflorae axillares et terminales, glmndtUoso*
furti araceae 1/2-1 1/2 p., H. loon ;i(<. la"ae; p• diiinuluK \-1 poll, toil] us,
pediculi »cundarii graciles saepius 3-5-flori. patentes. *Flores* albi,
tetrameri, parvi, brevissim. • pedicellati; bractioi minnta. *Calyx* bemi-
sphaeric•< cjimimuulatHs, priroaai pH06 glasdulomii deinde glaber,
denticulis brwibtu deltoideta

There is nodoulit. that *OeAtk* caris parviflora, Cogn., is a true fllastus.
It hM four ataawai with antbi the very characteristic discoid glands
of thia species on its outer side of the leaves, these are the largest
parts as

to form a conti furfuraeoui covering. VP*1.
Fig. 1. Bud. 2. Bxpnixbd flow»r. 3. P«uil. >. BtWMft 5. Ovar > ^nJ ntjflt.
6 Capsule. All enlarged.



PLATE 2312.

DIMERIA WOODROWII, *Stapf*.

GRAMINEAE. Tribe ANDROPOGONEA:

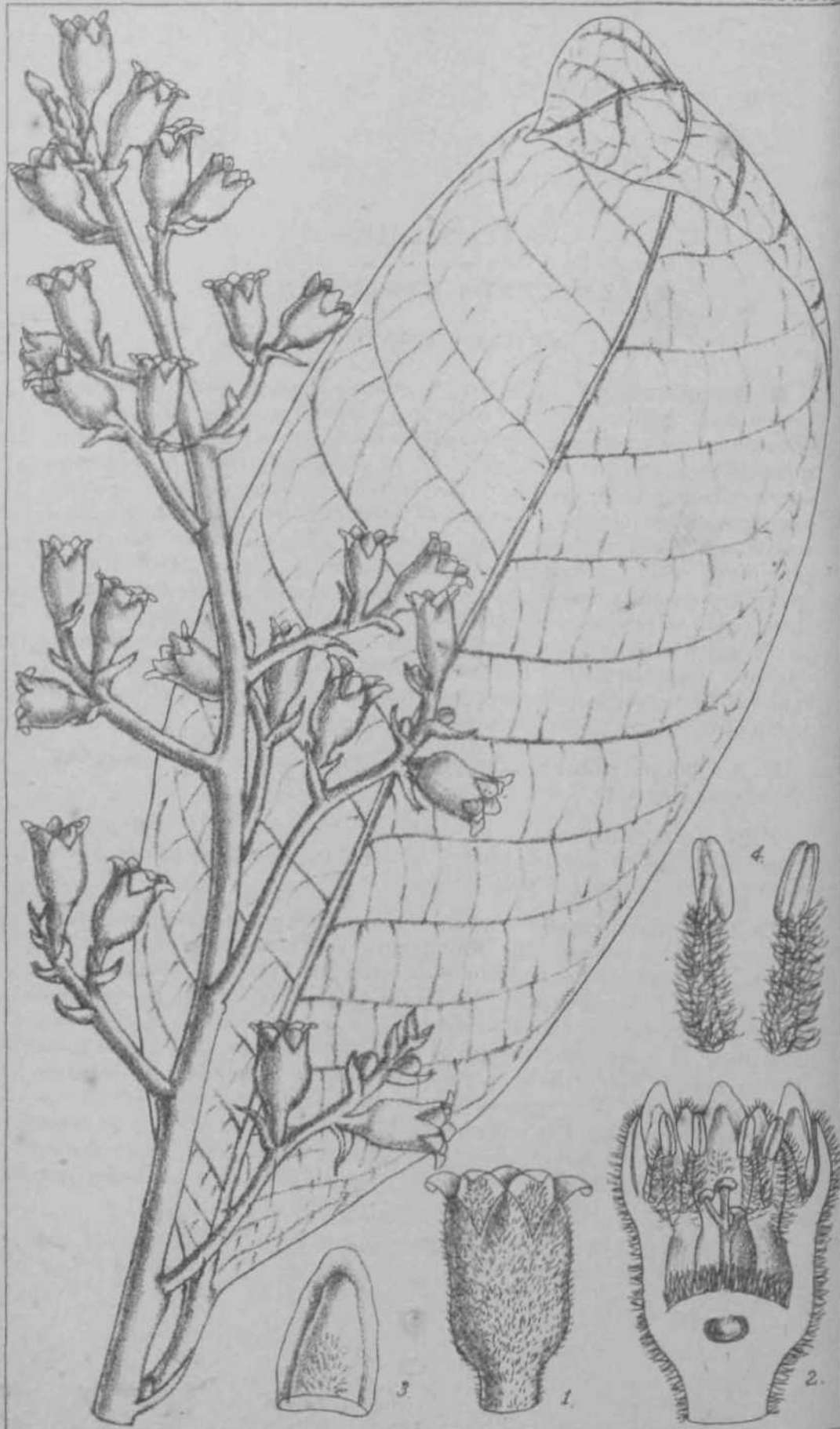
D. Woodrowii, *Stapf* (*sp. nov.*) ; annum, 3-6-pollicare, culmo gracili paucinodo plerumque ramulos 1-2 edente vaginis involuto deinum ad internodii summi basin geniculato in nodis pilorum fasciculo ornato, vaginis glabris internodia a?quantibus vel inferioribus longioribus, ligula brevissima hyalina, lamina anguste lineari longe acutata glabra vel sparse pilosa in foliis summis plus minusve reductis 3-nervin, nervo inedio subtus carinante ca?teris tenuibus, racemis geminatis terminalibus sub anthesi strictis demum circinatim involutis glabris, rachi subundulato, internodiis spiculis brevioribus, pedicellis distinctis, spiculis subhnearibus, callo barbula cincto, gluma I. lineari acuta plicata uninervi glabra vel pilosula, II. perpaullo longiore quam I. latiore acuta plicata dorso anguste carinata et incrassata, III. anguste lineari hyalina interdum mucronulata, IV. quam II. paullo brevior acuta breviterque bidentata inter dentes aristata hyalina, arista exserta, palea nulla, caryopsi lanceolata.

HAB. India : Rutnagherry District, South of Bombay, *Woodrow*; near Goa.

Spica explicata 1 in., pedicelli $\frac{1}{2}$ lin., spicula 1J lin., caryopsis $\frac{1}{2}$ lin. long.

Allied to *D. pubescens*, *Hack*, et *D. fuscescens*, *Trin.*, but very distinct in the spikes which, in a ripe state, are much incurved, forming a small ball. At the request of Dr. Lisboa, who first communicated this grass to the Kew Herbarium, the specific name commemorates the services to Botany of Mr. G. M. Woodrow, formerly of the Royal gardens, Kew, now Lecturer on Botany in the Foon College of Science.—O. STAPF.

%. i. Spike in its circinnate stage. 2. Floret. 3. Palea, side and front views. 4* lowering glume. 5. Stamens. 6. Pistil. *All enlarged.*



M.S. del et lith.

Melanochyla oeccamana, Oliv

PLATE 2313.

MELANOCHYLA BECCABIANA, *Oliv.*

ANACARDIACEAE. Tribe SEMECARPEAE.

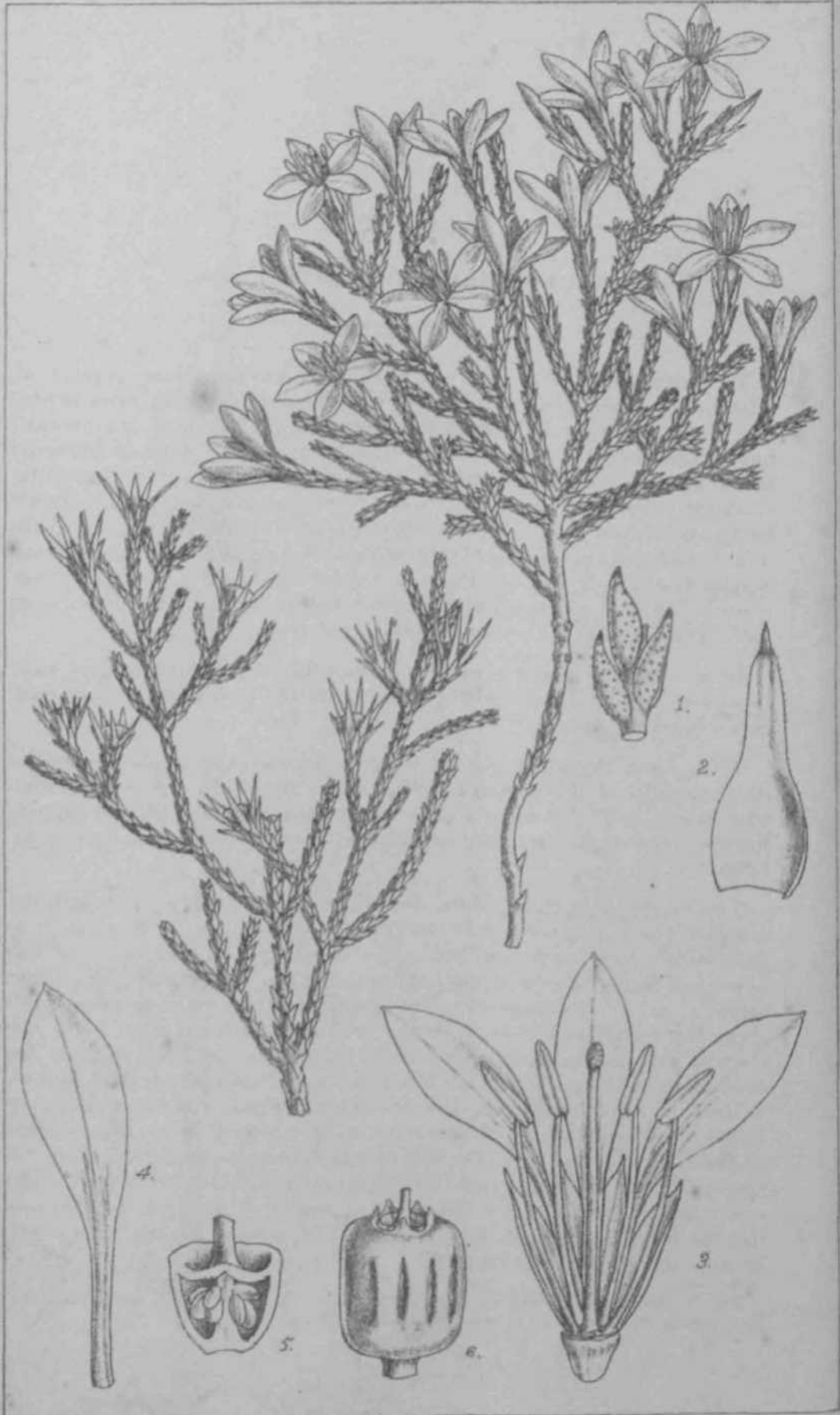
M. beccariana, *Oliv. (sp. nov.)*; ramulis crassis dense ferrugineo-tomentosis, foliis petiolatis oblongo- v. oblanceolato-ovalibus apice obtusis mucronatis, subtus praecipue in costa nervisque patentibus prominentibus primariis utrinque c. 17-19 venulisque ferrugineo-hirsutis supra parce pilosis denique costa hirtella excepta glabratis, petiolo crassiusculo tomentoso, paniculis terminalibus dense ferrugineo-tomentosis ramulis lateralibus brevibus adscendentibus pauci- v. plurifloris, calyce campanulato crasso limbo quasi tubo 3-4-plo brevioris segmentis crassis ovato-deltaeideis valvatis subvalvatisve tubo intus glabro ore leviter constricto, petalis alte perigynis calycem paullo superantibus crassiusculis ovatis utrinque (apice leviter recurvo excepto) hirsutis, filamentis dense pilosis petalis brevioribus, ovario immerso apice tempore florifero convexo v. subplano dense piloso, stylo inaequaliter 3-fido, stigmatibus capitellatis.

HAB. Borneo, Sarawak, *Beccari* (No. 2546) *var. breviflora* Sarawak, *Haviland* (No. 814).

Folia 7-10 poll, longa, 3-3½ poll, lata; *petiolus* 1-½ poll, longus. *Faniculai* foliis saepe breviores. *Flores* ½ poll, longi, v. in *var. breviflora* ¼ poll, longi, ½-½ P^{OL} lati.

To [this curious genus, founded by Sir Joseph Hooker, upon four Malacca species collected by Maingay, in his * Flora of Brit. India/ ii. •*8-9, and to which no addition was made by Professor Engler in his Monograph of Anacardiaceae, Dr. Stapf has added several new species in his elaboration of the Haviland Bornean collections. He has also identified as congeneric the plant here figured, presented to the Kew Herbarium by Signor Beccari, which had been left doubtful until taken in hand by him. This species is remarkable in the extent to which the ovary is immersed in the axis, being indeed wholly inferior in at least the early stages of flowering. In the generic figure given by Professor Engler (De Cand. Monogr. iv. tab. xv. fig. 21) the ovary is wholly free.]-D. OLIVER.

1. Flowpr. 2. Same, longitudinal section. 3. Petal. 4. Stamens, back and front views. All enlarged.



M.S. del et lith

Thamnea diosnaoides, Oliv.

PLATE 2314.

THAMNEA DIOSMOIDES, Oliv.

BRUNIACEJE.

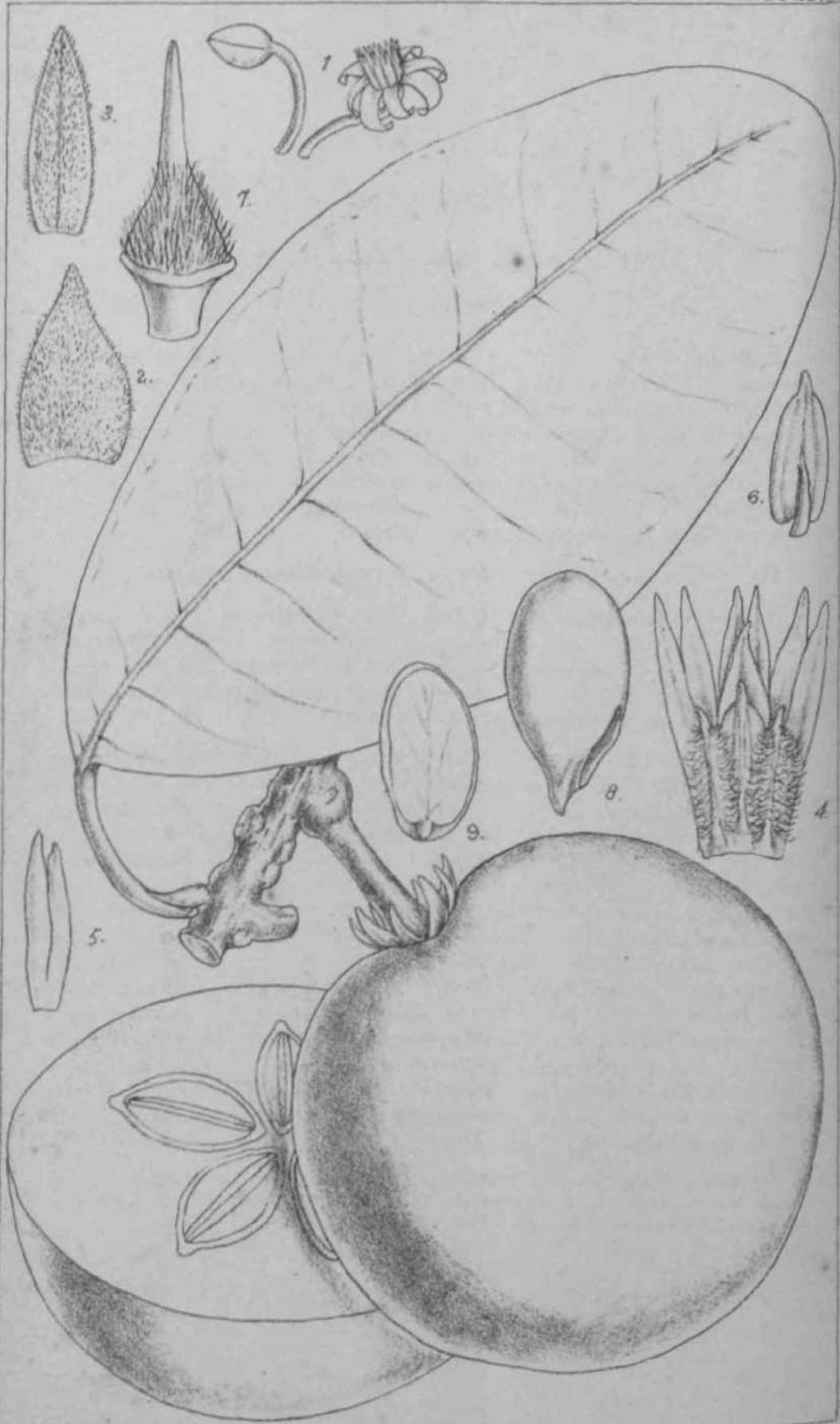
T. diosmoides Oliv. (*sp. nov.*); fruticulus ericoideus erectus v. descendens glaberrimus, foliis parvis crassiusculis imbricatis ovato-lanceolatis acutiusculis basi obtusis dorso obtuse carinatis, involucralibus longioribus lanceolatis basi dilatatis concavis, floribus solitariis terminalibus 5-meris, segmentis calycinis oblongo-lanceolatis acutis scariosis rubrobrunescentibus ovario 6-plo longioribus, petalis albidis basi rubescentibus cum lamina elliptica acutiuscula longe et anguste unguiculatis, ovario breviter turbinato glabro longitudinaliter 10-sulcato hiloculari ovulis in utroque loc. 5 v. 4 pendulis, fructibus bracteis involucrantibus 2-3-plo brevioribus breviter cylindracea 10-sulcatis basi styli persistente brevi coronatis, pericarpio osseo.

HAB. South Africa; eastern slopes of the Skurfdebergen near Tydouw, *Jiolug* (No. 7479); flocks above the Tulbagh cataract, *Mechter* (No. 1662).

Folia circa lineam longa, sub lente pilloso-scabriuscula; superiora involucrantia c. 3 lin. longa. *Flans* G H lin. longi. *Fr. tala*, lamina cum ungue, 5-6 lin. longa. *Filamentum* gracilia, glabra; antheris anguste linearibus basi sagittatis. *Stylus* simplex, gracilis, staminibus fere æquilongis.

The leaves have the minute dark brown or blackish, at length deciduous, tips characteristic of several allied species. *T. diosmoides* is allied to *T. unijlora*, Sol. The habit and ericoid more or less pressed foliage are as in that species, but the flowers are many times larger; as in *T. unijlora* they terminate the main branches and short leafy axillary shoots, and are produced so freely that, with the elegant habit of the plant, it specially commends itself as suitable for ornamental culture. Although Mr. Bolus's specimen is in fruit, I cannot, without too much injuring the specimen, indeed without a series of fruits in different stages of maturity, satisfy myself as to the contents of the ripe pericarp, the lower half of which consists, in the interior, of a spongy or corky parenchyma fused externally with the bony wall. The ovary, as I have already explained ('*Journ. Linn. Soc.*' ix. 331), is dicarpellary in *Thamnea*, and I think *Tittmannia*, Brongn., may well be united with it.—D. OLIVER.

Fig. 1. Attached leaves. 2. Leaf, inner face. 3. Flower laid upon. 4. Petal.
•• Longitudinal section of ovary. 6. Fruit. All enlarged.



MS det. Ah.

Imbricaria cephaloparum, Oliv.

IMBRICARIA SEHELLARUM, Oliv.

SAPOTACEAE.

I. oliv. «echel: arum» OHv> {«P- nov.); glabra, foliis tenuiter coriocris } dsif. f. or v. * ol) «vato-ellipticis apice obtusis intogris v. retusoemarginatis uici. H. ate V, rotundatocineti tis subtus costa prominente, pedicellis vix ciim*... Jus> Sepals P^{ei} sistentibus exterioribus oblongo-lanceolatis extus bus am omeo nortnentelli s intus apicem versus canis, interioribus lineari-interi^f us eano -tomentellis, petalis exterioribus oblongis alte biHdis, dpnJ -^fus. oval lance ola'tis apice attenuatis integris, stainodiis uense villosis, bacca globosa l«vi, 5-loculari.

HAB. Seychelles; Ma^e*, Ilorne, Button, Estridge, Griffith.

/vS- 4.6 ^ 01, 10nga » 2 £ ~ 3! Poll « lata; petiolus f-lj poll, longus. bisii VV PP! Kl an ^ - Ffractui* 22, Zi) o\ Ldmm. Hewina compressa, sumi, acutata, \v poll, longa, || poll|| lata, !! pc^ll crassa; albumen Carno- nili, « ^'''^ Tpsimine aquilongusatq. -latis, radícula inferiore cotyledo- ns pianis basi rotundatis multo brevior.

For excellent fruiting specimens in fluid we are indebted to T. Riseley Griffith, Esq., C.M.G., Administrator at the Seychelles; upon these Miss Smith's figure is based. Our only flowers, from Mr. Estridge, are 1. ¹ or una tely detached » h^ foe length of the pedicels, 1 inch or short ^ a S uown by these flowers » w^ confirmed by the fruiting specimens ^ just received from Mr. Griffith. The nearest ally of/. *Seefalliarum* abin^{r.ia} ^ . *conacea*, DC, of Madagascar, which, apart from the inohä? u s^minodes, differs from our plant in its long pedicels (1½-3 ⁰ s ^ Td mUch more co » a^ceous leaves. Mr. T. L. ^U ^U IS the <Bois de Natte¹ of the Seychelles, referred to by J.N.J? L> ^{er} ^{er} the Mauriti u⁸ / P- 195. The leaves of by JVf? ^ Tt¹ rri, ano tnerallied species, differ in the characters noted the fin^{* r.ia} ei> Mr# Hornes peaks of the 'Bois de Natte' as one of few la^{r.ia} ^{es} timber tr^6S> becomin S (1871) vei⁷ scarce <There are very of <>< r^e ^{es} o^ ^ now > anc¹ these are in the most inaccessible parts w* mountain gorges Z-D. OLIVER.

Fi ⁿ «ief fL? et^o; hed flowers - 2. Outer sepal. 3. Inner ditto. 4. Petals and Hhmi- sction of ^{er} ^{er} .5- ^tached petal. 6. Anther. 7. Pistil. 8. Seed. 0. Vertical ed showing embryo. Parts of the flower enlarged.

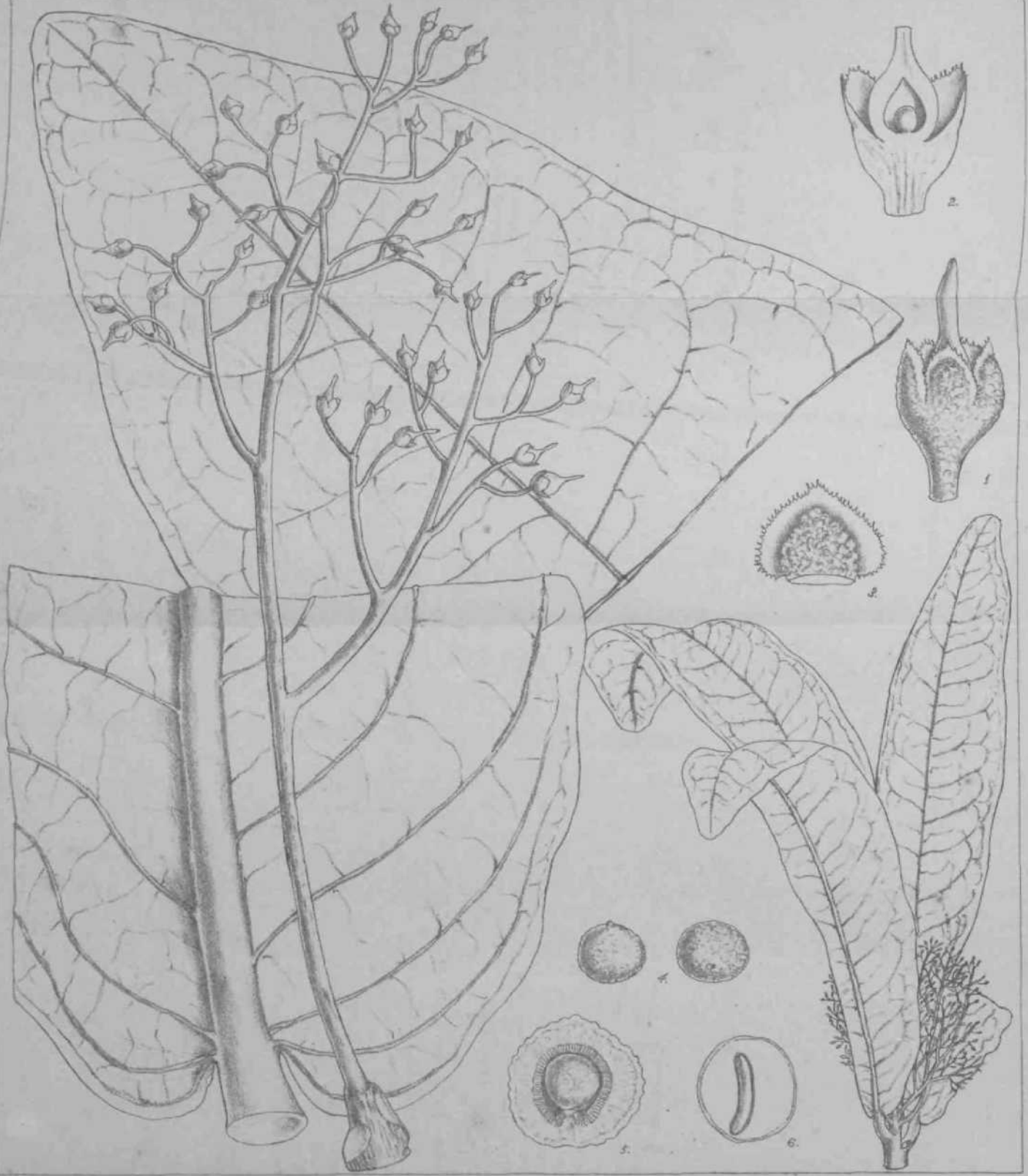


PLATE 2316.

ARDISIA MEGAPHYLLA, *Hemsl.*

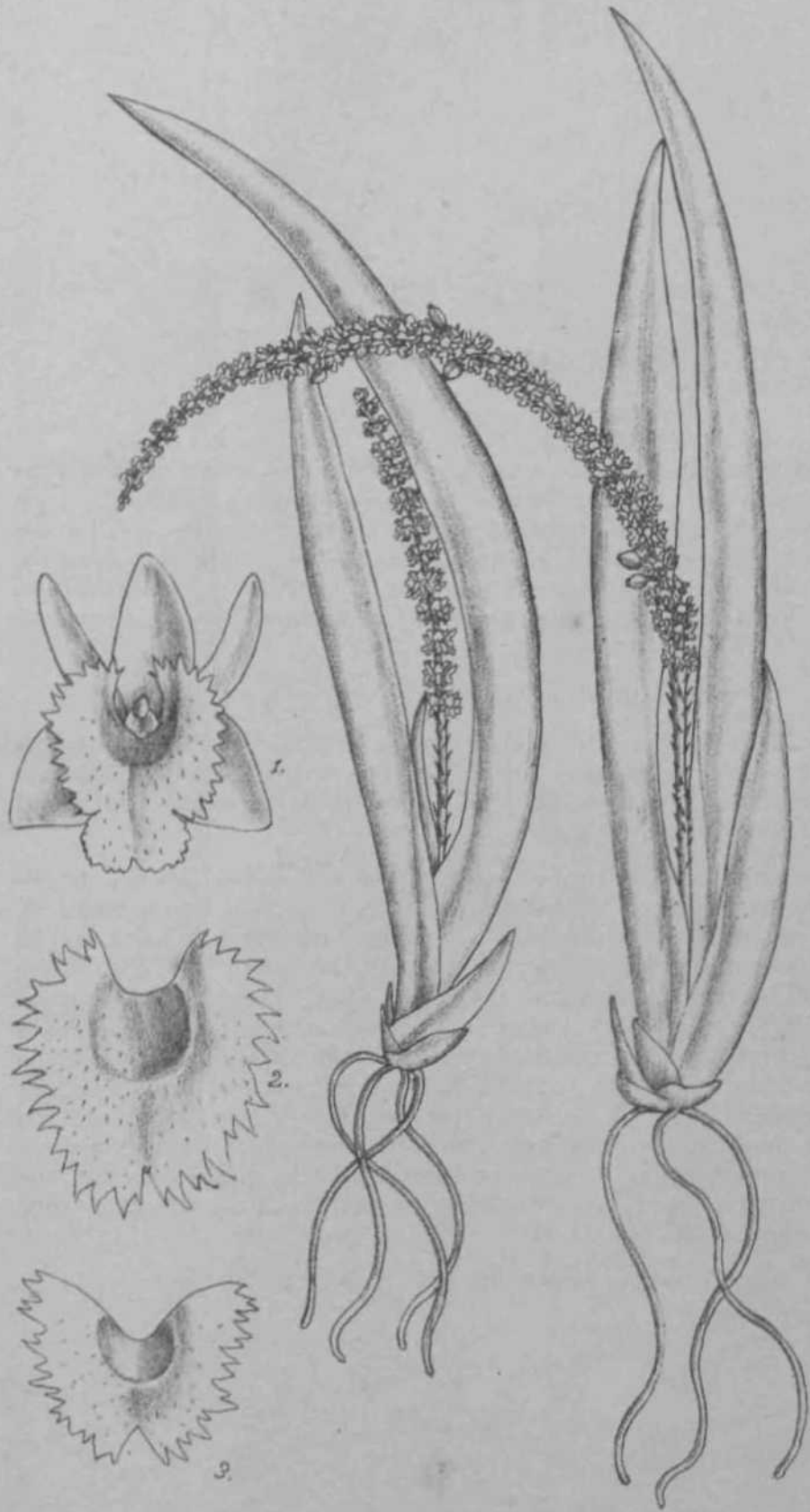
MYRSINACEJE.

A. megaphylla, *Hemsl. in Kew Bull.* 1894, 6 ; arbuscula erecta
? ^ oerrima, caule ssepius simplici foliis ad apicem congestis coronato,
t olus (^-3 ped. longis) breviter petiolatis tenuiter coriaceis oblongis
acutatis basi anguste cordatis auriculis obtusis petiolo sequilongis v.
eodem longioribus costa subtus valida nervis primariis utrinque c. 30,
paniculis ad apicem rami aggregatis elongato-pyramidatis pedicellis
semiuncialibus laevibus solitariis v. subumbellatim confertis basi
articulatis, sepalis (in fl. cor. deiaps.) ovato-rotundatis obtusis v. sub-
e Pumlati ovarii basin arete cingentibus, fructibus globosis luevibus,
mbrypne cylindrico curvulo cotyledonibus brevissimis.

HAB. Fiji Islands, *Home* (No. 429); Viti Levu (one or two miles
i_m a n d o l i * the south side of the island), *Yeoward*.

Mr. Home calls this plant a shrub with a 'single stem unbranched/
a n c t with leaves of a 'dark metallic green.' Mr. Yeoward says 'The
natives say it grows to 100 feet straight up, almost without a break,
a d they call it *Dacea*,' in habit therefore recalling species of *Glavija*
o r c r a i a Araliaceae. It is allied to *Ardisia grandis*, Seem., of the
s a m e islands, and to *A. scrobiculata*, Seem., of New Caledonia. In the
d i m e n s i o n s of its noble leaves it must exceed any of its congeners. The
c o r o l l a s are fallen in our specimens.—D. OLIVER.

Fig. 1. Gal. vx and enclosed pistil. 2. Vertical section of same. 3. Detached calyx-
segment. 4. Fruits. 5. Vertical section of sam«. 6. Section of seed, showing
c u r v e d terete embryo. *Parts of flower and sections of fruit and seed tnlarged.*



M.S. del et lith.

Oberonia biaunta, n. k. f.

PLATE 2317.

OBERONIA BIAUBITA, *Hook. f.*

ORCHIDEJE. Subtribe MALAXED.

O. biaurita, *Hook. f. (nou. 87)*; acaulis, foliis 2-3 lineari-ensiformibus acutis subfalcatis carnosis, scapo brevi ad basin bracteolato, bracteis minutia setaceis, floribus minimis sessilibus, sepalis obtusis dorsali ovato lateralibus multo minore et angustiore, petalis linearibus obtusis, labello majusculo grosse acute dentato, rotundato v. subbifido v. trilobo lobis lateralibus auriculiformibus tenninali parvo crenulato 2-lobato.

HAB. Singapore, *Ridhy* (No. 364).

Folia 2-3 evoluta, 2-5 poll, longa, 1-1.5 poll, lata, basi squamis foliaceis instructa, enervia, recta v. lente curva. *Scapus* unicum spica gracili decurva 2-4-pollicaris; flores conferti, subverticillati, ad 5 poll. diam.; bractee glabrae.

O. biaurita belongs to the first group of the Indian species as defined in the 'Flora of British India' (vol. vi. p. 675), being stemless, and having a deeply toothed lip. It differs very much in habit and in the lip from any hitherto described plant of the section. The lip varies remarkably, both in size and shape; in what I regard as the typical form (fig. 1) it is rather longer than broad, with two large side-lobes that are prolonged upwards far beyond the column, giving an ear-shape to each lobe, and with a small terminal retuse mid-lobe, which is broader than long. In a greatly reduced form (fig. 3) the lip is much broader than long, two-winged, with spreading sides. An intermediate form is shown at fig. 2, whose terminal lobe is suppressed, and the lateral lobes are produced upwards, together forming a semicircular sinus around the column.-J. D. H.

Figs. 1, 2, and 3. Various forms of lip. *All enlarged.*



M.S. del. et lith.

Oberonia ciliolata, Hk. f.

PLATE 2318.

OBERONIA CILIOлата, *Hook.f.*

ORCHIDÆ. Subtribe MALAXED.

O. (Caulescentes) ciliolata, *Hook.f. Fl. Brit. Ind.* vi. 181; caulescens, foliis late ensiformibus obtusis equitantibus, scapo erecto, racemo **racili** densifloro, bracteis minutis lanceolatis pilosulis, floribus uninerviis breviter pedicellatis, sepalis ovatis acutis uninerviis potalisque longitudinalibus pilis elongatis ciliatis, labello recurvo oblongo-quadrato truncato subpectinatim irregulariter dentato.

HAB. Singapore, at Krangi, *Ridley*.

Caules caespitiosi 1½–4 poll. longi, foliosi. **Folia** 1–2 poll. longa, basi ½ poll. lata, fere recta, a basi late equitante sensim in apicem obtusum anastastata, sicut coriaceae uninerviae. **Scapus** 1–2-pollicaris, demum J. Witug, ad basin bracteolatus. **Flores** ½ poll. diam., vix verticillatas sparse pilosi; petala apices versus intus subdentata. **Capsula** tuberosa, ½ poll. diam., crasse 3-costata v. subulata, puberula.

O. ciliolata is a very well-marked species of the caulescent *Oberonias*, and is nearest to *O. anceps*, Lindl., differing in the more slender raceme, entire lanceolate bracts, and lip.—J. D. H.

Figs. 1. Flower. 2. Lip. 3. Capsule. *All enlarged.*



M. S. de la et lith.

Habenaria gibsoni Hk f

PLATE 2319.

HABENABIA GIBSONI, *Hook.f.*

ORCHIDEJG. Tribe OPHRYDEJE.

H. (Ate) Gibsoni, *Hook.f. FL Brit. Ind.* vi. 135 ; tuberibus ovoideis, caule robusto folioso, foliis lineari-oblongis lanceolatisve subacutis, racemo robusto paucifloro, bracteis foliaceis, floribus amplis, petalis 2-partitis laciniis linearibus falcatis obtusis, labello 3-partito laciniis **Hnari-subulatis subaequalibus acutis carnosulis, calcare apice clavato ore inappendiculato.**

HAB. The Goncan ; near Kyreswur, and at Kandalla, *Gibson*.

Caulis 8-12-pollicaris, crassitie pennse anatinse, infra medium vaginatus. **Folia** 4-6-pollicaria. **Eacemus** 6-8-florus; bractere 1-1^ poll, longae, membranaceae, late lanceolatae, acuminatae, nervosae. **Flores** iis *H. digitatae* consimiles, sed fere duplo majores. **Sepalum** dorsale ovato rotundatum, lateralia duplo longiora ovato-lanceolata acuminata. **Petala** adscendentia. **Calcaris** os inappendiculatum. **Antera** lata, loculis paullo divaricatis, tubulis adscendentibus. **Stigmatis** processus projecti crassi; rostellum parvum triangulare obtusum.

-a. *Gibsoni* resembles *H. digitata*, and may prove to be a very large form of that common Indian species, but it wants the curious erect "gula at the mouth of the spur in that plant.—J. D. H.

Fig. 1. Petal. 2. Lip. 3. Column. *Itt enlarged.*



M.S. del et lith.

Habenaria concinna Hk. f.

PLATE 2320.

HABENABIA CONCINNA, *Hook.f.*

ORCHIDÆE. Tribe OPHRYDEA:.

H. (Hologlossa) conrinna, *Hook.f. Fl. Brit. Ind.* vi. 155 ; *pumila*, caule gracili folioso foliis parvis sursum decrescentibus, infimis sossilibus ellipticis subacutis superioribus bracteiformibus, spica multiflora, bracteis inferioribus herbaceis flores lequantibus v. iis longioribus, sepalis lateralibus linearibus obtusis, dorsali petalisque dimidiato-ovatis obtusis duplo angustioribus, labello a basi latiore lineari v. lineari-lanceolato obtuso sepalis tequilongo, calcare ovario sequilongo incurvo acuto.

HAB. Khasia Hills, alt. 5,000 ft., *J. D. Hooker* and *T. Thomson* ; *Clarke*.

Herba 4-8-pollicaris. *Radix* e fibris crassis fere tuberosis. *Folia* interdum fere imbricata, infima 1-11 poll, lcraga, obtusa, superiora acuta. *Spica* 2-4-pollicaris, subdensiflora ; bractea; ^ põll, longie, ovato-lanceolatare, acutie ; ovarium subereCtum. *Sepalum* dorsale ovatum, S-nerve, lateralia obtusa reflexa 1-nervia. *Petala* sepalo dorsali a>quilonga, erecta, 1-3-nervia. *Labellum* angustum. *AntJiera* magna, loculis subremotis, divergentibus, tubulis 0 ; rostellum triangulare.

A very distinct little species of the section *Hologlossa*, with the habit of sect. *Pristylus*, but differing from the latter in the reflexed lateral sepals. The stigraatic processes so frequent in *Habenaria* are entirely absent in *H. concinna*.—*J. D. H.*

Fig. 1. Flower. 2. Lip and column. *Both enlarged.*



M S del et hth.

Habenaria securidiflora, Hk.f.

PLATE 2321.

HABENARIA SECUNDIFLORA, Hook. /.

ORCHIDEAE. Tribe OPHRYDACEAE.

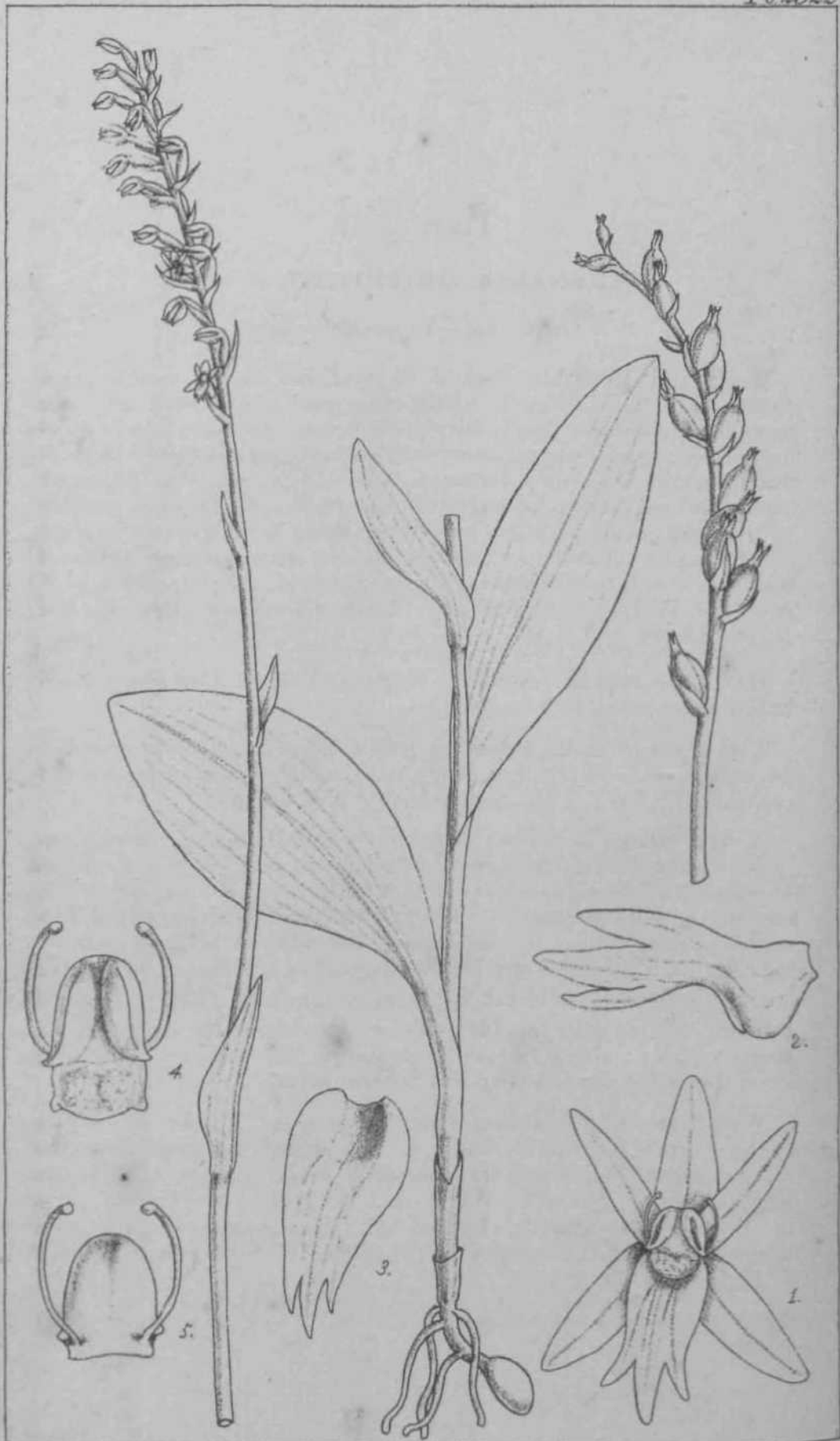
H. (*Dipyla*) *secundiflora*, Hook. f. *Ft. Brit. Ind.* vi. KJ5 ; pinnula, tuberosus subglobose, caulo erecto v. recurvo, foliis paucis linearibus utrinque lateribus complicatis, spira densa florum, bracteis linearibus inaequalibus inferioribus lobes secundos longe superantibus sejunctis inaequalibus 1-nerviis, lateralibus petalisque angustioribus falcatis erectis, involucro hirsuto pilis adpressis glandularibus glandulis orbiculatis lobis parvis ovatis basi contractis; acutis, callosis paulo brevioribus conoidibus, glandula: uncinata atlixata, glandulis lobis 2 inflexis rostratis oportu.

1 IAB. Subalpine Himalaya ; Kumaon, alt. 9,000 10,000 feet, *Dunthie* ; Sikkim alt. 14,000 feet, *J. D. Hooker*; Cliunibi (Tibetan Kikkim), *King's collector*'s.

Stem 3-5-pollicaris, gracilis. Folia 2-3, cauli fere terquilongae, imbricatim inaequalia. Spica 1-2 pollicaris ; lobis rosae, ad 1 poll. lati. Sepala in petala in laminam erectam conniventia. Labellum recurvum.

A very curious plant, technically a member of the *Pnrittyhi* section of *fabraria*, but very unlike any species of it in habit, and with the pollinia attached to one obcordate gland, which is covered by the inflexed lobes of the nectarium. I have carefully dissected every Indian and many other *Habenarias* and found no structure like this in any, and I have in my remarks under *ahniaria* in the 'Flora of British India,' vol. vi. p. 112, suggested that it should form a distinct genus, should observations in the living plant confirm these characters, they are most difficult of observation in specimens that have been dried. The likeness of the plant to another aberrant *abriaria*, *H. nectata* (Clarke in 'Journ. Linn. Soc.' xxv. 7 t. 30, *Hiphijtnx nectata*, Hook. f. in 'Bot. Beechey' t. 1805), is striking, but superficial. The coalescence of the glands of the pollinia is what occurs in some sections of *Orrhin* and in *Acrrn*, and being foreign to *llahnuria* is a further reason for regarding *Dipyla* as a distinct genus.—J. D. II.

1. Sepals and petals cohering. 2. Lateral sepals. 3. Petal. 4. Lip. 5. Column, with the two lobes of the nectarium separated and lying parallel to the base of the stigma. 8. Pollinia. All enlarged.



M.S.delet'htk

Habenaria Griffithi, Hk.f!

PLITE 2322.

HABENABIA GRIFFITHII, Hook./.

ORCHIDÆ. Tribe OPHRYDEJE.

H. (Dithrix) Griffithii, *Hook. / Fl. Brit. Ind.* vi. 197 ; caule gracili paucifoliato, foliis ellipticis lineari-oblongisve acutis obtusisve, spica secundiflora, floribus parvis decurvis, bracteis ovato-lanceolatis ovario longioribus, sepalis patentibus ovato-oblongis obtusis, lateralibus deflexis, petalis linearibus sublanceolatisve suberectis, labello sepalis sequilongo basi saccato ecalcarato oblongo apice 3-fido lobis parallelis v. divaricatis ovatis, anthera brevi sessili dorso basi utrinque filo erecto incurvo apice clavellato instructa oculis divergentibus rostello 0, stigmatis area infra antheras late quadrata. H. decipiens, *Hook./ Fl. Brit. Ind.* vi. 165 (not o/ Wight). *Herminium, Griff. Notul.* iii. 270; *Ic PL Asiat.* t. 285, f. 1.

HAB. Afghanistan, *Griffith*; Kurrum Valley, *Aitchison*; N.-W. India, *Edgeworth*; Lahul, *Thomson*.

Herba 6-8-pollicaris, tuberibus parvis oblongis. *Caulis* erectus v. flexuosus. *Folia* 1-2[^] poll, longa, sive membranacea, inferiora subpetiolata. *Spica* 1-2-pollicaris ; flores £ poll, lati, albi.

A very curious plant, the flowers of which I have repeatedly analysed without satisfactory results, because of their very soft tissues. It resembles a *SpirarUhes* more than a *Habenaria*, and was mixed with one in Griffith's herbarium. Griffith analysed its flowers in a fresh state and figured them in his 'Icones/' and referred to these figures in his *Notulae/' but these are hardly intelligible. The curious filaments **on each side of the anther he regards, no doubt rightly, as sterile stamens. I was quite unable to detect the 'furcation of the clinandrium into a rostelluin,' which he describes, and which is probably in dried specimens shrivelled up and not discernible.**

^m When describing this plant under the name of *Habenaria decipiens* ⁱ the ⁱ *Flora of British India*,¹ I was under the impression that *H. decipiens* of Wight ^{wm} the same as *H. longicalcarata*, A. Rich, with which, and *H. montana*, Wight (not A. Rich.), it was confounded in Wight's Descriptions, Icones, and Herbarium. I have dis-
⁷ffled these plants at vol. vi. p. 197 of the 'Flora of British India.'—
J - D. H.

FIG. 1. Flower. 2 and 3. Lip. 4. Front, and 5. back, view of anther. All enlarged.



M S del et lith

Dizygotheca Nilssonii, N.E. Br.

PLATE 2323.

DIZYGOTHECA NILSSONI, N. E. BR.

ARALIACEJE. Series PANACEA.

Dizygotheca, N. E. Brown in *Kew Bulletin*, 1892, 197. *Calyx* 5-dentatus. *Petala* valvata. *Stamina* 10, 5-adelpha (sed primo aspectu 5-andra, antheris 4-ocularibus); filamenta crassiuscula subulata petalis alterna; anthera composita late oblonga symmetrice 4-ocularis (8-locellata), rimis 4 longitudinaliter dehiscens. *Ovarium* 10-loculare; styli 10, primum papilliformes, mox stellatim patentes recurvi, sulcati, sursum papilloso; ovula solitaria, pendula. *Fructus* subglobosus v. ellipsoideus, baccatus; pyrense a latere compressae, induratae, rugulosae; albumen sequabile.—Arbor parva, glabra, caule simplici, inermis. Folia alternata, longepetiolata, digitata, 9-11-foliolata; *foliola* elongato-oblonga leviter sinuata, glabra, apice obtusa v. retusa, basi leviter angustata, longiuscule petiolulata. Inflorescentia terminalis, umbelliformis, radiis 2 primariis circa 7, medio pauciradiatis, apice c. 10 radiatis umbellulis longiuscule pedunculatis, pedicellis cum flore continuis. Petala viridi-lutea. Antherse albae. Baccae atrovioleae.

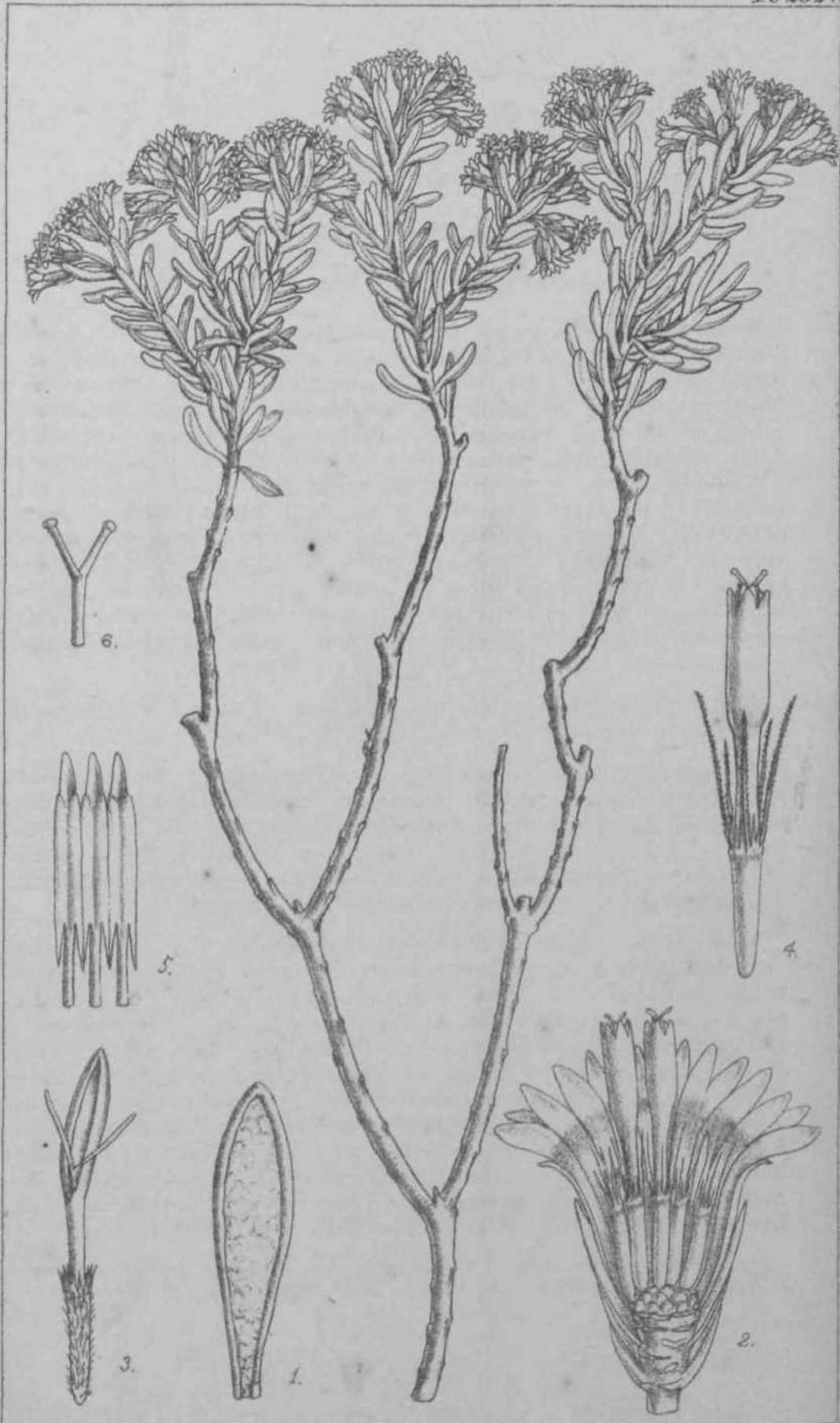
p. Nilsoni, N. E. Br. 1. c. (sp. unica); *Plerandra* (*Pentadiplandra*) Villardi, Baill. in Adans. xii. 136.

HAB. New Caledonia, Pancher, Vieillard (fide Baitton, l.e.). *Caulis* MO-pedalis. *Petiole* 18-20 poll, longi; *petioluli* 2-3 poll, longi. *Foliola* 9-13 poll, longa, 2-3 poll. lata. *Inflorescentia* circa 18-20 poll. diam.; radii primarii 8-9 poll, longi; pedunculi secundarii 2-3 poll, longi; pedicelli 1 poll, longi. *Flores* 11-12 poll. diam. *Baccae* 11-12 poll. diam.

This interesting plant, of which a living specimen was received at Kew in 1880 from M. Linden, flowered for the first time in November 1891 and was published with a careful description by Mr. N. E. Brown, constituting a new generic type, in the *Kew Bulletin* (l.c.) I find, however, what I cannot doubt to be the same plant described by Dr. Baillon in his 'Recherches nouvelles sur les Araliées' in *Atlantonia* (Z. c.), as a species of *Plerandra*, of which genus he regarded it as a new subgeneric type, to which subgenus he gave the name *Pentadiplandra*; his name, like Mr. Brown's, pointing to the distinctive character of the androecium, which consists apparently of five

stamens, each with a 'double' anther, that is, with four parallel lobes symmetrically borne, as in the case of an ordinary anther, upon a simple, rather stout, subulate filament. With our present knowledge of the Araliaceae it would seem to be more consistent with the standard of generic value adopted in the 'Genera Plantarum' of Bentham and Hooker to regard this plant, with Mr. Brown, as the type of a distinct genus. The subgeneric name given by Dr. Baillon he has himself since adopted for a new genus of Tiliaceae. His specific name, of course, Mr. Brown would have adopted had he been aware of it at the time of his publication. Dr. Baillon in his *Histoire des Plantes,' vii. 255-6, reduces *Tetraplasandra*, A. Gr., *Tupidanthus*, Hook, f., and *Triplasandra*, Seem., to *Plerandra*, and further knowledge of Pacific forms of this order may very possibly justify this course. A species, allied to *Dizygotheca Mlssoni*, *D. leptophylla*, has been described by Mr. Hemsley in Eew Bulletin, 1893, 156. It is only known to us in cultivation.—D. OLIVER.

Fig. 1. Flower. 2. Anthers, back and front view. 3. Transverse section of an apparent anther. 4. Ovary and stigmas. 5. Longitudinal section of ovary. 6. Transverse section of ditto. 7 Fruit, upper half of pericarp removed, 8. Seed (nat. size). 9. Ditto enlarged. 10. Longitudinal, and 11. transverse, section of seed. *Excepting 8 enlarged.*



M.S. del et lith.

Ne stler? - *noxih* o s 3, B o'us.

PLATE 2324.

NESTLERA CORYMBOSA, Bolus.

COMPOSITE. Tribe INULOIDEA:

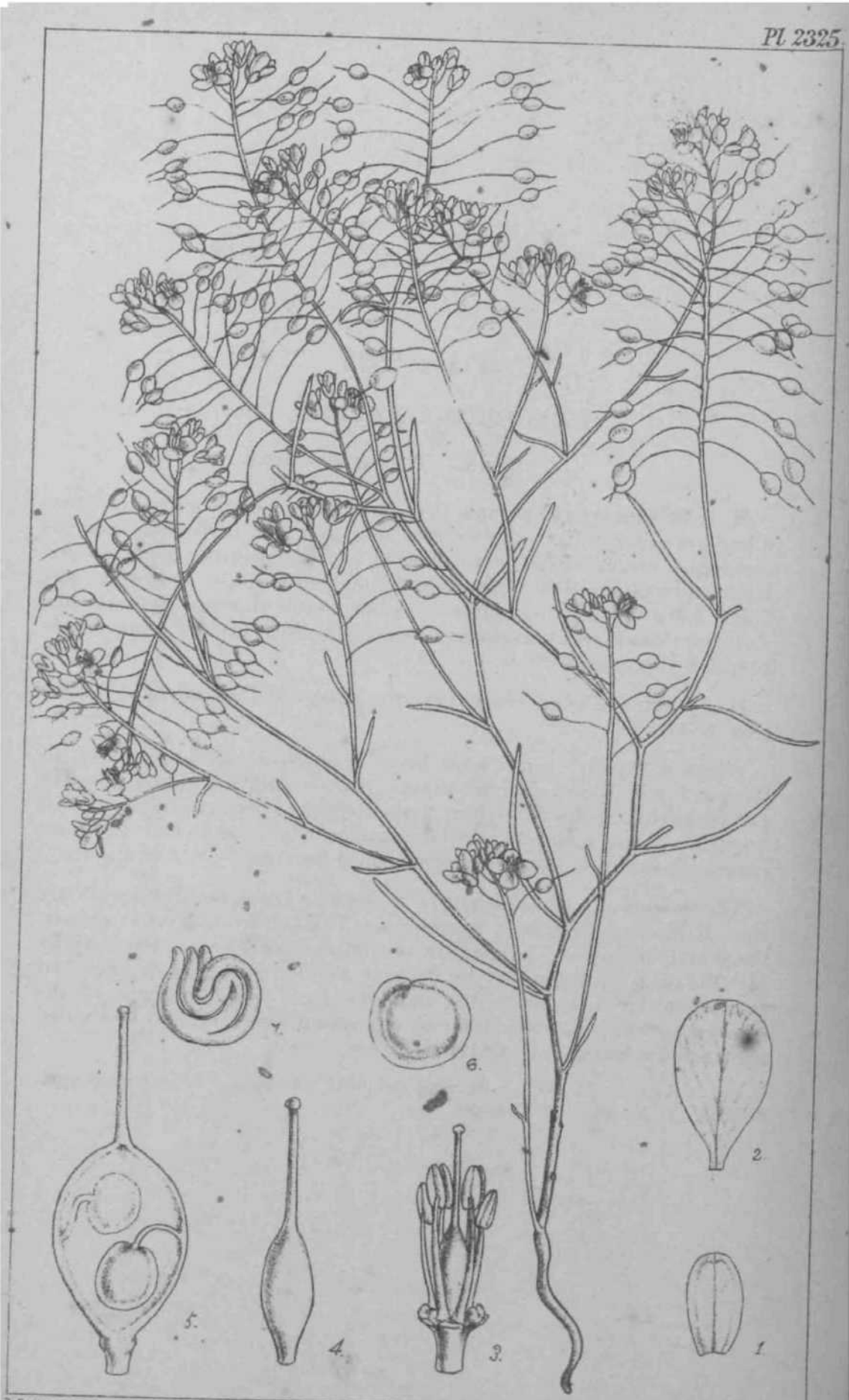
N. corymbosa, Bolus (*nov. sp.*); fruticulus pedalis vel ultra ; ramis teretibus adscendentibus, inferne nudis, cicatricibus foliorum delapsorum parce verruculatis, superne tantum foliosis, foliis alternis confertis obovato-oblongis, subobtusis, margine inflexis, superne tomentosis, subtus glabris nitido-viscosissimis, 1-nerviis, incurvo-erectis, corymbis & 7-capitulatis, pseudo-terminalibus, at eiiim ex pedicellis aimotinis persistentibus evidenter lateralibus, pedunculis gracilibus capitulis brevioribus, involucro cylindrico-campanulato basi angustato, squamis exterioribus lanceolatis interioribus angustiores lineari-oblongis intimis apice patentibus flores disci subsuperantibus, receptaculo alveolato epaleaceo, floribus radii circa 6, ligulis brevibus oblongis corollas tubulosas vix excedentibus, achamiis obscure trigonis sericeo-villosis s*pe abortivis, floribus disci circa 16, achaeniis glabris lsevibus, pappo interiore e setis 5-6.

HAB. South Africa: Karroo, hills near 'Touws River Railway Station,¹ alt. 850 metr., // . Bolus (Herb. No. 7355).

Folia 3-5 lin. longa. *Capitula* glabra 3 lin. longa ; pedunculi breves canescentes. *Corolla* (disci) tubuliformis, supra medium leviter dilatata, ore minute 5-dentata. *Antherai* basi caudatse, caudis setiformibus connatis. *Pappus* (disci) setis inaequilongis, setis longioribus paucis (^h 1) rigidiusculis, barbellatis, caducis, brevioribus hyalinis complanatis^v - angustissime paleaceis interdum incis. — H. BOLUS.

There is but choice of difficulties in assigning this plant to any described genus as at present defined. Mr. Bolus inclined to refer it to *Rosenia*, but comparison with our figure ('Ic. PI.' 2228) of the original species of that genus, with its more or less scaly receptacle and uniform pappus, does not favour that affinity. The general aspect of the plant is similar to that of some species of both *Nestlera* and *Utania*, both belonging, as does our plant, to Inuloideae. Indeed, in *Athanasia*, amongst Anthenrideae, the same habit recurs with the infrequent condition, also characteristic of *N. corymbosa*, of the hairy indumentum of the leaf being confined to its upper surface. As *Utania* has a paleaceous receptacle, I have thought it best, with the true leaf of Mr. Bolus, to place it in *Nestlera*. — I >. OLIVER.

³ *JS- 1. Leaf, upper surface. 2. Capitulum, the receptacle partially exposed.
• ^ay-floret. 4. Disc-ioret. 5. Anthers. 6. Style-branches. *AH enlarged.*



M.S. del et lith.

Heliophiia patens, Oliv.

PLATE 2325.

HELIOPHILA PATENS, *Oliv.*

CRUCIFERAE. Tribe SISYMBRIACEAE.

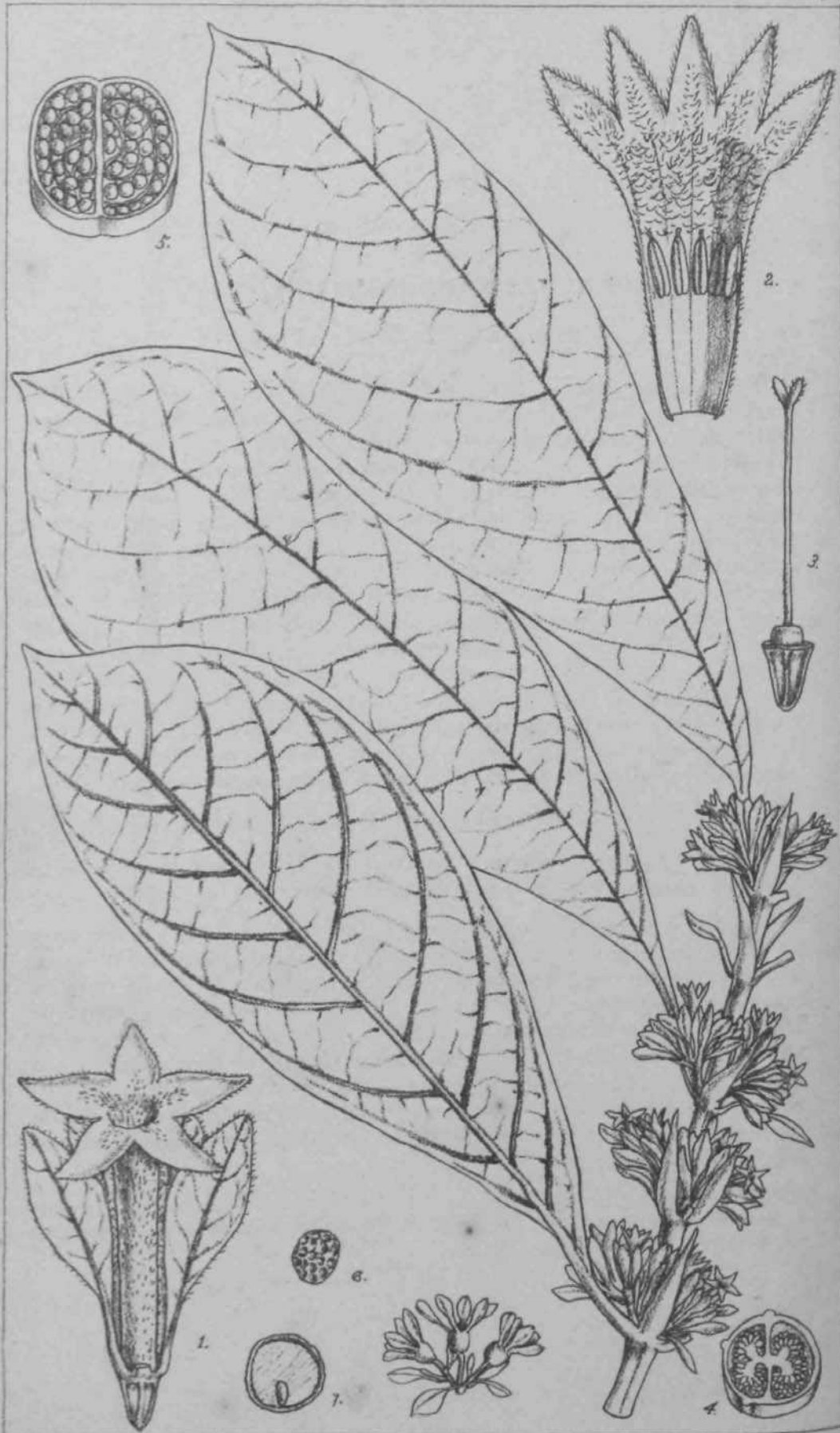
E. (§ *Selenocarpaea*) *patens*, *Oliv.* (*sp. nov.*); annua glaberrima fere
fere basi graciliter divaricatim ramosa, foliis anguste linearibus indivisis
carnosis, racemis 10-30-floris, floribus albidis v. pallide purpurascen-
tibus, siliquis pedicellatis ellipsoideis v. rhomboideo-ellipsoideis compressis
valvis maturis purpurascensibus leviter convexis 1-2-spermis,
stylo persistente recto siliqua aequilongo, pedicellis patentibus gracillimis
siliqua 3-5-plo longioribus.

HAB. Cape of Good Hope, near the village of Piquetberg, *E. Bolus*
(No. 7530).

Herba 6-8-poll.; caulis teres laevis v. obsolete striatus. *Folia* in-
teriora 1 poll, longa, angustissima. *Sepala* elliptica obtusa concava
purpurascens. *Petala* calyce 2-plo longiora, obovata integra, basi
angustata brevissime unguiculata, calyce 2-plo longiora. *Ooarium*
oblanceolatum v. oblongo-obovatum, stylo brevius, 1- v. 2-ovulatum.

The nearest ally of this plant is *Heliophila flacca*, Sond., known only
from Ecklon and Zeyher's specimens. This interesting new species,
the fourth species of the peculiar section *Selenocarpaea*, discovered by
E. Bolus, is distinguished by its very slender stem, much branched
from about an inch above the root, the long patent pedicels of the
elliptical pods, and, so far as our specimens show, the undivided
very narrow leaves.—D. OLIVER.

1. Sepal. 2. Petal. 3. Stamens and pistil. 4. Pistil. 5. Fruit, laid open.
6. Seed. 7. Embryo. All enlarged.



M.S. dal et lith.

Pentaloncha humilis, Jik.f.

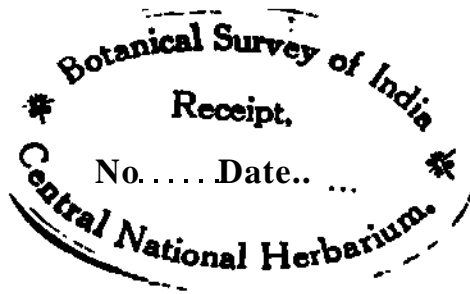


PLATE 2326.

PENTALONCHA HUMILIS, Hook.f.

RUBIACEAE. Tribe MIJSSENDEAE.

P. humilis, Hook. f. in Benth. et Hook. f. Gen. Plant, ii. 73 ; herbacea glabra v. glabrescens, caule decumbente, foliis obovato-ellipticis obovatisve petiolatis paribus ssepe inaequalibus minore uainimo ssepius breviter apiculatis basi in petiolum angustatis, nervis lateralibus incurvis utrinque 9-10, stipulis interpeticularibus indivisis v. interdum apice laciniatis erectis lanceolatis acutis pefciolo sequilongis v. longioribus, floribus in cymis brevissime pedunculatis axillaribus exinvolucratis umbelliformibus congestis stipulis subquilongis, calycis tubo campanulato-turbinato costato limbo tubo 4-plo longiore, segmentis subaequalibus corolla brevioribus petiolatis lamina lanceolata v. ovato-lanceolata (v. in calyce fructifero late ovata) acuta, corollae tubo cylindrico limbo breviter 5-lobato lobis ovato-lanceolatis, staminibus prope medium tubi insertis, filamentis anthera brevioribus, antheris linearibus mucronatis, ovario 2-loculari, fructibus campanulato-globosis, pericarpio tenui placentis seminiferis ramosis, seminibus numerosis subglobosis, testa Crustacea scrobiculata.

HAB. W. Trop. Africa, Sierra del Crystal, *Mann* (No. 1734).

[^] *Herba* 1-2 pedalis. *Folia* 3-5 poll, longa, 1 f-2 | poll, lata ; petiolus 3-2 poll, longus ; stipulae ^ poll, longse. *Flores* 4-5 lin. longi.

The ovary is described as 5-locular : I do not find it so, but certainly ² and also 3-locular in the few flowers at my disposal for analysis, ³ the changes in the placenta, its division and complex lamination in ⁴ the advanced stages make it very difficult to understand or describe intelligibly without adequate material. I do not find the ridges on ⁵ the ovary, conspicuous in the flowering stage, but obsolete later, to ⁶ correspond very definitely with its internal arrangements. The inequality in ⁷ size of the leaves in at least some, possibly in all, of the pairs was first noted by Miss Smith in preparing her drawing for our ⁸ *Flt* ⁹ *Hog* ¹⁰ *Rh* ¹¹ *D*. OLIVER.

5. ¹² *Fl* ¹³ **** Flower. 2. Corolla laid open. 3. Pistil. 4. Transverse section of ovary ¹⁴ *x* ¹⁵ *pan* ¹⁶ *cell* ¹⁷ *section* of fruit. 6. Sped. 7. Section of seed, showing the embryo ¹⁸ *All enlarged.*



M.S. del. et lith.

Temnopteryx sericea. Hk. f.

PLATE 2327.

TEMNOPTERYX SEBJCEA, *Hook.*./.

RUBIACEJE. Tribe MUSSIENDEIE.

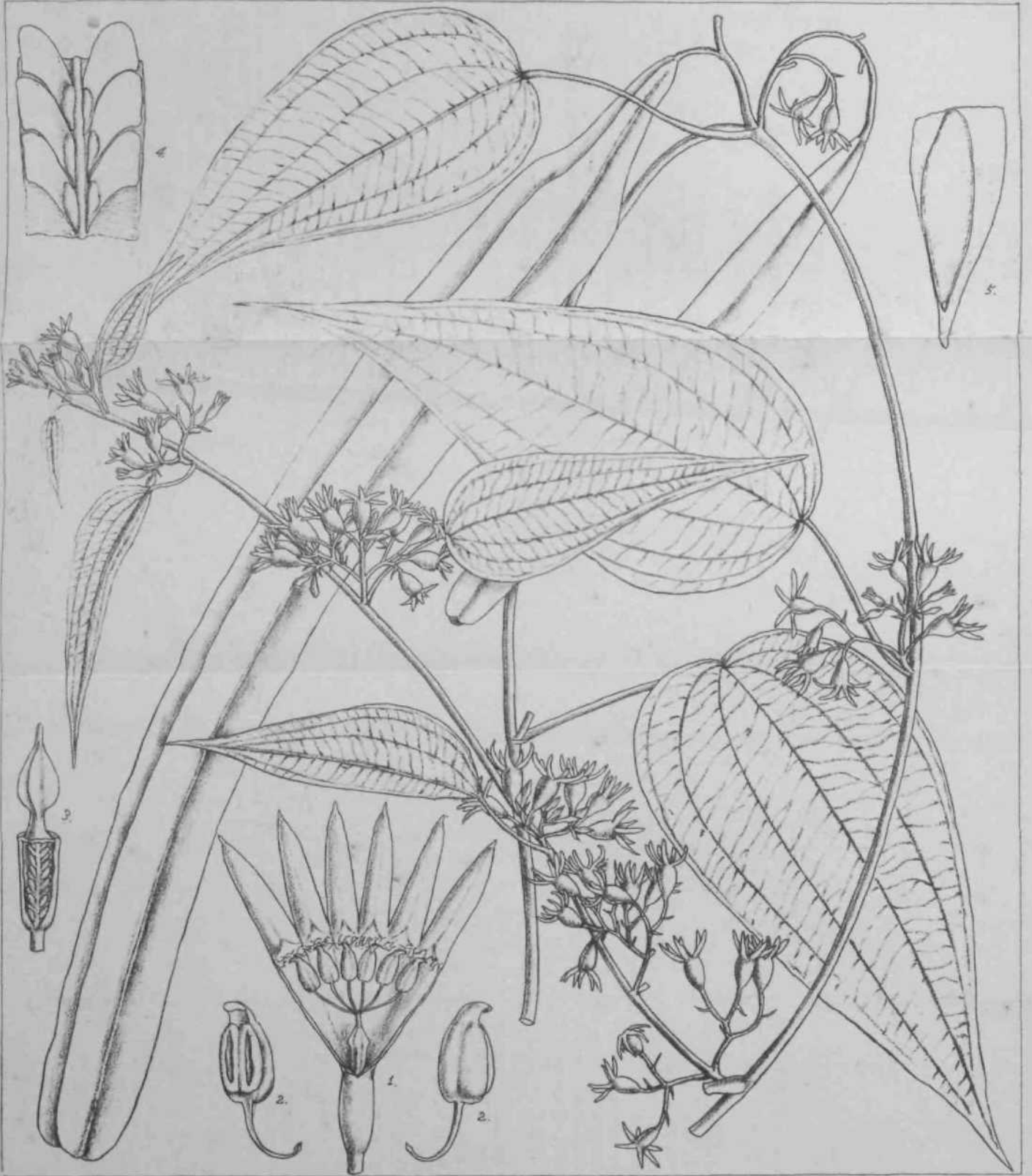
T. sericea, *I Took.f. in Benth. et Hookf. Gen. Plant* ii. 72 ; herba robusta 2-3-pedalis, caule pilis ferrugineo-sericeis induto et in stipulis multin'dis sericeis vaginato, foliis oblanceolatis v. oblongo-ellipticis graciliter acuminatis basi in petiolum longe attenuates supra glabris subtus et prsecipue in costa nervisque lateralibus 14-16 prominentibus ferrugineo-sericeis, floribus in cymis axillaribus contractis v. gloinerulis breviter pedunculatis bracteis stipulaceis multiidis vaginatis dispositis pedicellatis v. subsessilibus, calycis tubo anguste turbinato costato limbi segmentis magnis inaequalibus petiolatis majoribus 1-3 cum lamina late ovata v. subcordata acuta minoribus spathulatis v. lamina lanceolata supra glabra, corollae tubo calycem superante superne leviter dilatato lobis carnosulis brevibus ovatis tubo 8-10-plo brevioribus, staminibus prope v. supra medium tubi insertis, filamentis brevissimis, antheris anguste linearibus mucronulatis, fructu subglobo apice fruncato vestigiis limbi calycini coronato, pericarpio septisque tenuiter crustaceis. Hiern. in Oliv. *FL Trop. Afr.* iii. 78.

HAB. W. Trop. Africa, Sierra del Crystal, *Mann* (No. 1427).

Folia lamina 6-14 poll, longa, 2-*U* poll, lata; petiolus 1-2 poll, longus; stipulae 1-1^ poll, longae. *Flores* 1-*H* poll, longi; calycis segmentorum laminae ad 1-1 poll, longae. *Fructm* 1-1 poll. diam.

This fine plant has not to our knowledge been refound since Mr. **Mann's** memorable expedition to the mountain range in 1° N. lat., **known** then as the Sierra del Crystal, where some peculiar forms not **elsewhere** collected by him were found. The divisions of the style, **which** is much stouter than the corolla-tube in our specimens, are live **in number**, and narrowly linear. Whether the enlarged lamina of **some** * the calyx-segments is coloured or herbaceous, I cannot clearly **say**—D. OLIVER.

F₆ | **Cor**olla laid open. 2. Pistil, the ovary in vertical section. 3. Transverse **sect.** ion of ovary. *AU enlarged.*



M S del, et lith.

Stenomeris borneensis, Oliv.

PLATE 2328.

STENOMEBIS BORNEENSIS, Oliv.

DIOSCOREACEAE.

8. **borneensis**, *Oliver (sp. nov.)*; dioscoreaeformis, glaberrima, foliis arcuatis 7-nerviis cordato-ovatis ovatis vel superioribus ovato-lanceolatis graciliter acuminatis, cymis axillaribus, breviter pedunculatis v. subsessilibus plurifloris, floribus viridescentibus pedicellatis urceolato-jufundibuliformibus ore leviter constrictis laciniis adscendentibus filicibus carnosulis rigidiusculis apice haud acuminatis mucronulatis tubo brevioribus v. subaequilongis, capsula elongata triptera septicide trivalvi, semiibus compressis adscendentibus superne alatis ala oblique truncata, embryo ut videtur minuta basilari.

HAB. Borneo ; Sarawak, near Kuching, *Hamland* (No. 1664).

Folia petiolata lamina 4-5 poll, longa, 1½-2 poll, lata ; petiolus 1-2 poll longus. *Perianthii* segmenta ½-1 poll, longa. *Fructus* 10 poll. longus, ala inclusa, 4-1 poll, longa, ala inclusa ½ poll, longa.

This is the only species of this singular genus which has been described, as I have ascertained, since the original publication of *Stenomeris borechfolia* by Dr. Planchon (in 'Ann. Sc. Nat. Ser. 3., xviii. 320), which was described by Sign. Beccari ('Nuovo Giorn. Bot. Ital. ii. 1870, 8, t. 2), a plant not represented in the Kew Herbarium, where the Cuming number quoted for it by Beccari is represented by a *Leptocarpus* as indicated in 'Genera Plantarum' under *Stenomeris*, (vol. iii. 745)- These two described species agree in having the segments of their perianths finely acuminate: in *S. borneensis* they are not attenuated at all, but fleshy, linear, and abruptly acute or mucronate. The singular dilatation of the filiform prolongation of the connective of the anthers I cannot venture to figure from our dried specimens. Beccari gives a careful analysis of this appendix in plate of *S. Cumingiana*, referred to above.—D. OLIVER.

F. 1. Flower perianth laid open. 2. Anthers, showing inner and outer longitudinal section of ovary and style. 3. Longitudinal section of ovary and style. 4. Seeds in situ. 5. Vertical section of seed with part of wing attached, showing minute embryo at the base. *Wfig.t, all enlarged.*



M.S.del, et lith.

Ply chop etaium petiolatum, Orlv.

PLATE 2330.

PTYCHOPETALUM PETIOLATUM, Oliv.

OLACINÆ. Tribe OLACEÆ.

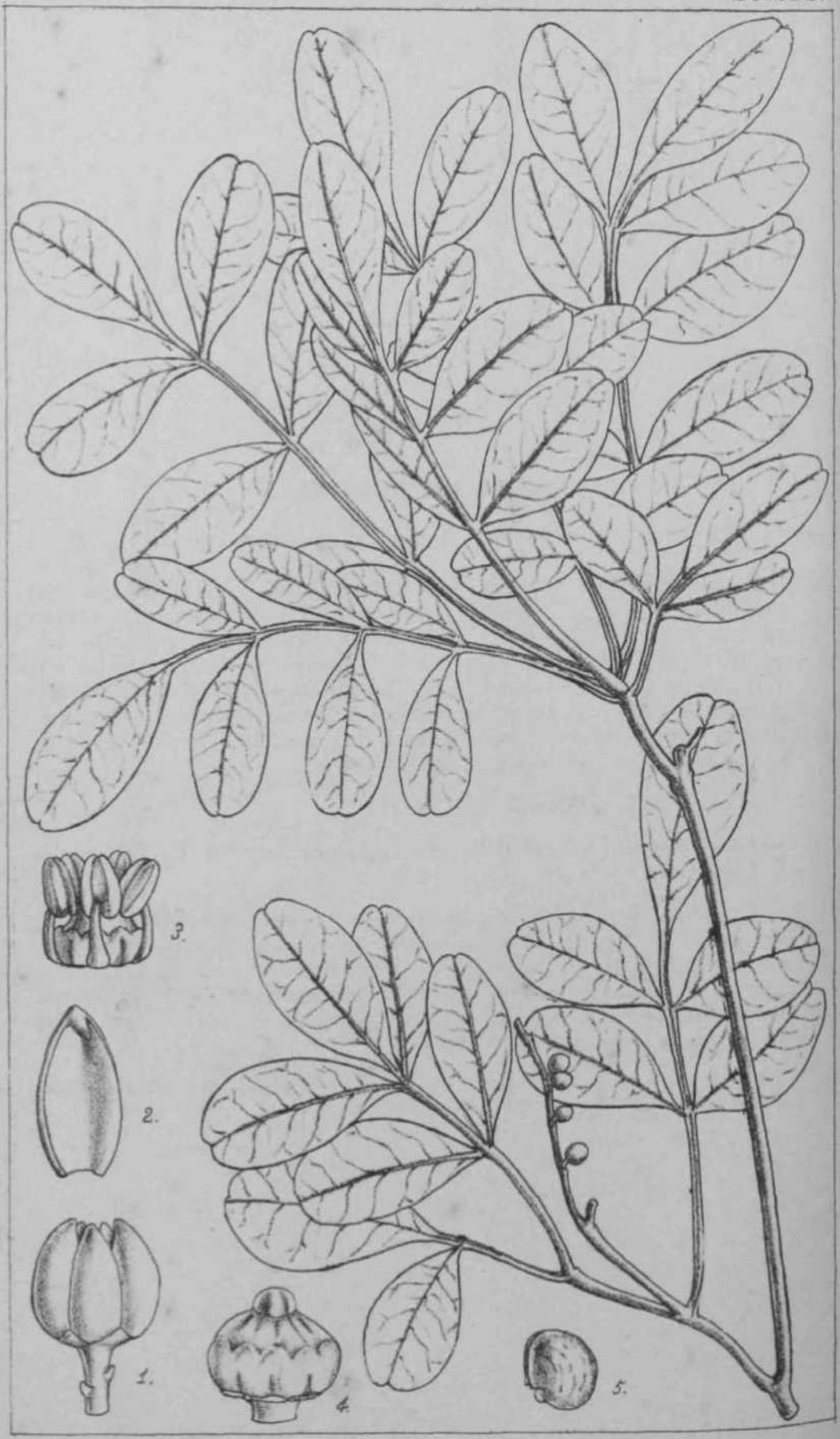
*. petiolatum, OHv. Fl. Trop. Afr. i. 347; frutex 12-15-pedalis florer, ramulia teretiusculis v. ultimis compressiusculis, foliia petiolatis ovato-ellipticis lanceolatisve acuminatis basi rotundatis v. late cuneatis, Bon bus in racemis brevibus interdum 1-2-ramosis axillaribus dispositis, bracteis minutis ovato-rotundatis, calyce obsoleto, petalis oblongis Arnosulis apicem versus recurvis demura liberis intus prope medium orbatis basiet dorso glabris, staminibus 5-7 petalis oppositis et eisdem anatis, antheris ovatis v. ellipticis dorsifixis, filamento apice glabro, ovario columnari glabro inferne sulcato in stylum sequilongum subito gustato. / i s

HAB. W. Africa » K 011 A and Muni rivers, Mann (Nos. 1746, 1793).

Folia integra, tenuiter coriacea, 2-4 poll, longa, 1-1 1/2 poll, lata, venis primariis utrinque 3-5; petiolus 1-2 lin. longus. "Flares 2-2 1/2 lin. longi; alabastra obtusa.

Dried specimens assume a dark reddish-brown colour; the lateral nerves are connected by broad curved loops considerably within the areolae. I have not made any serious attempt to describe the contents of the ovary from our dried specimens. There are very few flowers available for anatomical analysis, and specimens preserved in alcohol are necessary for satisfactory examination. The ovary on section simply presents the ordinary cellular mass characteristic of so many Loranthaceae, with which plants would appear to have close affinity, although the calyx, or calyculus, is obsolete and the ovary entirely free.— D. OLIVER.

Fig. *. Flower. 2. Fetal and adnate stamen. 3. Pistil. All enlarged.



M.S. del. et lith.

Palocarpas microphyllus. Stapf

PLATE 2331.

PILOCARPUS MICROPHYLLUS, *Stapf*.

RUTACEJE. Tribe ZANTHOXYLEJJ.

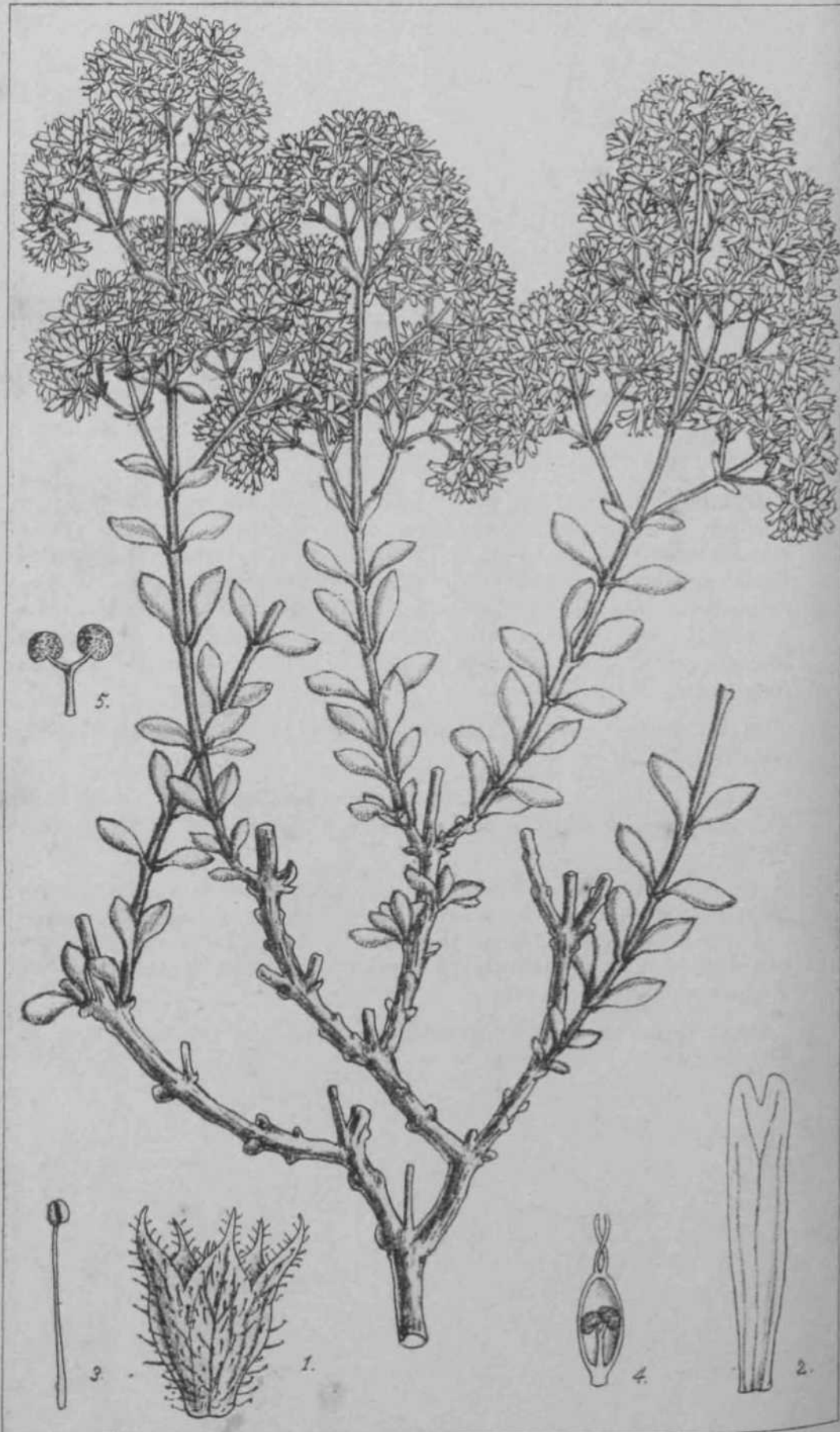
P. microphyllus, *Stapf*, in *Kew Bull.* 1894, 4 ; glaberrimus, ramulis gracilibus teretibus, foliis imparipinnatis, foliolis parvis lateralibus ssepius 2-3-jugis ellipticis v. obovato-ellipticis apice emarginatis subsessilibus basi cuneatim angustatis, terminali basi longe attenuato v. petiolulato, petiolo communi inter foliola angustissime alato, racemis simplicibus solitariis tenuibus laxifloris, floribus breviter pedicellatis, calycis minuti lobis ovatis, alabastris parvis late ovoideo-globosis, coccis lateraliter compressis oblique ovoideis.

HAB. Brazil. *Glaziou* (No. 13417).

Folia cum petiolo 2-4 poll, longa; foliola circ. 1 (-1[^]) poll, longa, $\frac{1}{2}$ - $\frac{5}{8}$ poll. lata.

Expanded flowers are wanting ; the advanced buds in our specimen are about $\frac{1}{4}$ inch in diameter. The raceme is probably from 1J-2 inches in length. The only fruiting-carpel seen, picked out of a sample of the leaves sent to the Kew Museum as a new * *Jaborandi*' by Messrs. Evans, Sons & Co., of Liverpool, measured about jj inch in length and breadth.—D. OLIVER.

Fig. 1. Bud. 2. Detached petal. 3. Stamens and pistil. 4. Pistil and adnate $d_i^{B_k}$. 5. Detached fruit-carpel. *All enlarged.*



M.S. del. et lith.

Gypsophila "biovulfta" Stapf.

PLATE 2332.

GYPSOPHILA BIOVULATA, *Stapf*.

CARYOPHYLLACEJE. Tribe **SILENEÆ**.

G. biovulata, *Stapf* (*sp. nov.*); fruticosa intricata, ramis hornotinis floriferis patentim glanduloso-hirtis, foliis petiolatis ellipticis acutis carnosulis scaberulis setulosisque, cymis in paniculis terminalibus multifloris glanduloso-pilosulis dispositis, floribus graciliter pedicellatis, calyce tenui obconico-campanulato patentim glanduloso segmentis tubo aequilongis lanceolatis acutis, petalis calyce subduplo longioribus anguste cuneato-oblongis apice emarginatis v. breviter bitidis, filamentis filiformibus, ovario biovulato.

HAB. Persia; mountain above the great naphtha springs of Daleki, near Bushire, *Stapf*.

Frutex 1-1¹-pedalis, dense intricatus, hemisphaericus. *Pedicelli* 1-1¹ poll, longi. *Bracteae* parvae, ovals v. lanceolatae. *Calyx* 1 poll, longeus.

The two ovules are borne on an erect basal placenta, about half the length of the cavity of the ovary, each on its short divaricate funicle.

The general habit, form of the leaves, delicate calyx and biovulate ovary of this plant, constitute a somewhat exceptional type amongst the *Eugypsophileae*.—O. STAPF.

Fig. 1. Calyx. 2. Petal. 3. Stamen. 4. Longitudinal section of ovary. 5. Placentary stipes. *All enlarged.*



M.S. Giesl, et. h. h.

Polytoca Coocci, Stapf.

PLATE 2333.

POLYTOCA COOKEI, Staff.

GRAMINEJE. Tribe MAYDEA.

P. Cookei, *Stapf*(*sp. nov.*); annum (vel perennans, sed anno primo florens?), culmo 3-pedali vel altiore levi ad nodos annulo pilorum instructo, internodiis inferioribus quam vaginae brevioribus superioribus longioribus plus-, minusve exsertis, vaginae laxiusculis setis patulis e tuberculis ortis obsitis striatis, ligula brevi subhyalina fuscipilosa, lamina lanceolata vel lineari-lanceolata basin versus angustata acuminata flaccida in margine dense serrulata utrinque pilosa, nervis utrinque 7-12 tenuibus sed distinctis aliis tenuissimis interjectis in Jertordio subtus valde prominente dorso rotundato albido, ramis florentibus ⁱⁿ* foliorum superiorum axillis fasciculatim congestis unoquoque basi prophyllis dorsali anguste lineari longe acuminato pubescente instructo iteratim ramificato, ramulis secundi vel tertii vel quarti ordinis eodem ^{mo}re collectis in inflorescentias heterogamas abeuntibus nempe extimo ^{Cu}Jusque fasciculi (i.e. primario) elongato plus minusve exserto in panice ^{ul}an 5 masculam ceteris abbreviatis in spicas spurias mixtas sed ⁱⁿ unptione femineas abeuntibus, foliis ramificationes inflorescentiae compositae subtendentibus plus minusve reductis superioribus in spatha* ^{la}axas superne apertas demum saepe explicatis setaceo-caudatas vel ^{acu}tissimas mutatis striatis pilosis atque parce setosis, panicula mascula ^{elo}ngata patule pubescente in articulos secedente, spiculis geminatis ^{It}to longius altero breviter pedicellato vel sessili bifloris, gluma I. lanceolata acuminata pubescente membranacea multinervi nervo medio et ^{uo}obus submarginalibus vel hisce solis saepe validioribus caeteris ^{te}nuius margine hyalino plus minusve inflexo, II. tenuiore tenuinervi ^{Pa}ulo brevioris, III. et IV. quam I. brevioris glabra paucinervi ^{na}yalina, palea floris inferioris bicarinata emarginata hyalina quam ^puma III. paulo brevioris, palea floris superioris saepe minuta lanceolata ^Je nuiter hyalina enervi, antheris 3 linearibus, lodiculis 2 late obovatis ^{ra}ncatis carnosius crebre venulosis, ovarii rudimento nullo, rhachi spicae ^{Pa}riae femineae mox in articulos secedente, articulis circiter 5-6, ^{te}rioribus apice in cupulam basin articuli sequentis conicam recipientem ^{ra} ampliatam infimo nudo caeteris spiculigeris, spiculis geminatis in ^{pe}dicello secundo et tertio una sessili feminea basi excavata altera ^{re}ducta ^{cu}m pedicello rhachi ad cupulae basin adnata in articulis suramis ^{ut}raque neutra spicula ^B masculae consimili sed plus minus reducta, ^{sp}iculae femineae gluma I. Crustacea oblonga basi marginibus conimtis et ^{ma}m II. amplexente apice crista triloba ornata lobis lateralibus ^{tr}uncatis intermedio emarginato ^lapvi dorso pubescente margine ^{il}lino ^o intus utrinque quasi cristulam oblique descendentem formante,

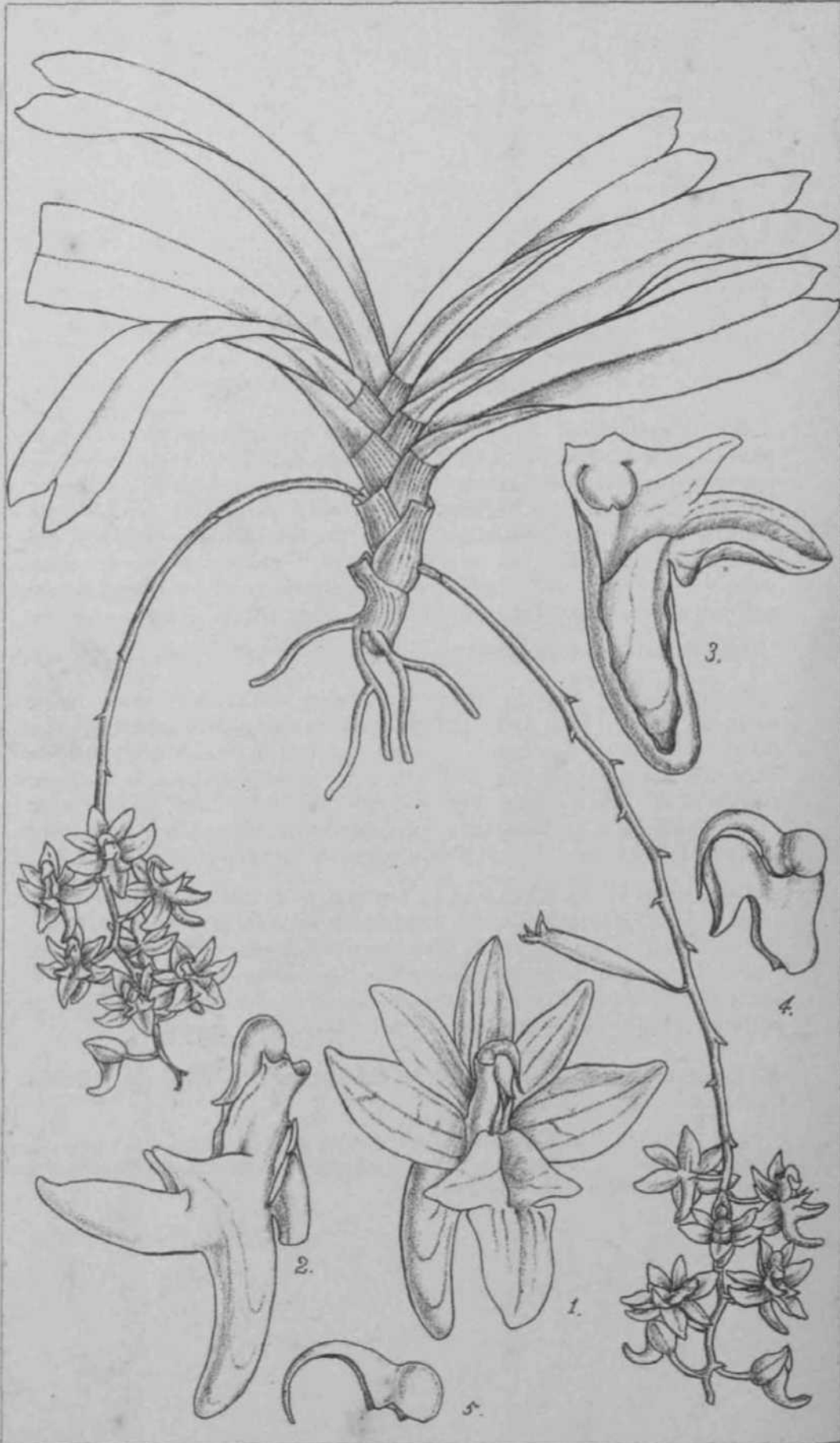
gluma IT. brevior oblonga breviter acuminata llesissima giabra subcrustacea, III. quam II. vix brevior oblonga subito in apiculum contracta tenuiore tenuissime 13-15 nervi, IV. lanceolata quam III. distincte brevior hyalina, palea £ quam gluma IV. brevior lanceolata hyalina enervi interdum bifida, ovario breviter oblongo, stigmatibus fusco-purpureis longe exsertis, caryopsi a dorso leviter compressa late oblonga antice leviter sulcata, hilo oblonga in sulco angusto a basi ad mediam caryopsin ducto immerso.

HAB. In sylvis insule Salsetta, Bombay, *Jacquemont*, 706 ; Bombay Herb. *Dalzell*) ad Mahableshevar, *Woodrow*, October 1893 ; Concan, *Herb. Ind. Or. Hook. f. et Th.* ; in Concan meridionali et in Canara septentrionali, *Dr. Lisboa* comm. 1891.

' *Internodia* intermedia ad 9-10 poll. *Foliorum* majorum lamina 1[^]-2 ped. longa, 2-3 poll. lata. *Injto-rencentia*: spathae superiores 1-1[^] poll, longse, explicate 4 lin. latae, panícula mascula ad 3 poll, longa, spica spuria feminea (cum spiculis neutris) 1 poll, longa, spiculse masculae et feminese 4 lin. longae.'

Allied to *P. bracteata*, Benn., but very distinct in the broad leaves, the reduced number of the female spikelets, the different shape of their glume I, and by the less advanced reduction of the neuter spikelets in the female spike. It resembles more nearly *P. barbata* (= *Chionachne barbattty* Benn.) in habit, particularly on account of the open spathe-like leaf-sheaths of the inflorescence, but the female spike differs more than that of *P. bracteata*.—O. STAPP.

Fig. 1, first, and 2, second glumes of neuter spikelet of female inflorescence. 3. Empty plumes of £ spikelet. 4. Lower, and 5, upper florets of same spikelet. 6. Palea of lower, and 7. palea of upper floret with the lodicules. 8. Lodicule. 9. Anther. 10 Diagram of \$ floret. 11. Part of \$ inflorescence. 12. Longitudinal section of † spikelet. 13. Articulation of rachis of 9 inflorescence. 14. \$ Spikelet, rachis removed. 15. Second, third, and fourth glumes of \$ floret. 16. Second glume of earne, detached. 17. Third and fourth glumes and ovary of same. 18. Immature caryopsis. *All enlarged.*



M.S. del. et lith.

Sarcanthus GilberU.Hk.f.

PLATE 2334.

SABCAWTHUS GILBERTI, *Hook.*

ORCHIDEJE. Subtribe SARCANTHEJB.

8. Gilbert!, *Hook. f. {up, nov.}*; caule brevi, foliis 2-3-pollicaribus patenti-recurvis breviter loriformibus apice late 2-lobis lobis ovatis sinu acuto, pedunculo gracili pendulo, glabro, racemo laxe multiiloro, bracteis dainutis persistentibus, floribus pedicellatis $\frac{1}{2}$ -poll. latis, sepalis ovatis, petalis angustioribus oblongis, labello 3-lobis sepalis sequilongo, lobis lateralibus triangularibus acutis, terminali oblongo concavo obtuso, calcare incurvo labello sequilongo, anthera incurva longe cornuta, polliniis didymis canaliculise filiformi elongate affixis, glandula minuta.

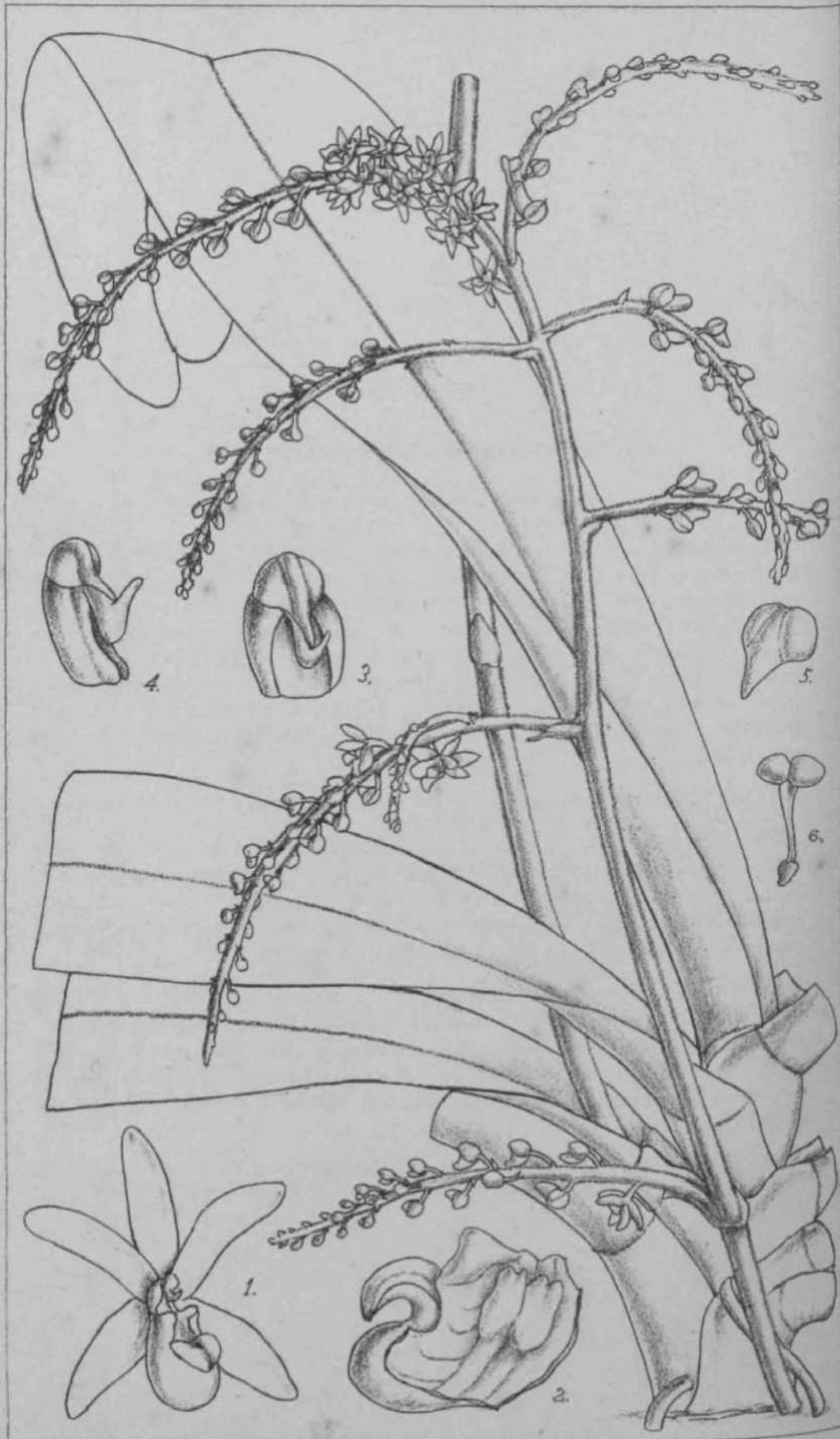
HAB. Tenasserim ; at Moulmein, *Gilbert ? (Hort. Bot. Calc.)*.

Caulis 1-1¹/₂-pollicaris, crassitie pennse anserinse. *Folia* rigida, parinata, ¹/₂-poll. lata, late viridia, lobis terminalibus acutis v. obtusis intus Siepe retusis. *Scapus* unacum racemo 3-5-pollicaris, interdum basi ramosus, pedicellis ¹/₂ poll, longis. *Sepala* obtusa v. subacuta, pallide fusco-viridia, basin versus roseo punctata. *Labellum* roseum, calcare pallido, intus 2-partito. *Columna* brevis, rostello prominente. *Anthera* basi globosa, dein in rostrum gracile incurvum acutum producta.

Sarcanthus Gilberti belongs to the group of this genus with a short stem and loriform leaves, and is most nearly allied to *S. Parishii*, Hook, f. (J*ot. Mag.'t. 5217), which has longer leaves, with very unequal, rounded terminal lobes, golden yellow sepals banded with red, a very short triangular mid-lobe of the lip, a much shorter anther, and the pollinia, are stipitate on a much broader straighter caudicle.

~ The plate is from a drawing in the Herbarium of the Royal Gardens, Calcutta.—J. D. HOOKER.

~ Fig. 1. Flower. 2. Lip and column. 3. Section of lip, showing the septum and callus at the base of the column. 4. Top of column with the anther arching over the rostellum. 5. Anther. All enlarged.



M.S.dol. & hth.

Ceisostoma Kunstlen. Hkf

Pi ATE 2335

CLEISOSTOMA KUNSTLERI, *Hook.*

ORCHIDÆ. Subtribe SARCANTHEJE.

C. Kunstleri, *Hook.*, (*sp. nov.*) ; caule brevi, foliis 6-10-pollicaribus loriformibus apice breviter bilobis lobis rotundatis, pedunculo erecto ramoso ramisque puberulis, ramis alternis patenti-recurvis ad basin *ere floriferis, bracteis minutis, floribus ^ poll, latis breviter pedicellatis, sepalis lineari-oblongis obtusis petalis angustioribus, labello parvo saccato, lobis lateralibus parvis obtusis, terminali ovato recurvo, callo infra columnam glabro 2-lobo lobis emarginatis, columna brevi rostello Uncinato, anthera rostrata, polliniis rhombeis caudicula gracili glandula Parva oblonga.

HAB. Malaya Peninsula ; at Perak, *Kunstler* (*Hort. Bot. Calcutta*).

Caulis 2-3-pollicaris, crassus. *Folia* 1-1^ poll, lata, carinata, pallide viridia. *Pedunculus* foliis aequilongus v. longior, pauci-bracteatus, crassitie pennse corvinse; rami distantes, 3-pollicares, rachi robusta subdensiflora. *Flores* pallide lilacini. *Sepala* lateralia petalaeque recurva. *Labellum* sepalis sequilongum v. brevius.

Kunstleri approaches nearest to *C. ramosum*, *Hook. f. Fl. Brit.* vi. 71 (*Saccolabium ramosum*, *Lindl.*), which has broader oblongish sepals and petals, and a conical spur which as well as the callus below the column is pubescent within. The plate is from the drawings in the Herbarium of the Royal Gardens, Calcutta.—
• -D. HOOKER.

1. Flower. 2. Lip laid open, showing the calli at the base of the column. 3. *w>nt, and 4. side, view of column. 5. Anther. 6. Pollinia. *All enlarged.*



M.S.del, et lith.

Diospyros biloculans.Oliv.

PLATE 2336.

DIOSPYBOS BILOCULARIS, *Oliv.*

EBENACEJE.

D. bilocularis, *Oliv. (sp. nov.)*; arbor floribus pedicellisque exceptis glabra, foliis petiolatis coriuceis late ellipticis v. obovatis obtusis interduin breviter et obtuse apiculatis, fl. ^ . . ., floribus ? axillari- bus in fasciculis paucifloris dispositis, pedicellis crassiusculis apicem versus incrassatis, calycis 4-partitis segmentis rotundatis dorso et * & argine cum pedicello ferrugineo-pilosulis, corolla 4-fida crassiuscula ftstivatione dextrorsum contorta, hypocarpio primum obconico mox breviter crasse cylindrico, lobis calycinis sequilongis basi articulatis, staminodia 0, ovario glabro oblongo- v. ovali-ovoideo apice angustato salycem superante biloculari, ovula in utroque loculo geminata, pendula, fructibus oblongo-ellipsoideis apice brevissime apiculatis, inonospermis, pericarpio haud crasso coriaceo epicarpio (in sicco) parce ruguloso glaucescenti-purpureo oculo armato minute papilloso-tuberculato, albumine insigniter radiatim ruminato.

.. HAB. Singapore, in the Jungle by the Botanic Garden, *Ridley* (No. 2755). Received also from the same locality in 1882 with female flowers in bud.

Arbor, ramuli teretes lseves. *Folia* 3-5 poll, longa, 1f-2f poll, lata ; petiolus ^-£ poll, longus. *Pedicelli* \ poll, longi; hypocarpium fructi- *erum T³g-j. poll, longum, \ poll, latum. *Calyx* fructiferus vix Bccr^{escens} ; segmentis patentibus, tempore florifero erectis.

This curious *Diospyros* would seem to be the type of a new section of the genus. It has the symmetrically ruminated albumen of § *Melonia* and the geminate ovules of § *Cargillia*, but a 2-celled ovary. •Male flowers I do not know.—D. OLIVER.

Fig. 1. Pistil. 2. Same in longitudinal section. 3. Transverse section of seed. **Fig.** 2 enlarged.



M.S.del. et lith.

Tabernanthe iboga, Baill.

PLATE 2337.

TABERNAJMTHE IBOGA, *Baillon*.

APOCYNACEÆ. Subtribe TABERN[^]MONTANE[^].

T. **Iboga**, *Baill. in Bull. Soc. Linn. Paris, i. 782*; frutex glaber, ramis teretibus, foliis ovali- v. oblanceolato-oblongis obtusiuscule acuminatis **brevissime petiolatis v. sessilibus, nervis lateralibus haud conspicuis** utrinque 9-11, cymis paucifloris e dichotomiis ortis pedunculatis foliis toulto brevioribus pedicellis flore interdum longioribus, sepalis ovatis ^acutis, corolla³ fere *Tabarncemontanw* tubo ovoideo-dilatato limbi lobis [^]stivatione sinistrorsum tortis, antheris supra medium tubi insertis ^{ft}cuminatis basi sagittatis, ovario integro basi biloculari medio et suj^Sra Uniloculari placentis parietalibus multiovulatis.

^gHAB. W. Tropical Africa ; Gaboon, *Mann* (No. 943) ; Cape Lopez, *yrifon du Bellay* ; Congo, *Cornm. Dr. H. Mueller* ; Angola, *Welwitsch* (No. 5950).

Folia 3-5£ poll, longa, 1-2 poll. lata. *Flores* £ poll, longi.

^{fU}First discriminated by Dr. Baillon (*I.e.*) but its position left doubt-
1| though its points of contact with *Tabernwmontana* and other
^groups of Apocynaceae were clearly indicated by him. Were it not
^{for t*le} complete consolidation of the carpels one would hardly hesitate
^tto merge it in *Taberncemontana* itself. It was sent to Kew by Dr.
^{ttugo} Mueller in 1883, under the native Congo name of ^c 'Bocca root/
^{^d} to be ^c used and much valued on the lower Congo as a febrifuge.'
[^] Baillon says it is known at Cape Lopez as the *Iboga*, and that it is the
^{^bowa} of the 'Pahouins' and *Obouéti* of the Gaboon.

^{ft} It is described as having a large bitter root, eaten by the Gaboon
People, *tj]s ja jigijij* enivrante, aphrodisiaque, et avec elle ils prd-
^{ft} [^] ^{de n t} qu'on n[^] trouve aucun besoin de sommeil/ Dr. Baillon in his
[^] ^{ist.} *des Plantes/ x. 170*, says the *ObouéU* of the Gaboons is a 'plante
[^] ^{lcame} wteuse des plus remarquables.'—D. OLIVER.

5. ^{h5} ^h ^{Bud*} 2. Calyx-s[^]gmeDt and glnd. 3. Corolla-tube laid open. 4. Anther.
^{All P>1} ?' ^{Tr*} «Yerse section of ovary near the base. 7. Same near the middle.



M.S. del. et lith.

Icacina macrocarpa, 01iv.

PLATE 2338.

ICACINA MACROCARPA, *Oliv.*

OLACINE*: Tribe ICACINEJE.

I. macrocarpa, *Oliv. Ft. Trop. Afr.* i. 357 ; longe scandens ramulis foliiferis stellato-pubescentibus, foliis breviter petiolatis oblongo-ellipticis saepius breviter obtusiuscule apiculatis integris penniveniis costa plus minus stellato-pubescente nervis primariis utrinque 6-8^venisque subtus prominentibus supra glabris, floribus parvis sessilibus fasciculatim congestis in paniculis ramosis ferrugineo-pubescentibus cum ramulis divaricatis dispositis, calycis cupuliformis lobis deltoideis, petalis glabris intus haud carinatis crassiusculis, filamentis lineari-subulatis apice attenuatis glabris, antheris late ellipticis utrinque emarginatis, ovario dense hirsuto, ovulis geminatis pendulis leviter inaequalibus, stylo recto glabro ovario subsequilongo, stigmate capitato, fructu ellipsoideo, pericarpio crasso endocarpio tenui lignescente, semine solitario, albumine copioso carnosio, embryonis radícula supera brevissima obtusa, cotyledonibus tenuiter foliaceis undulato-plicatis albumine brevioribus, plumula conspicua. *Lavigeria macrocarpa*, *Pierre, Flor. Forest, de la Cochinchine (Olacineës), Fasc. xvii.* (1892).

HAB. W. Tropical Africa, Fernando Po, *Mann* (No. 43); Libreville, Gaboon, *Klaine*.

Folia 6-10 poll, longa, 3-4[^] poll, lata, costa nervisque primariis subtus exceptis glabra v. parce stellato-pubescentia ; petiolus j~J poll, longus. *Paniculæ* laxè intricate 5-6 poll, longæ atque latæ. *Fructus* 2~2^v poll, longus, H-2 poll. diam. pericarpio \ poll, crasso. *Semen* 2~2^v poll, longum, raphe conspicua.

M. Pierre, who has received the same, or a closely allied, species from the Congo, of the fruit of which he has favoured me with a careful and elaborate analysis, has published this plant as generically distinct from the original *Icacina* (*I. senegalensis*) of Jussieu. ^(f) In the great difference in the fruit, as well as minor floral differences, I think there may be adequate ground for this. The only panicle of flowers in the Kew Herbarium is detached. Mr. Mann describes the stem as extending 80 feet, at a height of 8 or 10 feet above the ground. The flowering branches of *I. senegalensis*[^] Juss., remarkably recall the habit of those of the *Icaco* (*C/trysobalanus Icaco*, L.), which name I suggested *Icacina* adopted by Jussieu. In this plant the petals are lanceo-hirsute externally and barbate within near the base.— D. ULIVER.

g *% 1. Bud and remains of two flowers with calyx and ovary. 2. Petal. 3. Stamen, back and front. 4. Upper portion of ovary, laid open. 5. Fruit. 6. Seed. 7. Same in longitudinal section. *Excepting fruit and seed, all enlarged.*



M.S. del. et lith.

Leptaulas dap3uioides, Benth.

PLATE 2839.

LEPTAULUS DAPHNOIDES, *Benth.*

OLACINEJE. Tribe ICACINEJS.

I. daphnoides, *Benth. Gen. Plant*, i. 351 ; frutex 10-15-pedalis glaber v. novellus puberulis, foliis alternis petiolatis tenuiter coriaceis oblongo-ellipticis obtuse v. interdum acutiuscule acuminatis caudatisve, cymis multifloris sessilibus v. brevissime pedunculatis extra-axillaribus, floribus breviter pedicellatis v. subsessilibus, calyce parvo 5-partito fructifero immutato, segmentis calycinis ovatis acutiusculis, corollae tubulosae tubo teretiusculo lobis brevibus ovato lanceolatis, antheris ore corollae tubi insertis subsessilibus oblongis, ovario angusto in stylum longum gracile attenuato, stigmatibus leviter dilatato breviter inserto, ovulis geminatis pendulis, fructibus ovoideis acutatis glabris obsolete puberulis 1-spermis, semine conformi longitudinaliter sulcato, albumine carnosio, embryone minimo radícula supera, pericarpio tenuiter carnosio endocarpio tenue crustaceo v. osseo.

HAB. W. Tropical Africa, Bagroo River, *Mann* (No. 806), Sibange on the Gaboon, *Soyaux* (No. 164) ; Monbuttu-land, *Schweinfurth* (No. 3464); Sierra Leone, *Scott-Elliot*.

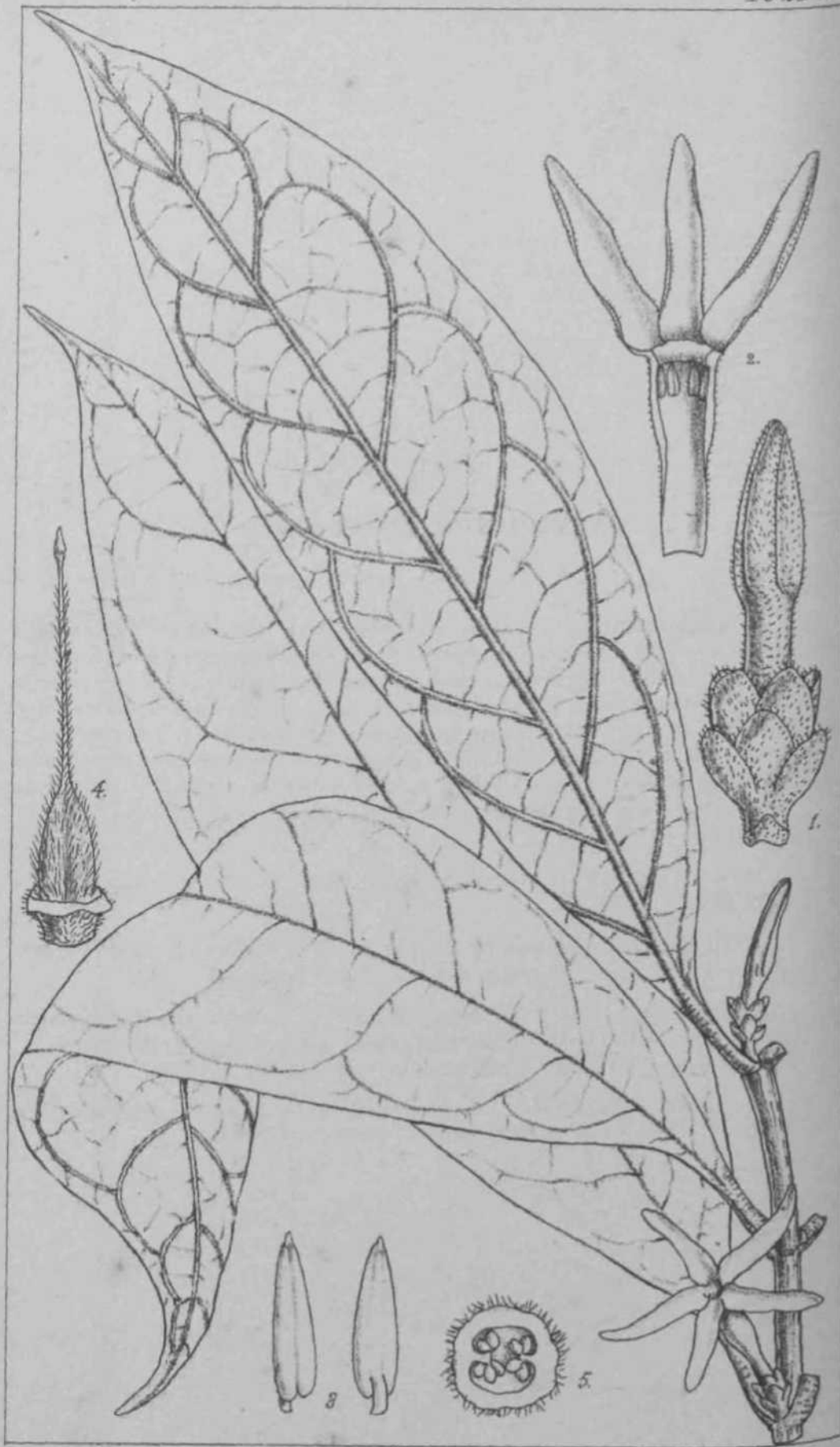
Folia (H—)4-5 poll, longa, 1/2 poll, lata ; petiolus 1/2 poll, longus. *Flores* 1/2 poll, longi. *Fructus* 5-6 lin. longus, basi calyce immutato persistente stipatus.

Var. microphylla (an species distincta?), foliis 9-11 poll, longis, 1/2-4 poll, latis, floribus subsessilibus, lobis calycinis lanceolatis, tubo corollae valide sulcato, fructu oblongo-ovoideo apiculato 1-1 1/2 poll, longo.

HAB. Mount John, Kongui River, *Mann* (No. 1781).

A shrub with the *features* of some of the axillary-flowered species of *Ocotelea*. In the 'Flora of Tropical Africa' I indicated the differences between the Kongui specimens and the type, but more recently specimens in fruit have come to hand from M. Soyaux, which would almost justify specific separation of the form referred to above as var. *microphylla*. The flowers of *Leptaulus* are extra-axillary, but inserted at or near the level of the petioles. M. Bail Ion describes another species of this curious genus in 'Adansonia' (iii. 375, *adnot.*) from Madagascar.—D. OLIVER.

1. Flower. 2. Pistil. 3. Corolla laid open. 4. Longitudinal section of
***** All enlarged.



M.S. del, et lith.

Carpodia uniflora, Stapf

PLATE 2340.

CAEPODINUS UNIPLORUS, *Stapf.*

APOCYNACEÆ. Tribe CARISSE-SI.

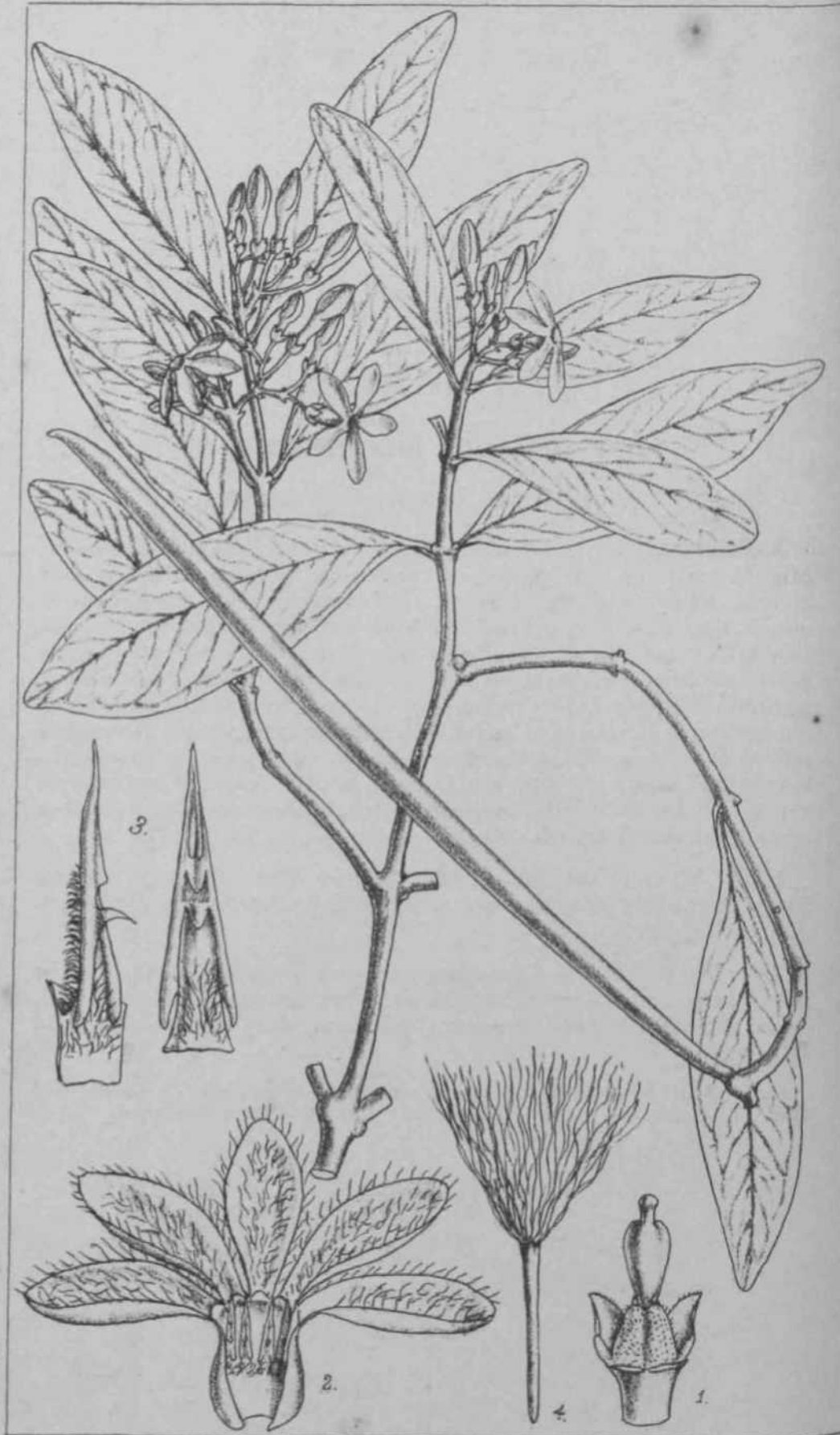
C. Uaiflorus, *Stapf in Kew Bulletin*, 1894, 19; scandens, ramulis ultimis primum obscure pubescentibus mox glabratis, foliis oblongo-ovalibus obtuse acuminatis basi angustatis pallide viridibus nervis lateralibus utrinque 6-8 sub ipso margine arcuatis subtus prominulis, junioribus axillaribus solitariis brevissime pedicellatis 4-5-bracteolatis, bracteolis late ovatis obtusis calyce brevioribus pubescentibus, lobis calycinis bracteolis consimilibus, corolla puberulae segmentis linearibus patentibus tubo aequilongis, staminibus supra medium tubi insertis, ovario tomentello.

HAB. W. Tropical Africa, Sibange Farm on the Gaboon, *Soyaux* (No. 269).

Folia 6-9 poll, longa, 1½-2 poll, lata; petiolus ½ poll, longus. *cloves* 1 poll. diam.; corollae tubus 1½ poll, longus.

Stated to yield 'very fine india-rubber.'¹ *C. parviflorus*, *Stapf*, would seem to be the nearest ally of this plant, also growing on the Gaboon, but its flowers are very much smaller.—D. OLIVER.

Fig. 1. Bud and bracteoles. 2. Corolla laid open. 3. Anther, front and back views. 4. Pistil. 5. Transverse section of ovary. *All enlarged.*



tf.Sdal.et.hUi.

Ectmocladius Benthami. Baill.

PLATE 2341.

ECTINOCLADUS BENTHAMII, *Baill.*

APOCYNACEÆ. Subtribe EUECHITIDEÆ.

E. Benthamii, *Baillon, Hist des Plantes*, x. 211 ; frutex 15-30-pedalis, ramulis teretibus divergentibus v. patentibus primum puberulis rax glabris, foliis petiolatis oblongo- v. oblanceolato-ovalibus obtusis v. obtuse apiculatis basi cuneatis tenuiter coriaceis glabris v. in costa puberulis venis subtus prominulis arrectis anastomosantibus, cymulis puberulis paucifloris terminalibus v. quasi-axillaribus subsessilibus, pedicellis flore ssepius brevioribus, bracteis minutis ovatis, sepalis ovatis obtusiusculis, corollas tubo calyce 3-4-plo longiore segmentis patentibus r^{flexisve} oblanceolatis v. obovatis ciliatis v. intus pilosulis tubo duplo longioribus, antheris medio tubi insertis, ovariis distinctis hirtis, stylo^s uperne dilatato, folliculis teretibus striatis, senrinibus anguste linearibus coma terminali instructis. *Stapfin Journ. Linn. Soc.* xxx. 88-9.

HAB. W. Tropical Africa, Old Calabar, *W. C. Thomson*; **Sierra Leone** Boundary Commission, near Mofari, Scarcies River, *Scott* Elliott* (No. 4440).

Folia 2 poll, longa, $\frac{1}{2}$ - $\frac{3}{4}$ poll, lata ; petiolus, $\frac{1}{2}$ - $\frac{3}{4}$ poll. longus. *Flores* flavidi fauce rubri, in cymulis folio multo brevioribus. *Folliculi* 5 poll. ^{angusti.} *Semina* (immatura) pollicaria, coma fere sequilonga.—

OLIVER.

Fig. 1. Front calyx-lobes and corolla removed, showing pistil. 2. Corolla laid open. 3. Anther, anterior and lateral views. 4. Seed. *Figs, 1-3 enlarged.*



M.S. del., et lith.

Baissea laxiflora, Stapf.

PLATE 2342.

BAISSEA LAXIFLORA, Stapf.

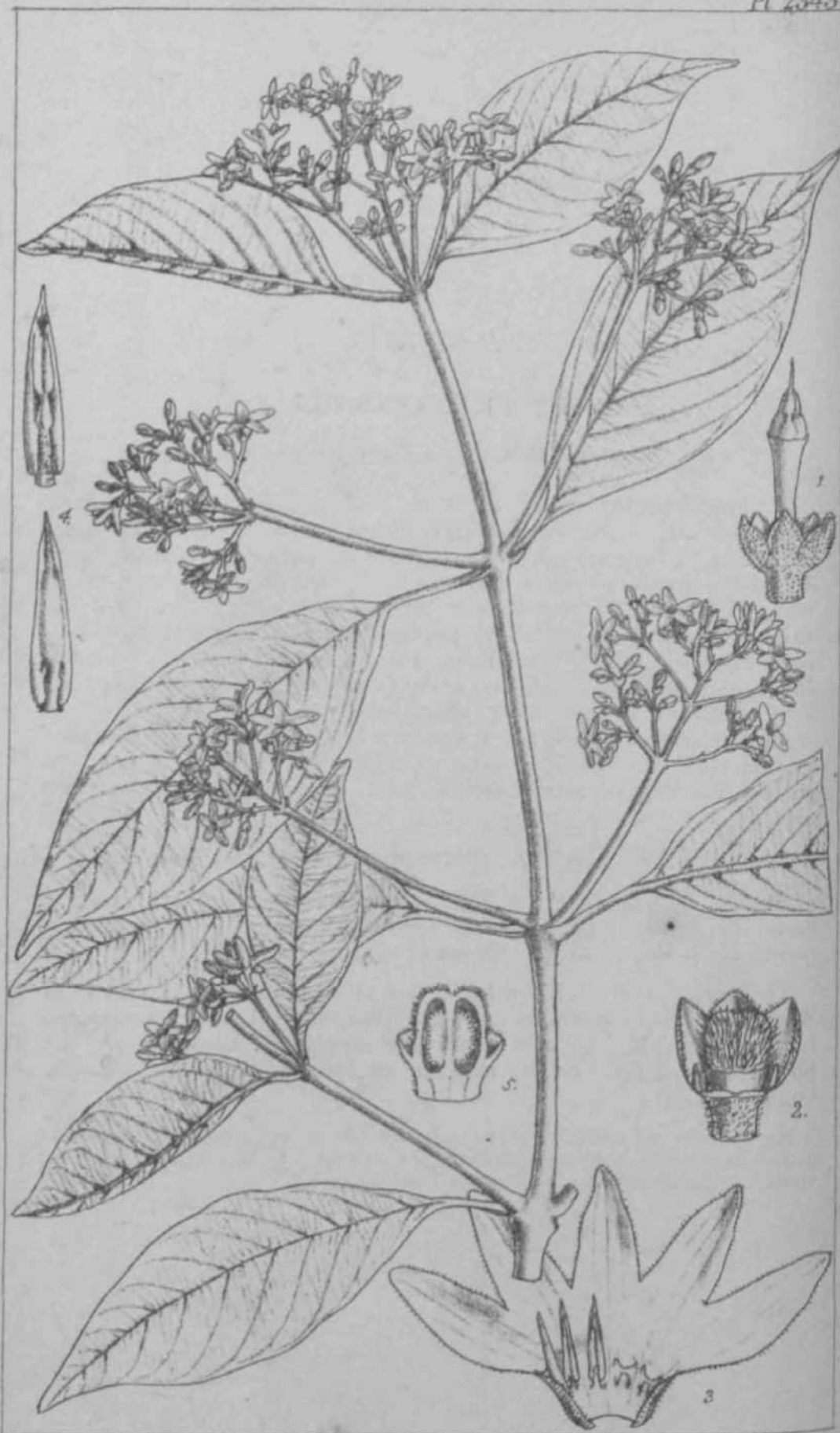
APOGYNACRJB. Subtribe EUBCIUTIDEJB.

B. laxiflora, Stapf in *Kew BvUt.* 1894, 124 ; alto scandens ramulis gracillitnis crispe puberulin glabrescentibusvo, foliis ovali-oblongis oblanceolatisvu acuminatis basi cu unit is luvitur rotundatisvo broviter pctiolaiis nervis priinariis utrinquo 3 5 subtus pnmiinulis, vcnis inconspicuis subtraiiBvrrMitt glabris v. subtus in axillis nrvuiin piloHiilis, floribus in paniculis rac<niiformibu8 grarilibus pubcrulis axilluribuD folio subuHjuilongis cliKpositis, bractei« niirnitis lancoolatis, pedicditi calyce 2 G-plo longioribus, corollie tubo obcnniro minute* puboHconte calyce 4-plo longiore, segmontis lineari-lanceolatis tubo longioribus.

HAD. W. Tropical Africa, Old Calabar and Muni river, *Mann* (Nos. 1756, 2258).

Folia 2J-31 poll, longa, |-\| poll, lata ; petiolus $i\text{-}^a$ poll, longun. *flore.g* soini pollicareH. *Se/iala* ovato-lanceolata $\frac{1}{11}$ poll, longa. *Corolla* profundo 5-fida. *Stamina* basi corolla; tubi inscrt/i ; filaninnta brevis-Biina ; an them; conn iven tea, basi sagittate, app(;ndiculia vacuis comproHsis utrinque loviter incur vis. (*Jarpdla* plus minus coalita ; ovula plurima.—D. OLIVER.

FiK 1. Cnlyx laid open, nhowin^ pistil. 2. Corolla laid open. 3. Anther, back and front views. 4. Transvoraee section of ovary. *All enlarged.*



M. S. del. et lith.

Baissea brachyantha, Stapf.

PLATE 2343.

BAISSEA BRACHYANTHA, *Stapf*.

APOCYNACEÆ. Subtribe EUECHITIDBA.

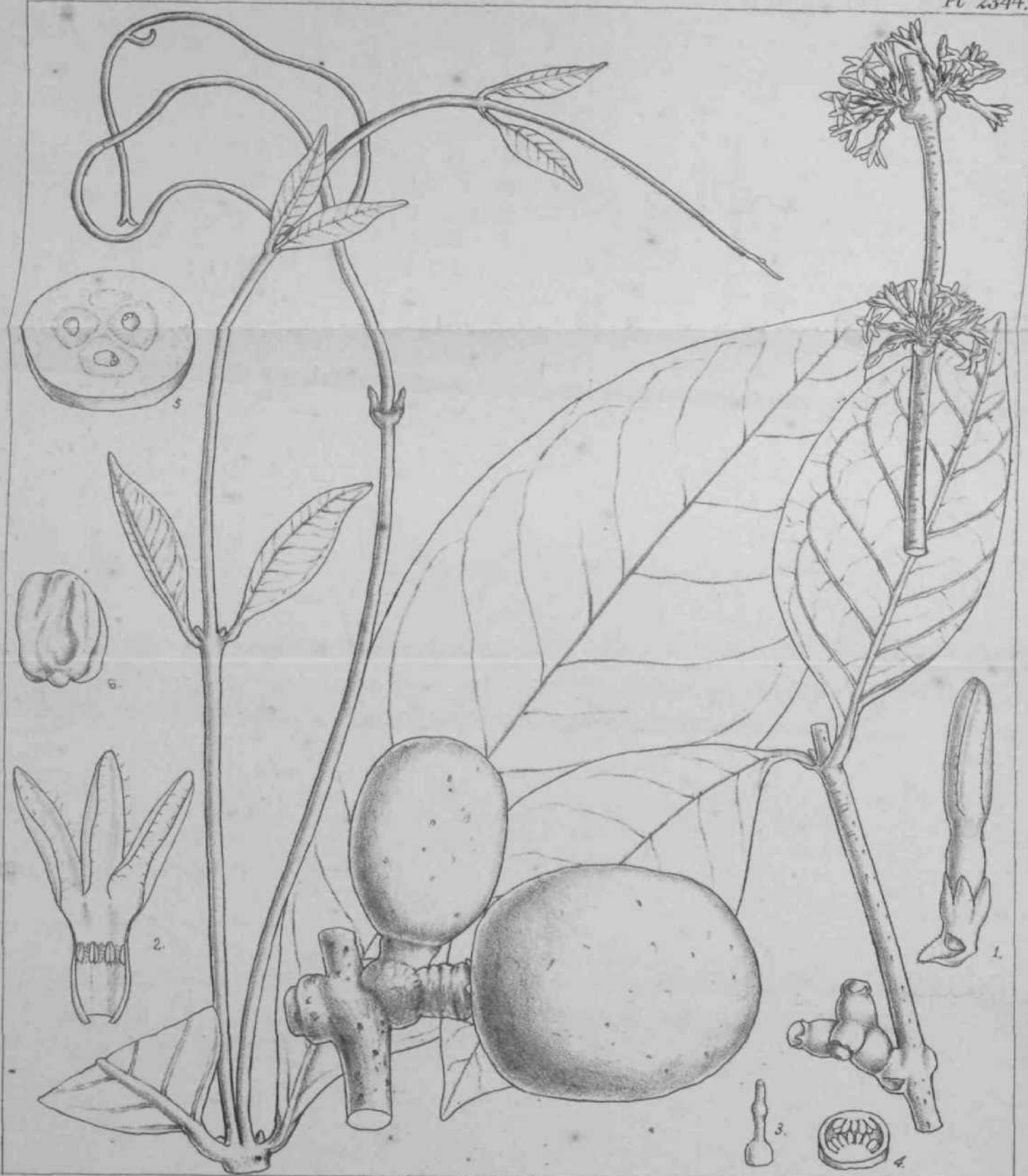
B. brachyantha, *Stapf in Kew Bullet.* 1894, 125; scandens, ramulis terctibus ultimis compressiusculis fusco-puberulis mox glabris, foliis late v. anguste ellipticis breviter obtusiuscule acuminatis v. apiculatis, nervis primariis utrinque 9-11, venulis inconspicuis trans-versis approximatis glabris tenuiter coriaceis, cymis in paniculia axillaribus pluri- v. paucifloris pedunculatis folio saepius brevioribus, pedunculis secundariis divaricatis fusco-puberulis, pedicellulis iloribus subaequilongis, alabastris fusco-puberulis, calycis parvi segmentis ovatis minutiusculis, corollae tubo late infundibuliformi calyce 3-4-plo longiore segmentis ovato- v. oblongo-lanceolatis intus glabris, antheris infra medium tubi insertis lanceolatis apice tenuiter acuminatis basi appendiculis vacuis anguste linearibus rectis, ovario apice hirsuto carpellis coalitis.

HAB. W. Tropical Africa ; Bagroo river, *Mann* (No. 854).

Folia 2-3 poll, longa, 1-2 poll, lata; petiolus ½-¾ poll, longus, lamina in foliis angustioribus in petiolum attenuate, *inflorescentia* pedunculi 1-1½ poll, longi. *Flores* expansi { poll. diam.

The lateral nerves of the leaves are about twice as numerous as in *A. laxiflora*, and the flowers are much shorter and smaller, though the inflorescence is not quite so compact as represented in our plate. In both species I find the carpels more or less distinctly connate.—D. OLIVER.

Fig. 1. Calyx and pistil. 2. Calyx and ovary, two of the calyx-segments removed. 3* Corolla laid open, showing insertion of the stamens. 4. Anther, front and back views. 6. Longitudinal section of ovary. *All enlarged.*



M.S. del. et. hth.

Willughbeia firma, Bl.

PLATE 2344.

WILLUGHBEIA FIRMA, Blume.

APOCYNACEAE. Tribe CARISSEJE.

W. firma, *Blumtj Mus. Bot.* i. p. 154 ; frutex alte scandens ramis pro parte cirriferis, foliis oblongo-ellipticis breviter obtuseque acuminatis basi acutis coriaceis nitidis nervis subpatulis 12-14, cymis congestis subsessilibus multifloris, pedunculo atque pedicellis florum foecundatorum post anthesin valde incrassatis, calycis lobis oblongo-ovatis obtusis minute ciliatis, corollae lobis tubo sublongioribus lineari-oblongis patulis, antheris tubo medio insertis, bacca (submatura) oblongo-globosa. *Fl. Brit. Ind.* iii. 624.

HAB. Malay Peninsula and Archipelago, from Sumatra to Borneo. *Various collectors.*

Folia 3-5 | poll, longa, $\frac{1}{2}$ poll. lata. *Calyx* vix $\frac{1}{2}$ lin. longus. *Corollae* tubus vix $\frac{1}{2}$ lin. longus.

The figure was drawn from specimens sent in spirits by Mr. Leembruggen in the Lampong'sche Districten, Sumatra. According to him, the plant yields a good sort of india-rubber. It appears from the material at Kew that there are several varieties of *Willughbeia firma*, some of which are known by different native names, but their discrimination would require careful observation on the spot. I take, however, the form figured here to be the type of Blume's species.—
O. STAPF.

Fig. 1. Bud. 2. Corolla, laid open. 3. Pistil. 4. Transverse section of ovary. 5. Transverse section of fruit. 6. Seed. *Except the fruit, enlarged.*



M.S. del., et lith.

Wrihlia parviflora, Stapf.

PLATE 2345.

WRIGHTIA PARVIFLORA, Stapf.

ApocYNACEiE. Tribe ECHITIDEA.

W. parviflora, Stapf in *Kew Bullet.* 1894, 121 ; frutex novellis pubescentibus, foliis ovali-oblongis v. ellipticis subabrupte acuminatis basi late cuneatis rotundatisve opacis subtus saepius puberulis, nervis lateralibus saepe vix prominulis utrinque 7-8, petiolo brevi, cymis pubescentibus in paniculis terminalibus breviter pedunculatis contractis, pedicellis gracilibus, bracteis parvis ovatis v. lanceolatis deciduis, calycis segmentis ovato-rotundatis, corolla} puberuliu semen tis oblongo-ellipticis tubo fere squilongis, in fauce timbriis numerosis apice 2-3-fidis exsertis instructo 6-9 sub quoque lobo, folliculis elongatis utrinque angustatis longitudinaliter striatis glabris, seminibus linearibus testa costato-rugosa a basi ad apicem pilis uicillibus gracillimis elongatis induta, albumine tenui, embryonis carnei cotyledonibus convolutis radice cylindrica longioribus.

HAB. W. Tropical Africa, near Lagos, *Barter*, Sir C. A. Moloney, Rowland; Yoruba Expedition, *MilUon* \ Eppah, *Barter*.

Folia 2[^]-5 poll, longa, 1-2 poll, lata ; petiolus [^]-[^] poll, longus. *Corolla* aurantiaca, [^] poll. lata. *Follicula* oninino libera, 14-22 poll, longa. *Semina* [%]-[§] poll, longa.

The seeds of *Wrightia* are described in '(Jen. Plan turn m' as 'apice . . . ecomosa, inferne coma decidua appendisulata.'⁹ The soft hairs are so easily separable from the testa that, from our dry specimens, I am afraid to speak positively, but suspect that there may be no marked difference between the seed-hairs as described in *W. jarviflora* and in the Indian *W. tinctoria*.—D. OLIVKR.

³ [^]fig. 1. Calyx laid open, showing pistil. 2. Calyx -segment and alternating glande, ^{*} [^] ^o Polla-tube laid open. 4. Trifid scale from mouth of corolla-tubo. ft. Anther. ^{front.} and back views. All enlarged.



M.S. del. et lith.

Oncinotis fragilis, Stapf

PLATE 2346.

ONCINOTIS GRACILIS, *Stapf*.

APOCTNACEA: Subtribe EUECHITIDEJE.

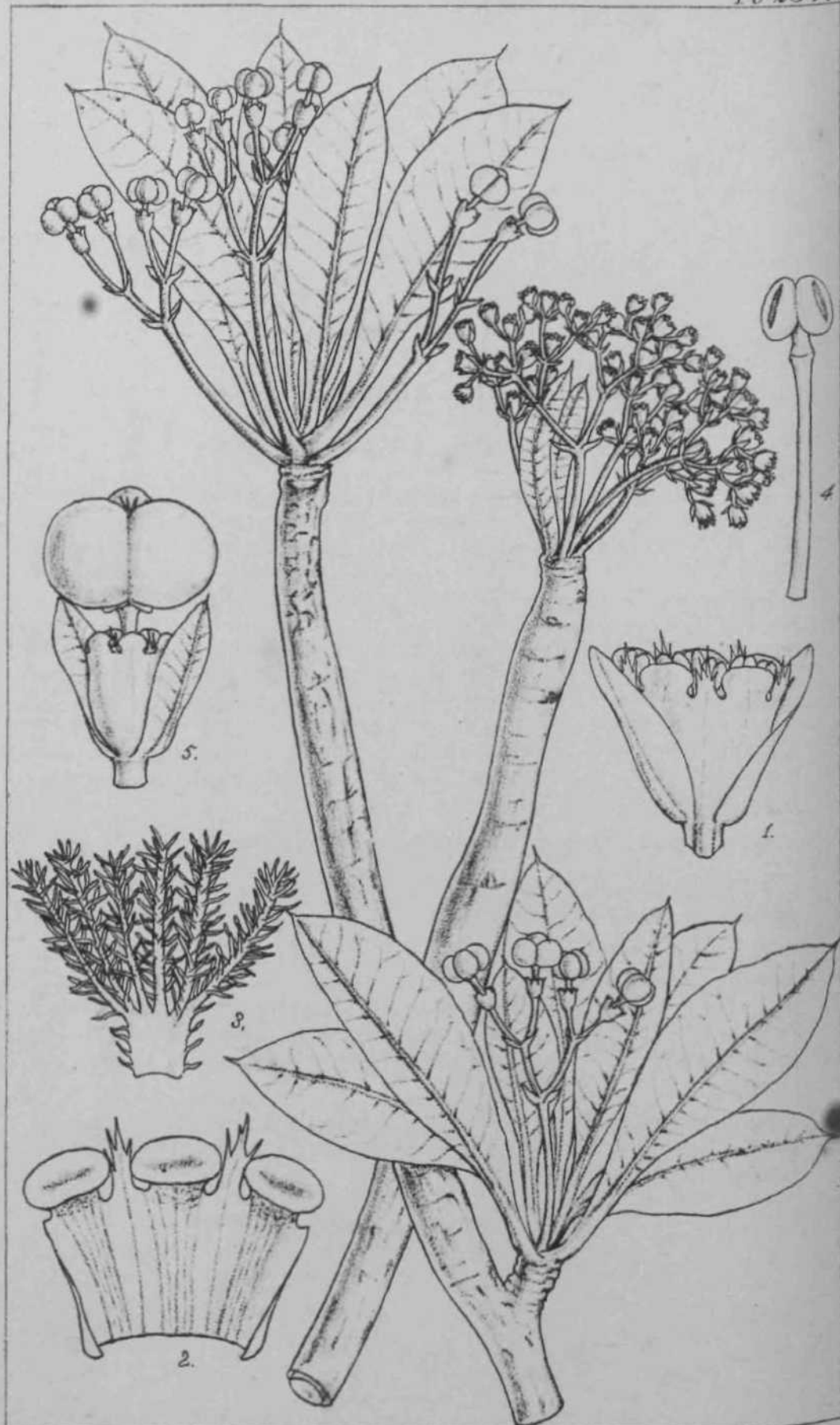
O. gracilis, *Stapf in Kew Bullet.* 1894, 124 ; scandens ramulis ferrugineo-hirtis teretibus, foliis petiolatis obovato- v. oblanceolato-ellipticis obtusiuscule acuminatis basi obtusis supra costa parce hirtella excepta glabra subtus pallidiora costa nervisque primariis utrinque 5-7 pilosulis, paniculis axillaribus ferrugineo-hirtis folio saepius brevioribus breviter pedunculatis ramis inferioribus longioribus divergentibus, floribus congestis brevissime pedicellatis, alabastris angustis subulato-linearibus, sepalis ovatis acutiusculis, corollae rotatae tubo cylindrico calyce 2-plo longiore, limbi segmentis tubo sequilongis patentibus oblongis, fauce squamulis 5 lobis limbi alternis parvis instructa, antheris omnino inclusis prope basin corollae insertis, anguste linearibus lobis basalibus divergentibus obtusiusculis leviter dilatatis, carpellis apice pubescentibus basi glandulis 5 carnosulis circumdatis.

HAB. Received from the Lagos Botanical Station, *H. Millen* (No. 106).

Folia 3½-4 poll, longa, 1½-1 J poll, lata; *petiolus* ½-½ poll, longus, *Flores* \ poll, longi.

Nearly allied to *Oncinotis hirta*, Oliv. ('Ic. Plant.' 1232), from which it differs in indumentum, more distinctly acuminate leaves, mere slender buds, and smaller acute rather spreading sepals. I have not seen the fruit.—D. OLIVER.

Fig. 1. Calyx laid open, showing pistil. 2. Corolla laid open. 3. Anther, lateral and front views. *All enlarged.*



M.S. del et lith

Euphorbia Abbottii, Baker.

PLATE 2347.

EUPHORBIA ABBOTTII, Baker.

EUPHORBIACEJE. Tribe EUPHORBIEA:.

E. (§ **Goniostema**) **Abbottii**, Baker in *Kew Bullet.* 1894, 150 ; fruticosa, ramis teretibus lasevibus apicem versus interdum leviter crassioribus, foliis ad apices ramulorum confertis petiolatis oblanceolatis ovalibusve lamina membranacea basi in petiolum angustata apice graciliter apiculata glabra venis primariis utrinque 15-20, stipulis obsoletis v. minutis conicis, cymis pedunculatis dichotomis 6-12-cephalis foliis quasi-terminalibus suffultis eisdem primum longioribus, bracteis ovatis acutatis v. temp, fructifero late oblongo-v. obovato-ellipticis, involucreo campanulato glabro basi bracteis 2 involucreo sequilongis arete suffulto, glandulis transverse oblongis lasevibus inappendiculatis, involucri lobis deltoideo-lanceolatis incisiss, capsula profunde 3-loba, lobis lasevibus lateraliter compressis carina obtusis, seminibus globosis albidomarmoratis.

HAB. Indian Ocean ; Aldabra Island, *Dr Abbott.*

Folia cum petiolo marginato 2-2½ poll, longa, ½-J poll. lata. *Bracteae* ½V-½V P⁰ longse. *Capsula* ½-½ poll. diam.

This is one of several new species collected in Aldabra by Dr. W. L. Abbott, an American naturalist, who visited the island in 1893, and who kindly communicated his botanical material to the Royal Gardens.* It is allied to other species of this section, which appears to be restricted to Madagascar and the Western Islands of the Indian Ocean.—D. OLIVER.

Fig. 1. Involucre and bracts. **2.** Part of involucre laid open, showing marginal glands and incised segments. **3.** Fimbriate bracteole. **4.** Stamen and its stipes. **5.** Involucre and bracts with capsule.

* *Fide* ' *Kew Bulletin*/ 1893, 154, and 1894,146.



M.S. del., et lith.

Rhynahocalyx lawsonioides, Oliv.

PLATE 2348.

RHYNCHOCALYX LAWSONIOIDES, *Oliv.*

LYTHRACEÆ.

Rhynchocalyx, *Oliv. (nov. gen.)*. *Calyx* tenuis, alabastro ovoideo-globosus apice rostratus, expansus profunde 6-fidus, tubus patelliformis; lobi lanceolati, acuti. *Petala* isomera lobis calycinis alternis perigyna graciliter et longiuscule unguiculata; lamina rotundata v. deltoideocordata undulata v. plicata margine dentata calycem subæquantia. *Stamina* isomera perigyna petalis opposita, aestivatione inflexa; filamenta subulato-filiformia; anthera? late ellipticae, 2-loculares, longitudinaliter dehiscentes, dorso prope basin affixæ. *Ovarium* omnino liberum compressum, 2-loculare in stylum fere æquilongum angustatum; ovula plurima, horizontalia, sub-biseriata; stigma terminale indivisum. *Fructus* . . .—Arbuscula glaberrima, ramulis di-trichotome ramosis, subteretibus. Folia tenuiter coriacea, opposita, breviter petiolata, ovalia v. oblongo-elliptica, obtusa v. obtusiuscula, margine integra anguste revoluta. Inflorescentia paniculata, paniculae inultijlorce terminates v. in axillis superioribus dispositæ, folia sæpius superantes. Flores parvi graciliter pedicellati; bracteæ obsoletæ.

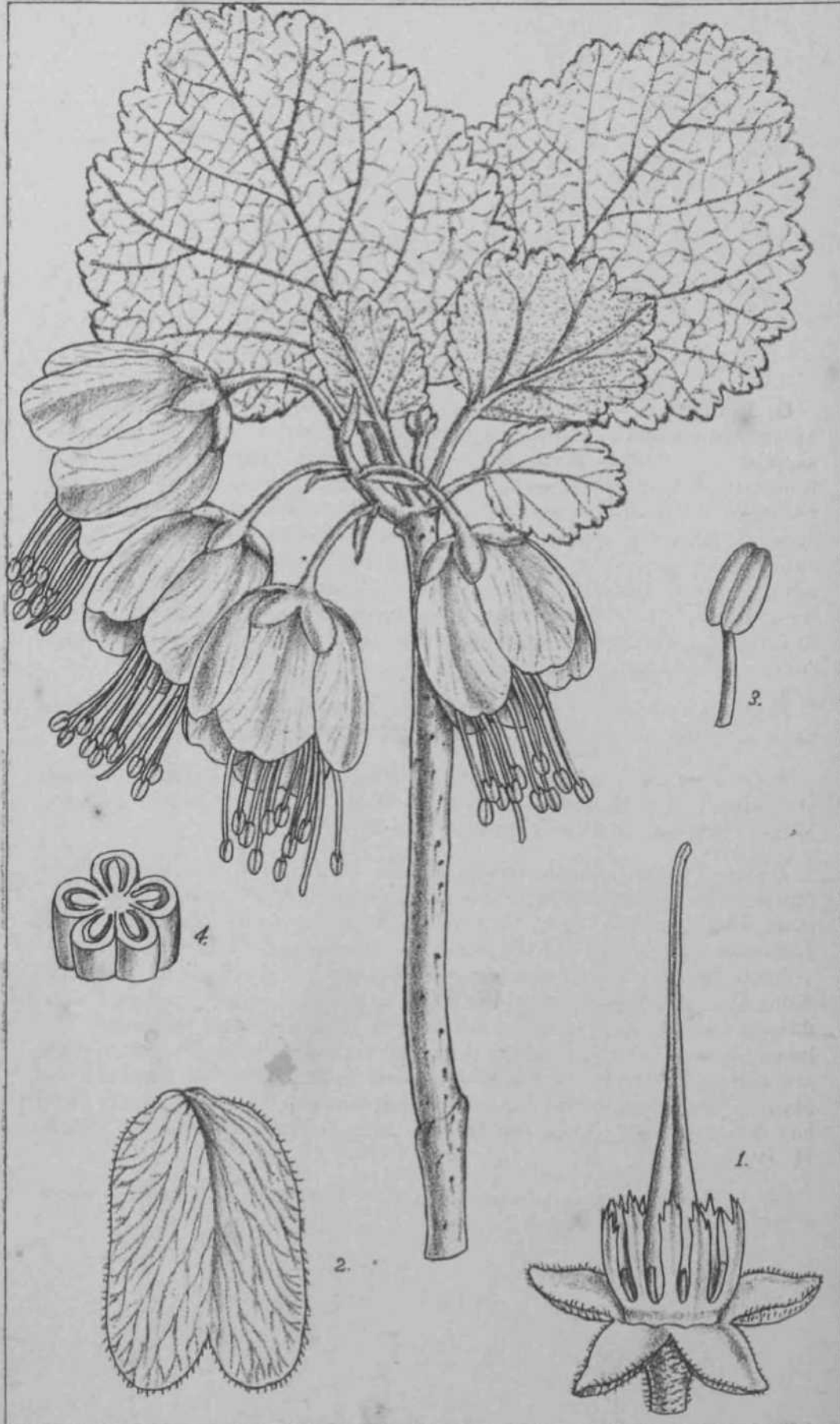
B. lawsonioides, *Oliv. (sp. nov.)*

HAB. Natal; edge of the Bush near Murchison, *J. M. Wood* (No. 3124).

Folia 1J-1J poll, longa, §-1 poll, lata; petiolus 1-2 lin. longus. *Paniculæ* 2-3 poll, longa? atque latæ. *Pedicelli* alabastris æquilongi, *Flores* \ poll, lati; calycis segmenta temp, florifero reilexa.

Of this interesting plant, sent to Kew about nine years ago by Mr. Wood in bud arid flower, we still are in want of fruiting specimens. The isomerous stamens, singly opposed to the petals and the bilocular compressed ovary with numerous horizontal axile ovules, I think, entirely justify its discrimination as a new generic type. The general fæces of the plant is quite that of *Lawsonia inermis*.—D. OLIVER.

Fig. 1. Bud. **2.** Flower expanded. **3.** Anthers and subtending petals. **4.** Petal, the lamina opened. **5.** Stamen. **6.** Longitudinal section of ovary.—All enlarged.



M.S. del. et lith.

Greya FLarufam, Bolus

PLATE 2349.

GREYIA FLANAGANI, *Bolus*.

SAPINDACEJE. Tribe MELIANTHEJE.

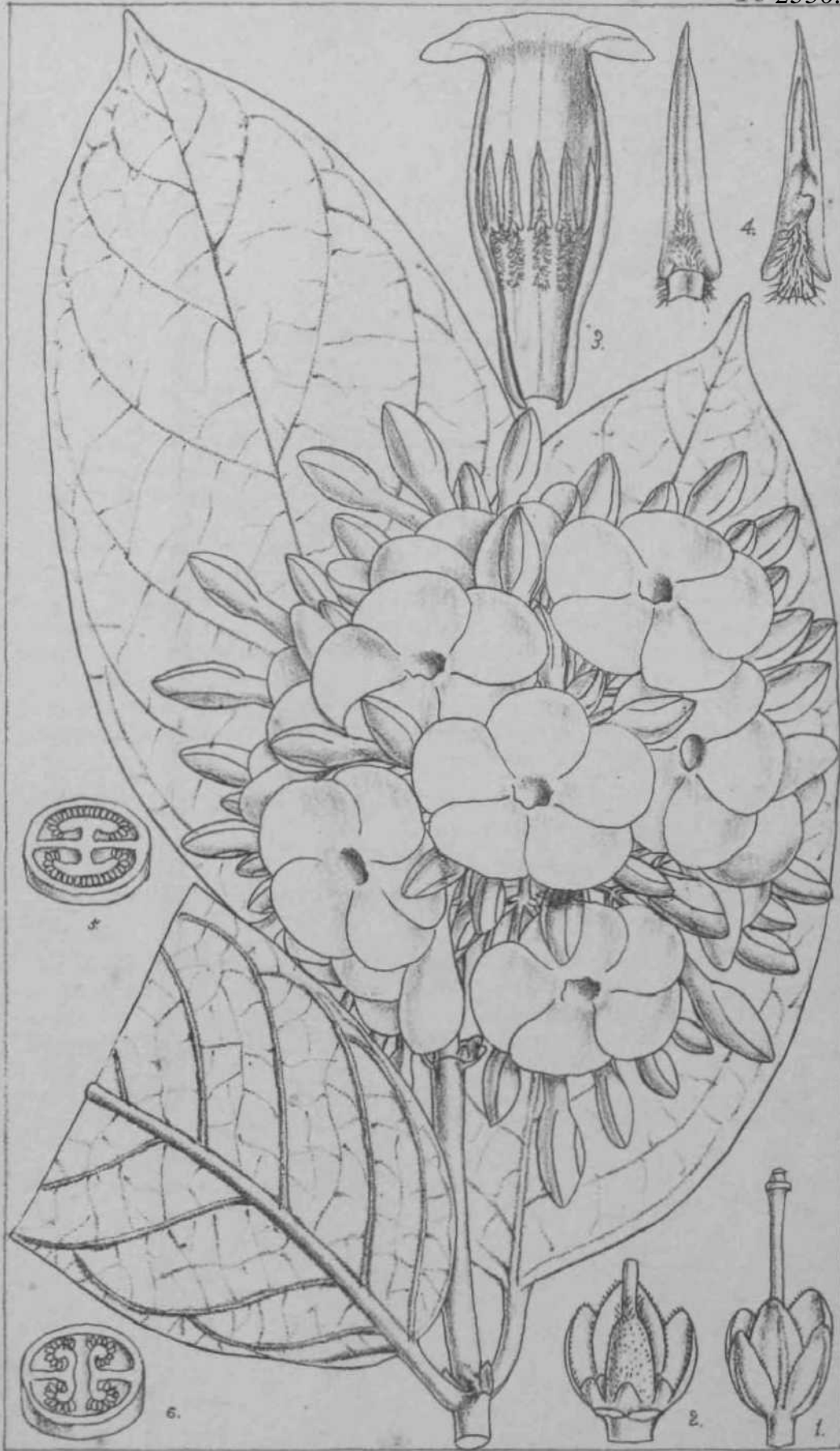
G. Flanagani, *Bolus* (*sp. nov.*); arbor mediocris ramosus, foliis ad apices ramulorum confertis patentibus petiolatis ovatis vel orbicularibus saepius cordatis lobulatis dentatisque venosis, subtus cum petioliola tenuiter albo-tomentosis, racemis terminalibus brevibus laxe 4-5 floris, pedicellis filiformibus pubescentibus, bracteis subulatis, floribus magnis speciosis pendulis, sepalis oblongis obtusis pubescentibus, petalis erectis subinaequalibus imbricatis oblongis retusis glabris, disco cupulari ex annulo brevi 10-lobo, lobis erectis eglanduliferis subulatis acutis irregulariter lacerato-dentatis, staminibus longe exsertis, filamentis filiformibus, ovario columnari glabro in stylo staminibus subaequilongo sensim attenuate.

HAB. Cape Colony (South-eastern Region), exposed rocky slopes near Komgha, alt. 2,000 ft., fl. Nov., // *G. Flanagan* (No. 328).

Folia ad 2 poll, longa et lata; petiolus 8-10 lin. longus. *Racemi* et pedicelli i poll, longi. *Sepala* 2½-3 lin. longa. *Corolla* 8-9 lin. longa, 7 lin. lata. *Disci* cupularis lobi 3[^]-4 lin. longi.

Distinct from 6? *Sutherland*[^] Hk. et Harv., of which an excellent figure, from a cultivated specimen, is given in the 'Botanical Magazine' (tab. 6040), as also from *G. Radlkofer*^o Szyszyłowicz (in 'Polypetalae Rehraannianae,' p. 49) in the disk, the lobes of which in *G. Flanagan* are subulate acute and more or less toothed but destitute of the glandular disk which terminates the lobes in the two former species. The flowers also are larger and in solitary few (3-5)-flowered racemes. The leaves of *G. Radlkoferi*, which may well be a variety of *G. Sutherlandi*, are almost precisely similar in form and indumentum to those of our plant. We are indebted for excellent specimens to the collector, who has detected many novelties in the rich region explored by him.—
H. BOLUS.

Fig. 1. Flower, the petals removed. 2. Fetal. 3. Anther. 4. Transverse section of ovary.—JD. OLIVEB.



M.S. del. et lith.

Holiafia multiflora, Stapf.

PLATE 2350.

HOLALAFIA MULTIFLOBA, *Stapf*.

APOCYNACEAE. Tribe EUECHITIDEAE.

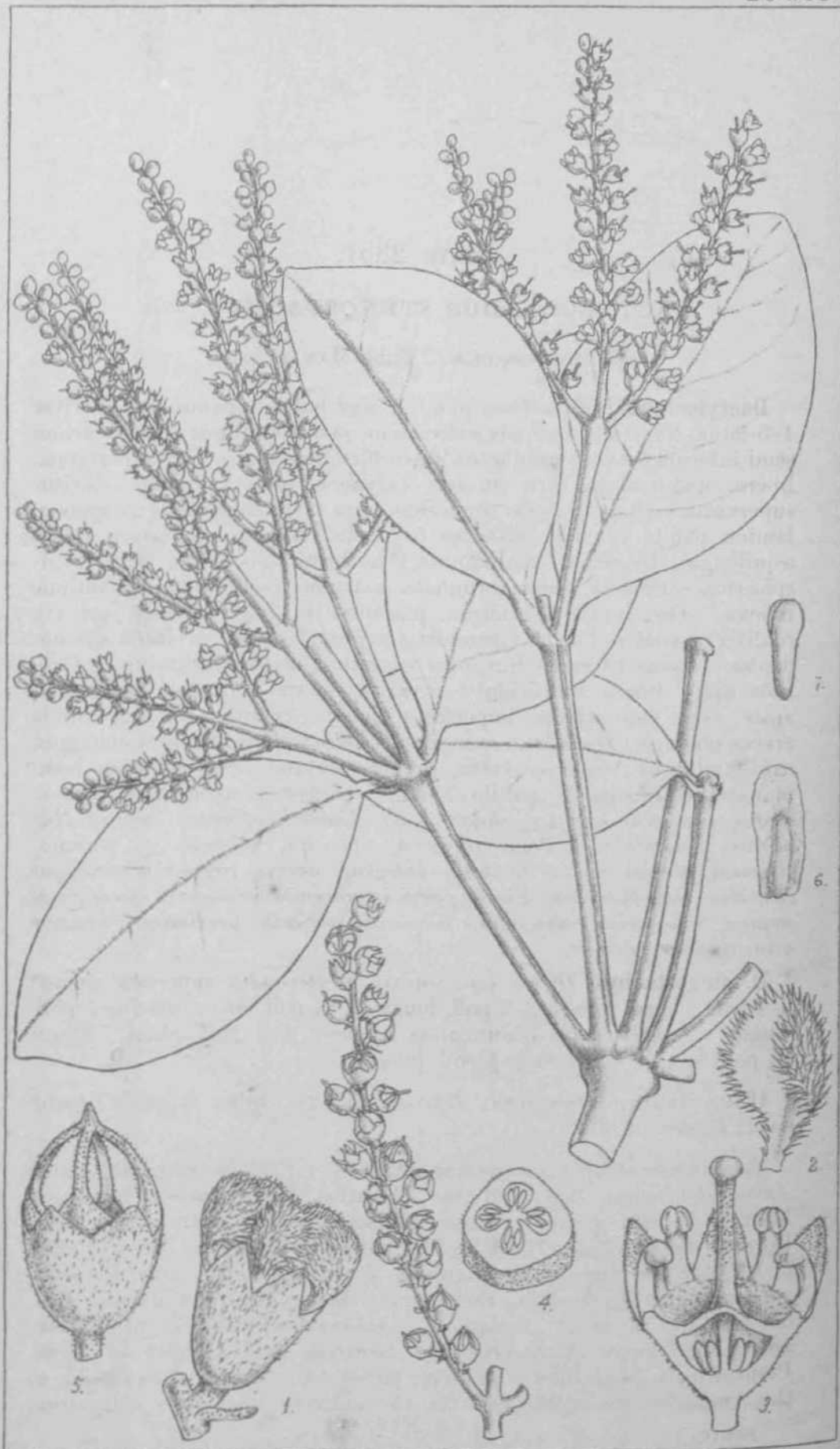
H. multiflora, *Stapf in Kew Bullet.* 1894, 123 ; alte scandena glaberrima, ramis teretibus laevibus, foliis petiolatis oblongo-ovato- v. obovato-ellipticis breviter obtuse acuminatis cuspidatisve basi late rotundatis v. interdum subcordatis, paniculis terminalibus multifloris coigestis subsessilibus foliis superioribus in illis brevioribus, bracteis parvis late ovatis obtusis submembranaceis, pedicellis divergentibus decurvisve calyce 3-5-plo longioribus, sepalis inaequalibus ovato-ellipticis obtusis glandulis totidem carnosulis ovatis rotundatisve alternantibus, corollae hypocrateriformis tubo supra calycem leviter dilatato intus infra antheras lineatim cum setis deflexis hispido, segmentis late obovatis glanduloso-marginatis, fauce exannulato, antheris infra medium tubi insertis lineari-lanceolatis acuminatis basi sagittatis, carpellis coalitis, ovario biloculari multiovulato.

HAB. W. Tropical Africa ; Fernando Po, *Mann* (No. 1164) ; Rio del Key, Cameroons, *Johnston*.

Frutex scandens 40-pedalis. *Folia* 4-7 poll, longa, 2-3[^] poll, lata, linea interpetiolarum juncta ; petiolus 1-1¹/₂ poll, longus. *Flores* expansae, 1-1¹/₂ poll. diam.

We have here a case analogous to that of *Tabernaemontana* (Pl. 2337), standing in the same relation to *Alafia* as *Tabernaemontana* to *Tabernaemontana* : differing, that is, from the old genera respectively in the consolidation of the carpels. In general *habitus* of the plant and its condensed divaricating terminal panicle it corresponds nearly with *Alafia landolphioides*. The anthers are those of the Euechitidese, not of the Carisseeae to which *Landolphia* belongs.—D. OLIVER.

Fig. 1. Calyx and pistil. 2. Same, two sepals removed to show the ovary. 3. Corolla-tube laid open. 4. Anther, back and front views. 5. and 6. Transverse sections of the ovary. *All enlarged.*



M.S.del, et lith.

Dactylocladus stenostachys, Obv

PLATE 2351.

DACTYLOCLADUS STENOSTACHYS, *Oliv.*

MELASTOMACEAE. Tribe MEMECYLEJE.

Dactylocladus, *Oliver (nov. gen.)*. Calyx late campanulatus, breviter 4-5-lobus, dentibus deltoideis aestivatione valvatis; tubus supra ovarium semi-inferum breviter productus, disco hirtello adnato. *Fetala* perigyna, abera, unguiculata, sub sinibus calycinis inserta calycem leviter superantia, caduca; lamina semiorbicularis extus tomentella; unguis q. lamina paullo brevior. *Stamina* 5 petalis opposita, perigyna, calyci sequilonga; filamenta complanata; anthera bilocularis, fere hemisphaenca carnosula, dorso rotundata, uirgine pollinifera, aestivatione inflexa. *Ovarium* ^-^-inferum, placentis 4 (3-5) intrusia sed vix coactis; ovula in loculis incompletis saepius 3 a basi cavitatis ascendentia; stylus 1 tomentellus, mox exsertus; stigma capitatum. *Capsula* apice libera loculicide 4-5-valvis, valvis deltoideis acuminatis apice saepe (ob stylum imperfecte fissum) coalitis; semina albida erecta oblonga; testa laxe spongioso-cellulosa alata; nucleus oblongus, exalbuminosus; embryo rectus, radícula subteres cotyledonibus complanatis aequilonga v. paullo longior.—Arbor v. arbuscula *inflorescentia puberula excepta glabra; internodia superiora saepius plus minus 4-angulata*. Folia coriacea, opposita, oblongo- v. obovato-elliptica, obtusa v. late acutata, integra, nervis primariis venisque obscuris; petioli breves. Flores parvi in racemos terminatos spidiformis saepius 3-5-natis paniculatos dispositi, pedicelli brevissimi; bracteae minutissimae caducae.

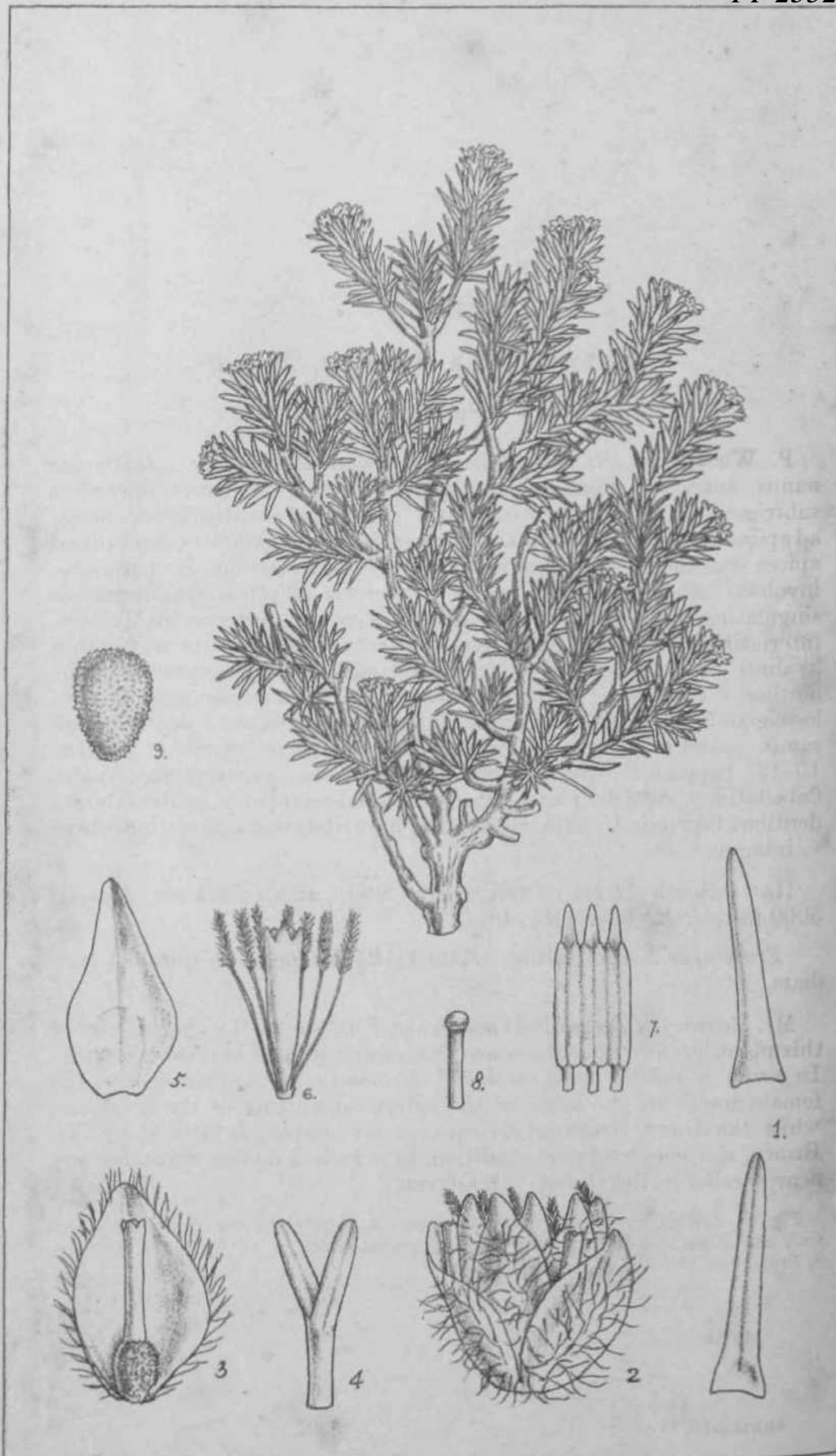
V. *stenostachys*, *Oliver (sp. unica)*. *Internodia* superiora saepius 2-4 poll, longa. Folia 2-3 poll, longa, 1-1½ poll, lata; petiolus ½ poll, longus. *Inflorescentia* pedunculata; racemi 1-3 poll, longi. Flores 1½ poll, longi. *Capsula* ½-¾ poll, longa.

HAB. Borneo: Sarawak, *Ber.cnri* (3*272); Sibuan, on the Rejang river, *Haviland* (2§1b).

The affinity of this interesting plant is no doubt with the genus *Axinandra*, first described by Thwaites, from Ceylon, to which Mamgay added a species from Malacca, and Beccari three from Borneo, the latter described by M. Baillon ('Bull. Soc. Linn. Paris/ 1' 127-128), which he distinguishes from the type under the subgeneric name *Kaxiandra*, their ovules being geminate in each cell, not solitary as in *A. zeylanica*. *Axinandra* was left as 'genus anomalum' under Lythraeae by Bentham and Hooker in *Gen. Plantarum.' M. Baillon, however, points out (*I.e.*) its relationship to the American genus *Monriria* in the anthers inflexed in aestivation,

and the structure of the ovary ; Dr. Krasser, in Engler and Prantl's ' Pflanzenfamilien/ follows him in referring it to Memecyleae, and I have adopted the same view for the present genus as reasonable. As pointed out in ' Gen. Plantarum/ *Axinandra* has many features recalling also Legnotidere. *Dactylocladus* differs from *Axinandra* in its isostemonous flowers, the 4- 5 stamens opposite to unguiculate petals, which in no way cohere, and in the imperfect division of the ovary with three ovules to each partial cell. In aspect and texture the leaves also are very different from those of *Axinandra*. The branches are apt to develop from superposed axillary buds, so that they occur five or more in one plane apparently divergent from one node. The saaiie may occur in the inflorescence.—D. OLIVER.

Fig. 1. Flower and bract. 2. Petal. 3. Vertical section of flower. Transverse section of ovary 5. Persistent calyx and fruit after dehiscence, 6. Seed. 7. Embryo. *All enlarged.*



M.S del.etilh

Petalactella Woodn.N.E.Br.

PLATE 2352.

PETALACTELLA WOODII, N. E. Br.

COMPOSITE. Subscribe **GNAPHALIEÆ.**

P. Woodii, *N. E. Brown in Kew Bulletin*, 1894, 100; fruticulus nanus intricate ramosissimus, foliis alternis confertis linearibus subtrigonis v. semicylindricis facie superiore canaliculatis obtusis ad apices ramulorum argyreis parce lanatis deinde glabratis, capitulis ad apices sessilibus 2-5-congestis folia paullo superantibus, campanulatis, involucri squamis exterioribus c. 4 scariosis ellipticis cymbiformibus singulatim florera ? subtendentibus, squamis intermediis vacuis, interioribus oblongis inferne ovato- v. rotundato-dilatatis marginibus hyalinis apice obtusis albidis breviter radiantibus, receptaculo nudo, floribus 9 epapposis v. pappo 1-2-setoso, ovario compresso parce glanduloso glandulis sessilibus, corolla tubulosa ore minute 4-dentato, styli ramis exsertis anguste linearibus divergentibus, floribus 3 disci 10-12, pappi setis paucis (circ. 5-6) corolla subaequilongis apice flabellatim v. distiche plumosis, corolla tubulosa superne leviter dilatata dentibus brevissimis, antheris anguste linearibus basi minute bidentataj v. integrae.

HAB. South Africa : Orange Free State, at an elevation of about 5000 feet, *J. M. Wood* (No. 4813).

Fruticulus 3-6 poll, altus. *Folia* H-2J lin. longa. *Capitula* £ poll, diam.

Mr. Brown (*I.e.*) regards Don's genus *Petalacte* as the nearest ally of this plant, pointing out the resemblances and differences between them. In *fades* it recalls some species of *Metalasia*. The occurrence of the female florets in the axils of the outermost squamae of the involucre, while the inner intermediate squamae are empty, as noticed by Mr. Brown, is a very singular condition, to which I do not remember any near parallel in the Order.—D. OLIVER.

Fig. 1. Leaves, upper and lower surfaces. 2. Capitulum. 3. Outer involucral scale and ? floret. 4. Style. 6. Inner involucral scale. 6. S floret. 7. Anthers. 8. Style. 9. Achene. *All enlarged.*



M. S. del. et lith.

Treculia affona, N.F., Br.

PLATE 2353.

TBECULIA AFFONA, N. E. Br.

URTICACEÆ. Tribe ABTOCARPEA:

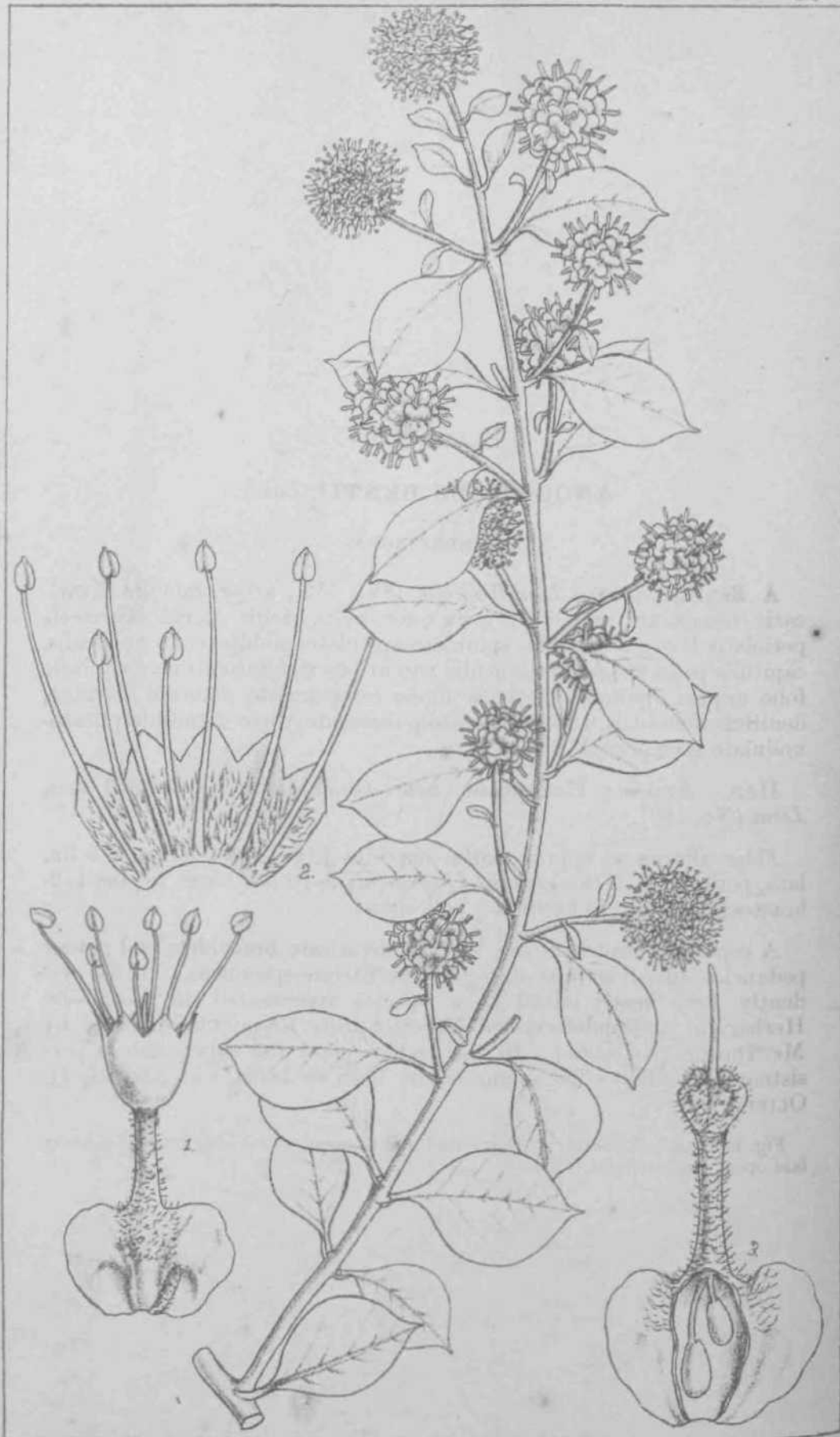
T. Affona, *JT. E. Brown in Kew Bulletin*, 1894, 360 ; arbor glabra, foliis petiolatis oblongo-ellipticis v. oblanceolato-ellipticis breviter et obtuse acuminatis basi anguste cuneatis vix obliquis pergamentaceis marginibus leviter sinuatis, venis primariis utrinque 9-12, stipulis parvis deciduis ovato-lanceolatis acuminatis, capitulo fructifero *T. a/ricance* magno globoso, bracteis apice squama peltata puberula ciliata decidua coronatis, nuculis ellipsoideis v. oblique ovoideis.

HAB. Niger Territory ; Yoruba, *Millson*.

Folia 3[^]-6 (2i-7i) P^{OLL} long^a, 1 Hi (*-?) P^{OLL} lata K P^{eti}olus H poll, longus. *Stipulce* £-£ poll, longse. " *Capitulum* fructiferum 11-12 poll. diam. *Nuculce* 4-6 lin. longse, 2[^]-3 lin. crasse.

Allied, as pointed out in my notice of new species of *Treculia* (Z.c), to *T. africana*, from which it differs materially in the form and texture of the leaves. The fruit-heads of the two species are very similar; the flowering heads of *T. Affona* I have not seen. Known as the *Affon-tree* in Nigritania. The seeds are probably used as food, as in the case of *T. a/ricana*.—N. E. BROWX.

Fig. 1. Fruit and surrounding connate bracts. 2. and 3. Peltate apical squamæ of bracts. 4. Staminate flower. 5. Same laid open. 6. Ovary laid open. 7. Embryo* 8. Longitudinal section of same. 9. Embryo showing the smaller cotyledon, the distal portion of the larger cotyledon removed. *Except Fig. 1, all enlarged.*



M.S.deI,etlith

Ano^eissus Bentii, Baker

PLATE 2354.

ANOGEISSUS BENTII, *Baker*.

COMBRETACEAE.

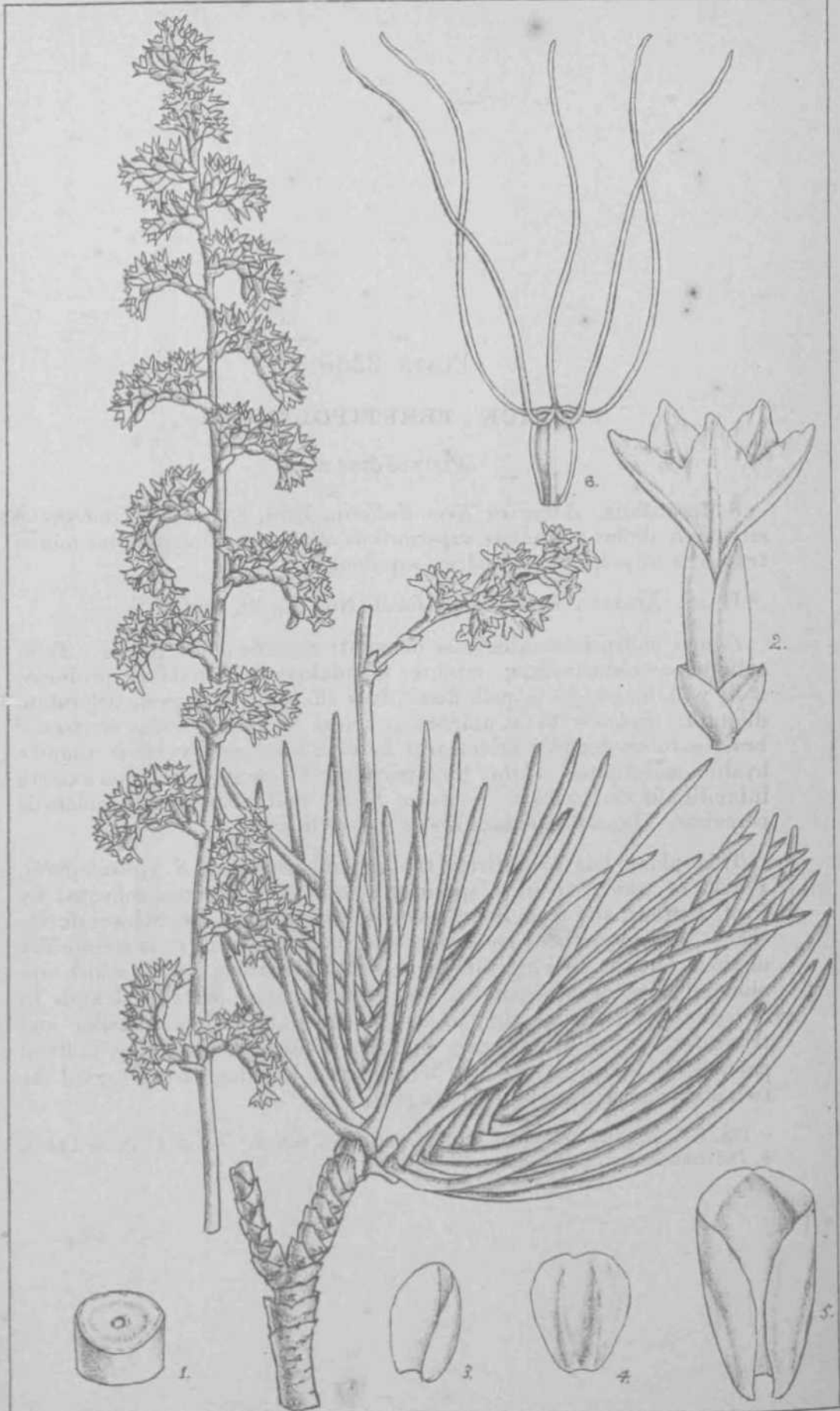
A. Bentii, *Baker in Km Bulletin*, 1894, 332 ; arbor, ramulis divaricatis hornotinis gracilibus cano-tomentellis, foliis parvis coriaceis petiolatis obovato-cuneatis spinuloso-apiculatis minute cano-puberulis, capitulis pedunculatis, pedunculis patentibus rigidiusculis cum capitulo folio saepius aequilongis, calycis limbo campanulato glabrato deciduo, dentibus deltoideis, tubo angustato pubescente, disco carnosulo plicato-undulato laxe piloso.

HAB. Arabia ; Hadramaut, near Ghail Omar, alt. 2200 feet, *Lunt* (No. 189).

Folia alterna v. approximativim opposita f (§-1) poll, longa, 6-8 lin. lata, petiolus 1[^]-2 lin. longus. *Pedunculi* 9-10 lin. longi, saepius 1-bracteati. *Capitula* florifera \ poll. diam.

A copiously branched tree, with its divaricate branchlets and patent peduncles affording neat dull-grey herbarium-specimens. It is evidently very nearly allied to a species represented in the Kew Herbarium, and undetermined hitherto, from Rájputána collected by Mr. Duthie (No. 4663). In the Indian plant the calyx-limb is persistent and silky. The genus occurs both in India and Africa.—U. OLIVER.

, .% 1. Detached flower. 2. Calyx-limb and stamens. 3. Young fruit; the ovary laid open. *All enlarged.*



M. S. del. et lith.

Statice teretifolia, Baker

PLATE 2355.

STATICB TERETIFOLIA, Baker.

PLUMBAGINEAE.

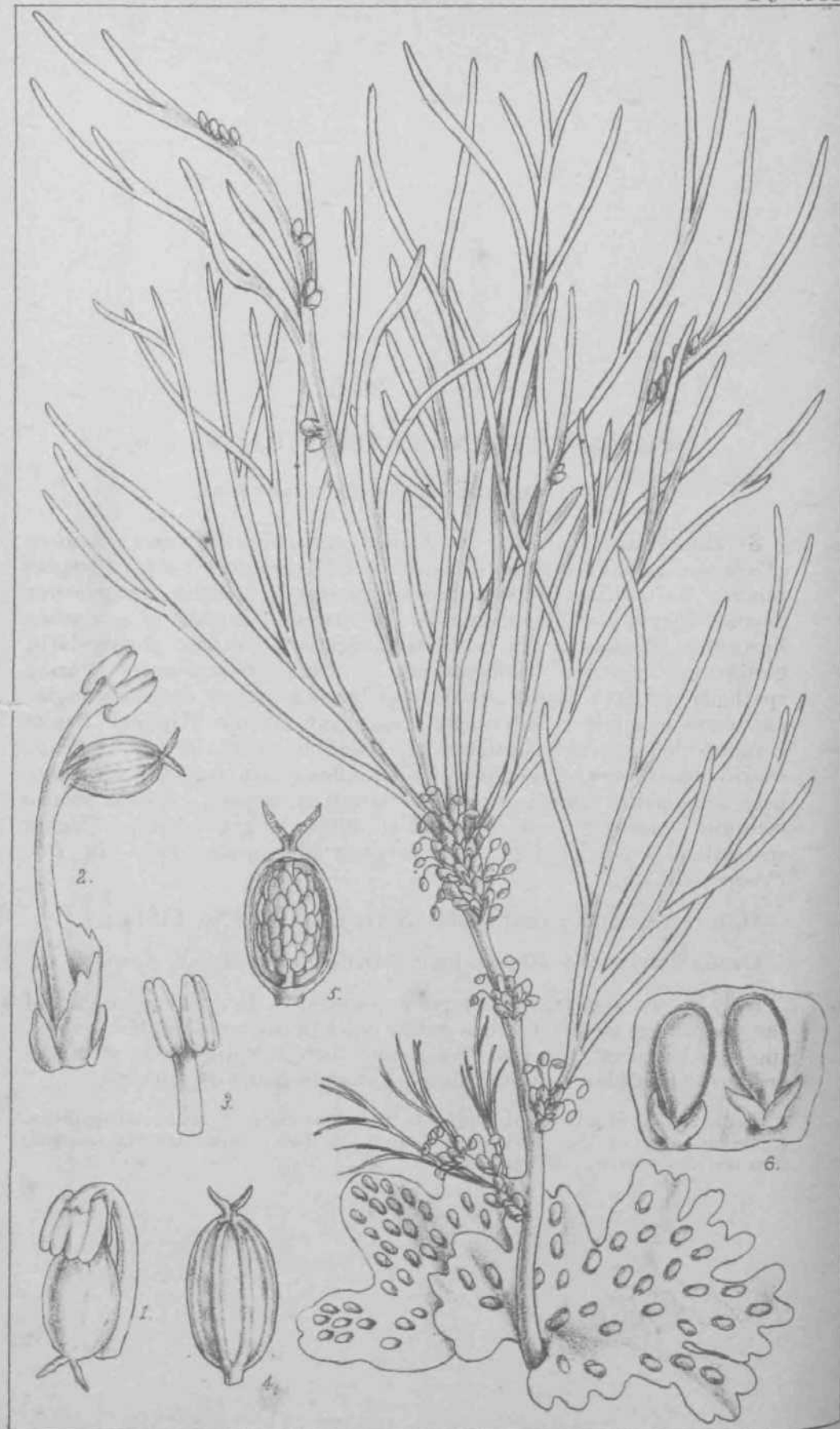
S. teretifolia, Baker in *Keiv Bulletin*, 1894, 334 ; 8. *cylindri/olim* simillima, differt: bracteis superioribus obovato-rotundatis plus minus truncatis calycis tubo cylindrico sequilongis.

HAB. **Arabia**; Hadramaut, *Lunt* (Nos. 75, 98, and 235).

Caules suffruticescentes basi denudati superne dense foliosi. *Folia* cylindrica, obtusiuscula, minute glanduloso-mucronulata, pruinosa, 2-3 £ poll, longa, ^ - r V poll, diam., basi in vaginam brevem coloratam dilatata. *Sjñicula* bi- v. uniflora in spicas breves secundas conferta ; bractee interiores fere orbiculares floribus breviores coriaceae anguste ^yalino-marginatae. *Calyx* tubo hispidulo v. fere glabro, limbo exserto infundibuliformi albido 5-lobato, lobis deltoideis nervis coloratis percursis. *Petala* bidentata libera v. fere libera.

This plant has so entirely the general aspect of *S. cylindrifolia*, Forsk., of which we have specimens both from Socotra, collected by Prof. Balfour, and from Soutli Arabia, collected by Dr. Schweinfurth, that it was not without hesitation we decided to regard it as specifically distinct, but the striking difference in the sheathing bracts, which are oblong, more or less pointed, and equalling the calyx in length in & *cylindrifolia*, while in our species they are nearly orbicular and truncate or broadly obtuse, equalling only the lower cylindrical portion of the calyx-tube, are too marked to allow us to regard the two plants as conspecific—D. OLIVER.

^ g. 1. Transverse section of leaf. 2. Detached flower. 3 and 4. Outer bracts. 5. Innermost bract. 6. Pibtil. All enlarged.



M.S. del. et lith.

Sphaerothyliax abyssinica, Warm.

PLATK 235G.

SPH[^]SROTHYLAX ABYSSINICA, Warming.

PODOSTEMACEAE. Tribe EUPODOSTEMEA[^]J.

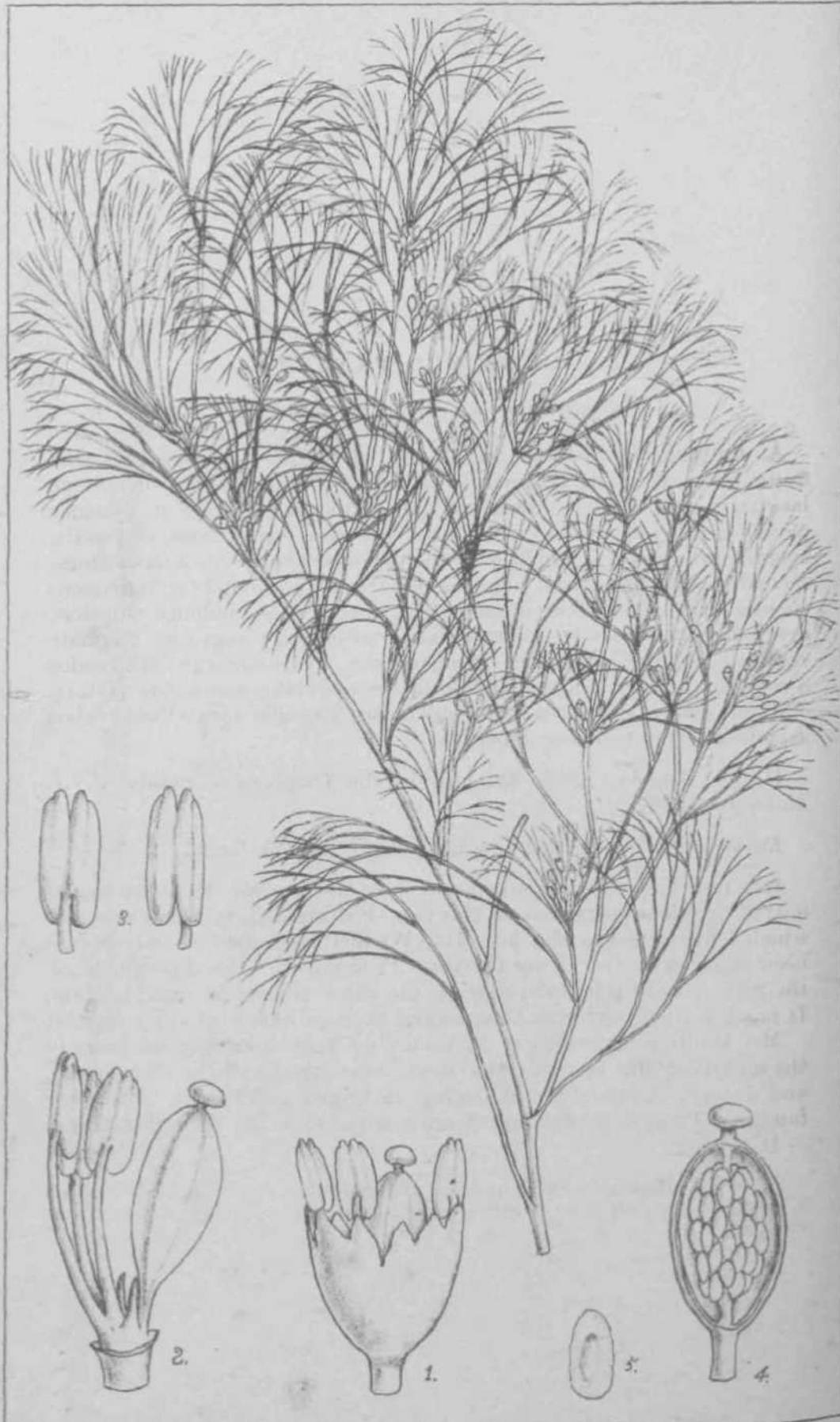
S. abyssinica, Warming in Engler and Prantl, *-Pflanzenfamilien* (*Podostem.* p. 22); caulis dimorphis, aliis elongatis foliiferis saepius ramosis fluitantibus, aliis thalloideis prostratis margine irregulariter lobatis subaphyllis, foliis elongatis 2-3-lobatis laciniis angustissimis linearibus, floribus r^f in caulibus elongatis lateraliter glomeratis, glomerulis interdum⁺ contiguis, in caulibus explanatis sparsis, spathella uni-flora clausa sessile basi bractea minuta deltoidea vaginata demum apice v. lateraliter fissa, flore incluso stipitato stipite crassiusculo incurvo, antheris 2 sessilibus bilocularibus inflexis, ovario obovoideo v. ellipsoideo oblique inflexo antheras 2-plo superante basi squamellis minutis duabus lateralibus stipato, capsula ovata conformis costis 8 latis deplanatis notato, stipite denique[^] rigido spathella 3-4-plo longiore. *Anastrophea abyssinica*, Wedd. in DC. *Prodr.* xvii. 79.

HAB. Abyssinia; near Gaffat, Schimper, 1863 (No. 1181).

Cnules fluitantes 4-10 poll, longi; thalloidei 1[^]-4 poll. diam.

Only known to us from Schimper's specimens. Dr. Weddell regarded the androecium as monandrous with a quadrilocular anther, but I think the view taken in 'Genera Plantarum' that it is diandrous, with the ordinary «bilocular» anthers, clearly the right one.—D. OLIVER.

Fig. 1. Flower with incurved stipes. 2. The same exerted, with basal spathella. 3. Anthers. 4. Capsule. 5. Saim-, laid open. 6. Two flowers, not yet emerged, on the basal thallus. All enlarged.



M S del et lith

Angolæa fluitans, Wedd.

PLATE 2357.

ANGOLJEA FLUITANS, Wedd.

PODOSTEMACEJE. Tribe MARATUREJE.

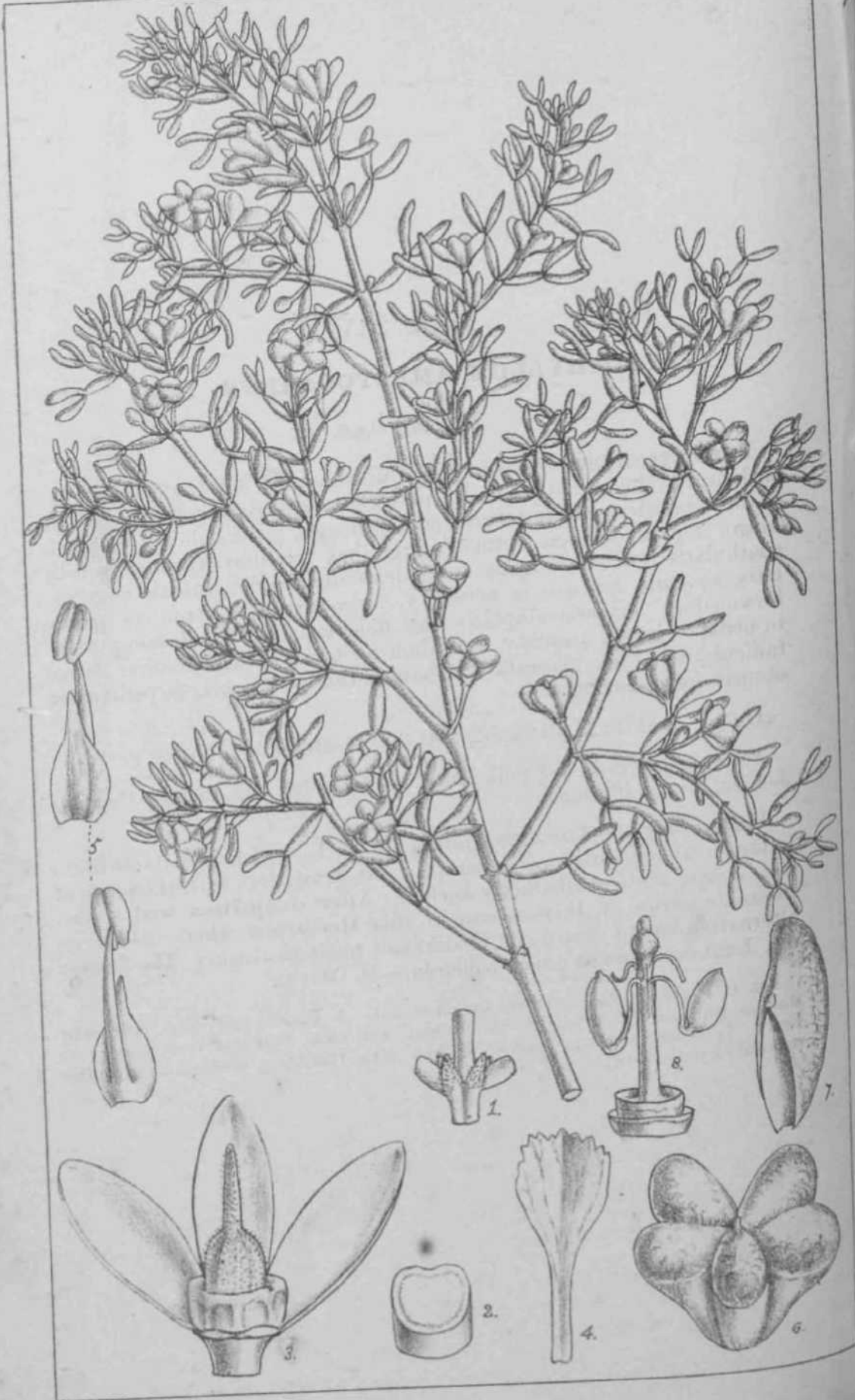
A. fluitans, Weddell in DC. Prodr. xvii. 300 ; ramis primariis fluitantibus elongatis laete viridibus ramosis, foliis alternis dichotome laciniatis angustissime linearibus tiliformibusve, floribus in cymas pauci- v. pluri-flores irregulares laxas ramulos terminantes dispositis, singulis primum in spathella pedicellata ellipsoideamembranacea clausa ^econditis dein exsertis, squamellis rainutis, staminibus 3 (v. 4) filamen- tis basi brevissinie plus minus coalitis, antheris late oblongo-ellipticis, ovario primum breviter stipitato fusiformi-oblongo angulato, stigmate capitato oblique ovoideo v. hemisphserico, ovario maturo ellipsoideo 8-costato, placenta centrali carnosula multiovulata, seminibus peltatis ^eHipticis marginatis dorsaliter complanatis, capsulis bivalvibus, valvis fo-
cila usymbifonnibus 3-nerviis.

HAB. Angola, River Quanza, in the Cambambe rapids, J. J. Monteiro, 1872.

Kami primarii ^ - 1 ^ ped. longi. *Folia* 1-2 ^ poll, longa.

It is now more than twenty years since the late Mr. Monteiro trans- mitted excellent specimens of this rare Podostemad to Kcw, some of ^hich I forwarded to the late Dr. Weddell, who had shortly before ^een engaged on the Order for the 'Prodromus.' His description of the plant was in time to appear in the same volume as an addendum. ^as not since, so far as I am aware, been gathered by any collector. Mr. Monteiro describes it as occurring very sparingly on rocks in the middle of the torrent; the stems when fresh, thick, translucent, **d watery. I follow Dr. Warming (in Engler and Prantl, * Fflapzen- ^oilien,' Podostemaceae), in referring *Angolcea* to his tribe Maratnreae. ^ ^ OLIVER.

^T/_o 1. Flower with ruptuied spathella still present. 2. Same, spathella-removed. 3. Anthe^T, back enlarged, >>> frout view. 4. LoDgitudial section of fruit. 5. &&• AU



M.S. del, et lith

Zygophyllum amblyocarpum, Baker.

PLATE 2358.

ZYGOPHYLLUM AMBLYOCARPUM, Baker.

ZYGOPHYLLEIE.

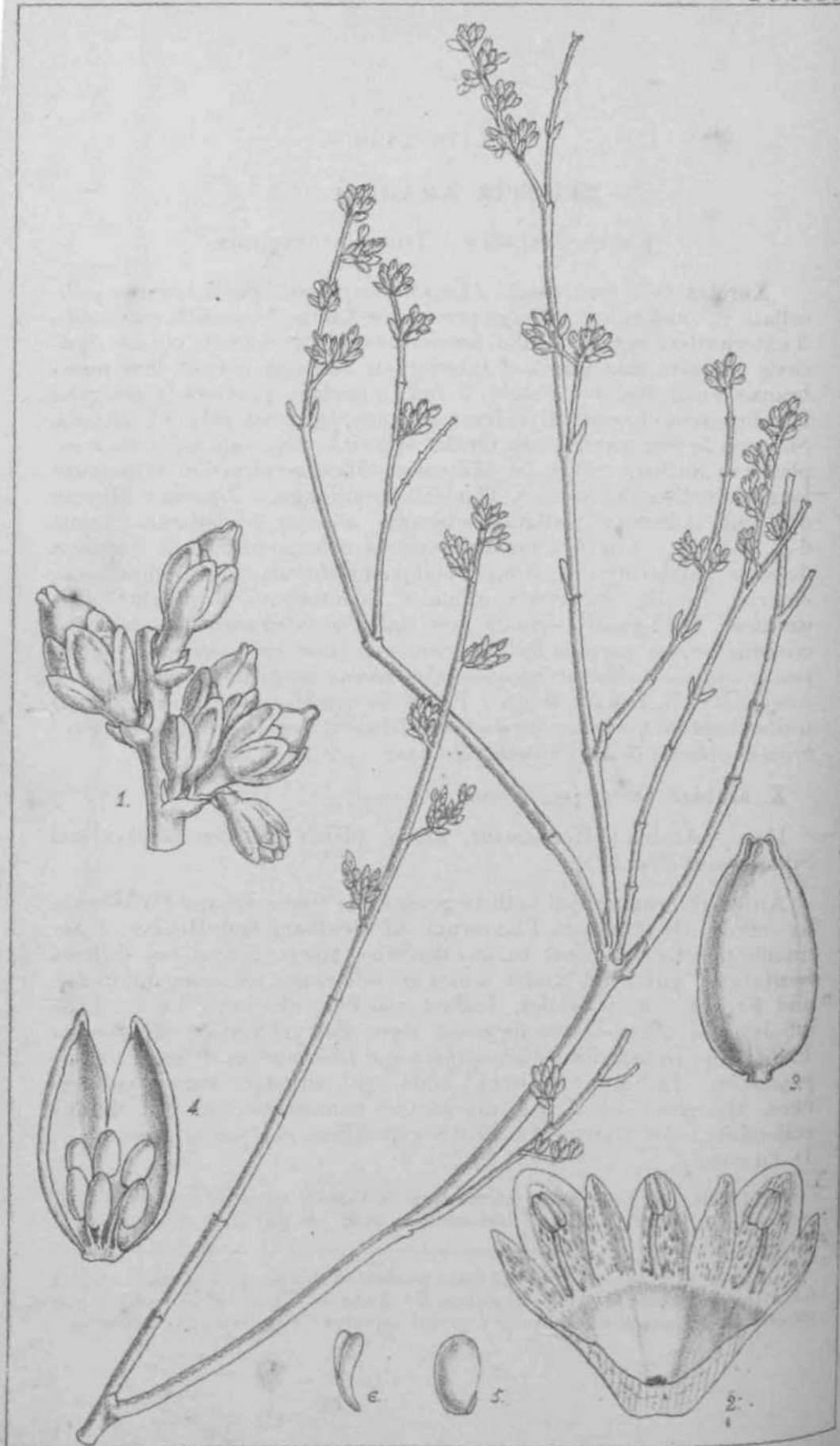
Z. ainblyocarpum, Baker in *Kew Bulletin*, 1894, 330; suffrutex 1-1½-pedalis, novellis cano-tomentellis mox glabrescentibus, foliolis unijugis glabris teretibus petiolo carnosio subaequilongis, pedunculo calyci sequilongo, sepalis oblongis obtusis marginibus tenuibus hyalinis, petalis spatulatis v. obovatis apice erosio denticulatisve longiuscule unguiculatis, squamis lanceolatis acutis v. apice dentatis filamentis paullo brevioribus, antheris ellipticis basi bidentatis, stylo pilosulo, ovulis in utroque loculo paucis v. interdum solitariis adscendentibus longe unguiculatis, capsula glabrata turbinata obtuse pentagona, carpellis apice obtusis dorso ecarinatis.

HAB. Arabia; Hadramaut, 200-300 ft. alt., Lunt (No. 51).

folia cum petiolo ½-¾ poll, longa. *Flores* ¼-½ poll. diam. *Capsula* 3-4 lm. lata, 3 lin. longa.

in Yemen near Widd to *Zygophyllum album*, L., which is variable in its uniformity and, to some extent, in the fruit, but with the lobes of the capsule acute or distinctly keeled. After comparison with a considerable series of this species in the Herbarium, there seems no alternative but to regard the Hadramaut plant as distinct. The flowers are described as cream-coloured.—D. OLIVER.

Fig. 1. Stipules. 2. Transverse section of leaf. 3. Flower laid open, petals and stamens removed. 4. Petal. 5. Stamen and HSHI scale, back and front views. 6. Fruit. 7. Detached lobe of same. 8. Axis with fuiculate setae attached after removal of wall of ovary. AU enlarged.



M. S. del. et lith.

Xerotia arabica, Oliv.

PLATE 2359.

XEROTIA ARABICA, *Oliv.*

CARYOPHYLLACEAE. Tribe PARONYCHIEAE.

Xerotia, *Oliv. (gen. nov.)*. Flores hermaphroditi parvi, breviter pedicellati v. subsessiles. Calyx persistens, 5-fidus, segmentis carnosulis, 2 exterioribus ceteris paullo brevioribus ovato-oblongis obtusis concavis anguste marginatis, 3 interioribus oblongis obtusis late membranaceo-marginatis. Petala 5 (an interdum pauciora t) perigyna ttiembranacea oblonga calyci fere sequilonga, segmentis calycinis alterna. Stamina 5,- perigyna inclusa sepalis opposita \ filamenta subulata complanata; anther® ovato- v. lanceolato-oblongse versatiles biloculares longitudinaliter dehiscentes, filamenta aequilongse. Ovarium liberum ovoideum 1-loculare; stigma subsessile obscure 3-lobulatum; ovula 6-7 basilaria. Capsula breviter exserta oblongo-ovoidea 3-6-sperma 3-valvis, valvis coriaceis. Semina oblique pyriformia v. semi-ellipsoidea; embryo dorsalis, incurvus; albumen farinaceum.—Fruticulus *ephedroides* 1%-2-pedalis, ramis fere aphyllis adscendentibus teretibus crassitie pennae corvince Icevibus cano-puberulis ino glabratis. Folia pduca opposita oblonga carnosia plus minus complanata obtusiuscula c<*>no-puberula, 1-4 lin. longa. Flores in cymulis pauci- v. pl/uri-floris "nUateralibus quasi-axillaribus sessilibus v. pedunculatis dispositi; bracteae minutae deltoideo-ovatae scariosae.

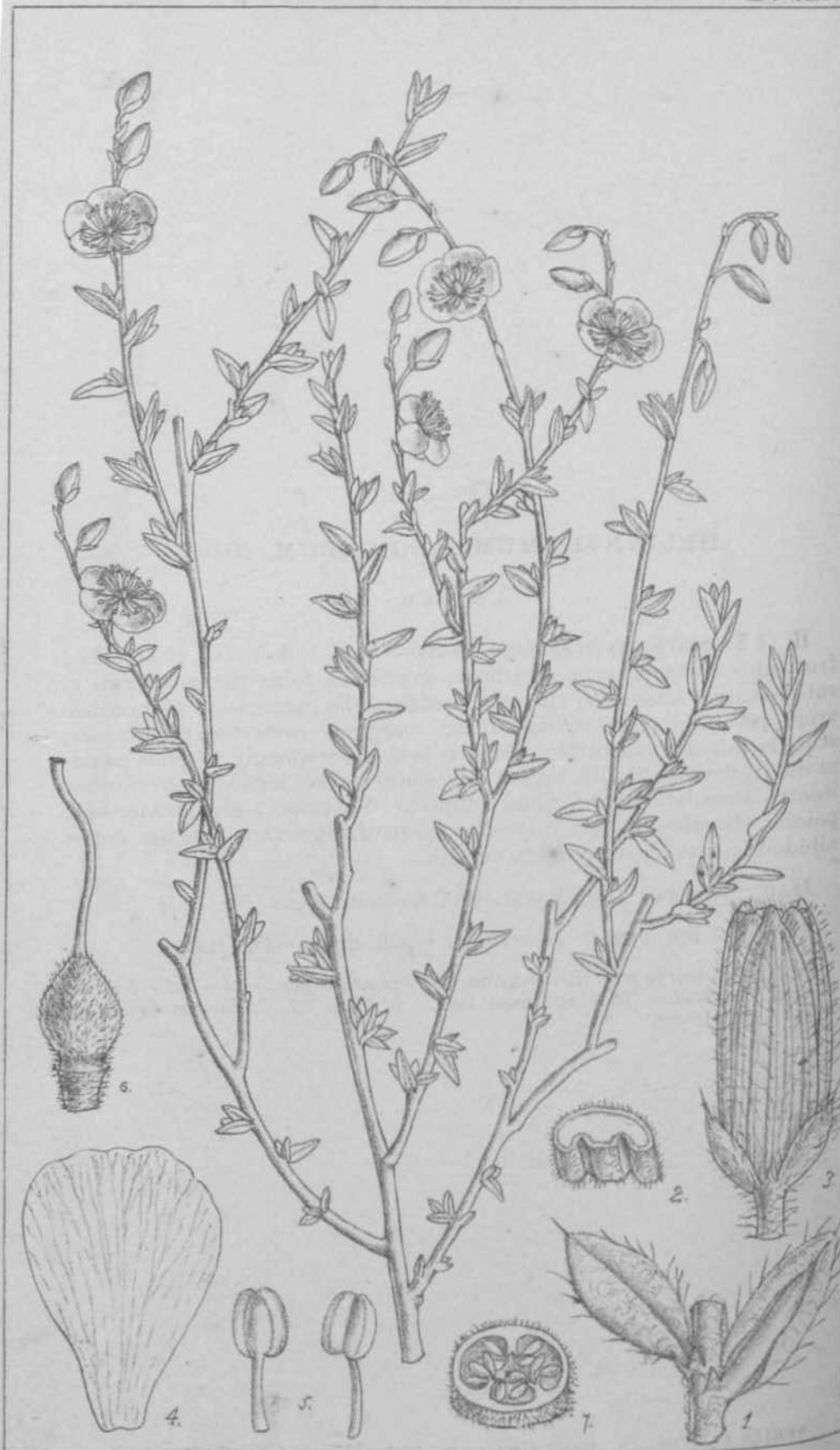
X. arabica, *Oliver (sp. unica)*,

HAB. Arabia; Hadramaut, sandy plains between Gahfyt and Si^hbeh, *hunt* (No. 82).

Although nearly allied both to genera of *Tohycarpum* and *Ulecebracm* as left in the 'Genera Plantarum' of Bentham and Hooker, I am able to refer this plant to any described genus, and so, not without hesitation,* publish it under a new generic name, following Endlicher and Fenzl, as also Eideler, Baillon, and Pax, who have discussed the affinities of allied *Curvembryonece* since the publication of 'Genera Plantarum,' in regarding *Paronychia*; and *Illecebrece* as tribes of *Caryophyllaceae*. In *Kew Bulletin*,¹ 1894, 340, through some inadvertence, the name of this genus in the enumeration of Mr. Lunt's collection, made during Mr. Bent's expedition, is given as *Xeractis*.—
D - OLIVER.

Fig. 1. Detached fragment of inflorescence. **2.** Vertical section of flower, the ovary removed. **3.** Capsule. **4.** Same kind open. **5.** Seed. **6.** Embryo. *All enlarged.*

* bearing the pitfalls which beset workers on this group, into one of which I have fallen; (see *Icones Plantarum*/ 1499), describing Dr. Anderson's *Sphtrmcowa* under a new generic name *Pylothumbus*, having regarded the calyx 'of AmUTwin) as involucral.



M. S. del, et lith.

Helianthemum argyreaum, Baker.

PLATE 2360.

HELIAFITHENUM ARGYRJUM, Baker.

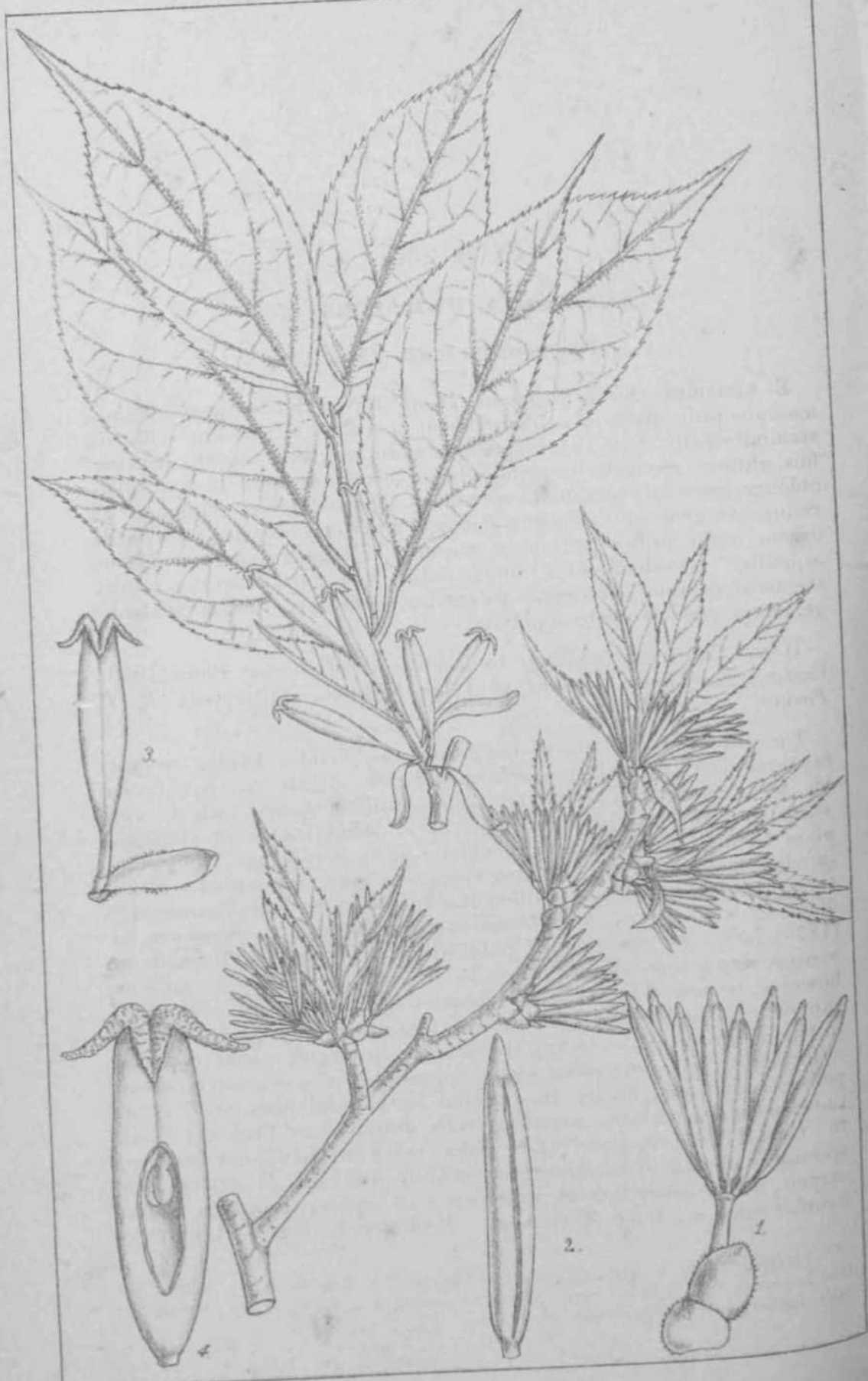
CISTINEAE.

H. (§ **Eriocarpum**) argyrseum, *Baker in Kew Bulletin*, 1894, 329; fruticulus incanus, ramis divaricatis gracilibus, foliis parvis alternis v. suboppositis lanceolato-oblongis acutiusculis argenteis marginibus acute revolutis costa subtus inter margines revolutos prominente, stipulis minutis lanceolato-subulatis petiolo sequilongis, racemis paucifloris, pedicellis saepius calyce brevioribus, sepalis 2 exterioribus internerviatis lanceolatis interioribus ellipticis 5-nerviis 3-plo brevioribus, Petalis obovato-oblongis calycem superantibus, ovario globoso dense abditotomentello, stylo erecto curvulo.

HAB. Arabia; Hadramaut, 4000 feet alt., *Lunt* (No. 213).

Folia 2-3 lin. longa. *Flores* flavi poll, diam.—D. OLIVER.

Fig. 1. Two leaves, with their stipules. 2. Transverse section of a leaf. 3. Bud. 4. Stamen, back and front view. 5. Pistil. 6. Transverse section of ovary. 7. Transverse section of ovary. *J. All enlarged.



M.S. del. et lith.

Eucommia ubnoides, Ohv

PLATE 2361.

EUCOMMIA ULMOIDES, Oliv.

TROCHODENDRACE*: (Prantl).

E. ulmoides ^{^Hscurs} ^{stamin} ^{nis, ant} ^{Monn,} ^{ruclime} ^{o vari} ^{fcqualif} ^{^i^nian} ^{Itetoin} ^{h minatl} ^{^S>} ^{Ol*Ver} ⁱⁿ ^{Icone8} ^{PlanL} ¹⁹⁵⁰ > floribus pracocissimis, axillis squamarum cataphyllacearum solitariis, receptaculo nudo insertis, lilamentis brevissimis obtuse tetragonis apice in connectivo productis, longitudinaliter dehiscentibus, ^{o acutiuscui} ^o ^{floribus} ^{fenii} ^{neis} breviter pedicellatis solitariis, ^{uniloculari} ^{longe} ^{stipitato} ^{elongato} ^{compresso} ^{apice} lobis intus papillose-stigmatosis, ^o ^{lobis} ^{intus} ^{papillose-stigmatosis}, ^{productis} ^{patentibus} ^{reflexisve}, ^{ovulis} ^{anatropis} ^{pendulis} ^{arcte} ^{applicitis}.

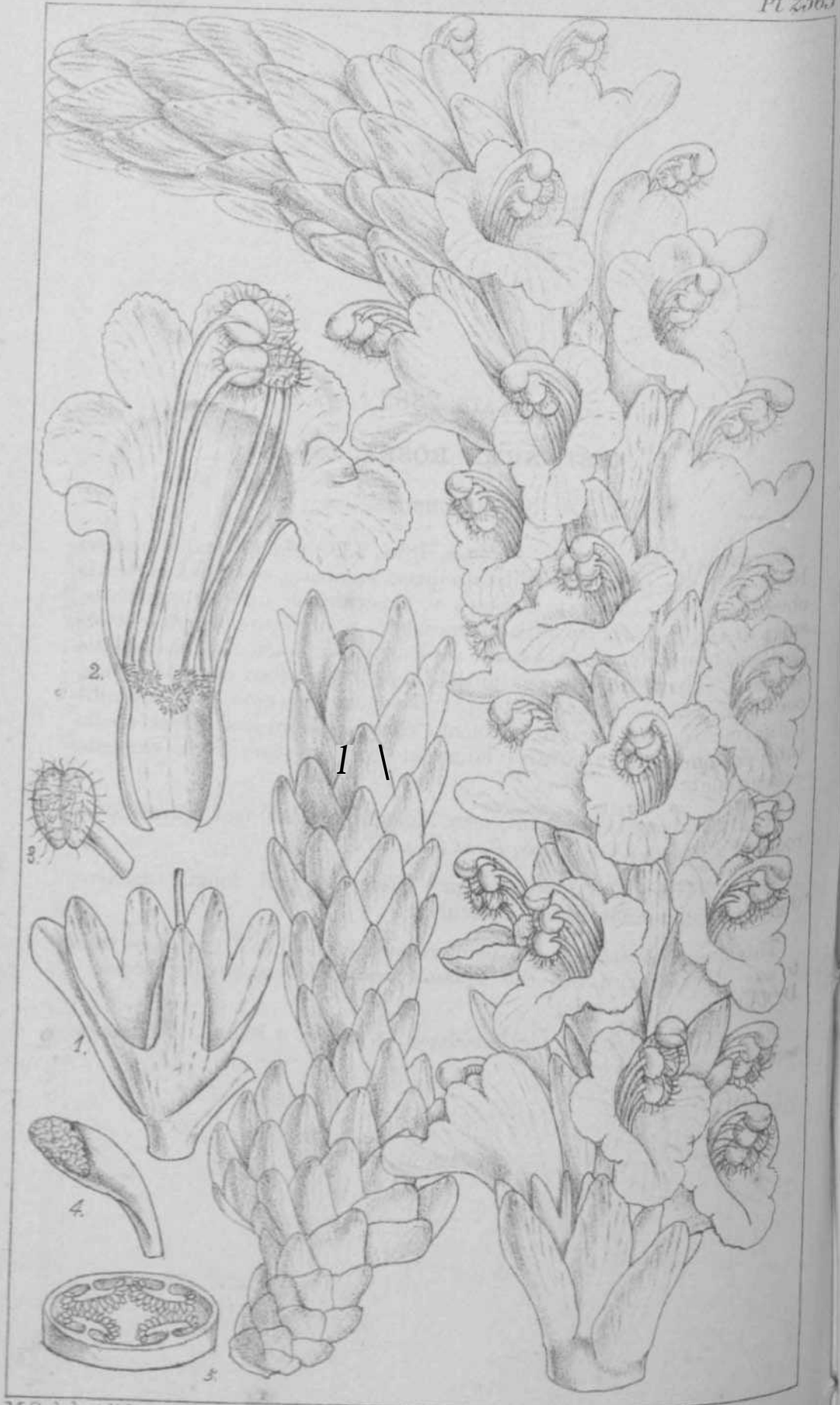
HAB. Eastern P^{hina} (in addition to localities cited under Plate 1950), ^{Farjes} ^{Uluen} > D^{istrict} of Tchen-Kéou-tin (cultivated), *R. P**

The ^{favoured} ^{us} ^{with} ^{the} ^{excellent} ^{specimens} of this singular plant, collected by ^{M. F.} ⁱⁿ ^{the} ^{mountains} with staminate and pistillate flowers, which were ^{published} ^{the} ^{genus}, it is desirable that an additional ^{material} ^{should} ^{be} ^{given} ⁱⁿ 'Icones Plantarum,' ^{previously} ^{only} ^{suitable} specimens were represented. Meon-Hon has informed me that *Eucommia* is (1875) ³⁰⁵ ^{Eu} ^{lea} ^{Dav} ^{Miana}, published in 'Adansonia,' xi. ^{A*} ^{*Ae} ^{*TM} ^e ^o [^] publication of *Eucommia* I could not ^{serious} suggestion as to its affinity. There cannot now, ^{not} ^{doubt} ^{is} ^{nearest} ^{all} ^{is} *Euptelea*, although I ^{having} ^{is} ^{referable} ^{to} ^{that} ^{genus}, from which it differs ^{quailing} ^{the} ^{albumen} ⁱⁿ ^{length}, a solitary ovary ^{presenting} ^{every} ^{appearance} of a syncarpous dicarpy and finally the unique histological peculiarity of its ^{cells}, described by Professor Weiss ^{staminate} flowers are wholly destitute of any trace of ^{pistillate} flowers, which are on a separate specimen, in like ^{show} no trace of stamens. Professor Baillon (*I.e.*) describes

* Professor Weiss, to whom I submitted fragments of *Euptelea* (dry), informs me that he has identified in either stem or petiole or laticiferous tissue of the caoutchouc plant of *Eucommia*.

his *Euptelea Davidiana* as having male flowers with 10-20 stamens and 5-10 sterile carpels. I think there can now be no reasonable ground for hesitation in separating this genus ordinarily together with *Cercidiphyllum*, *Euptelea*, *Trochodendron*, and *Tetracentron* (' Ic. Plant.' 1892), from Magnoliaceae, and it would seem best to adopt Professor Prantl's ordinal name (Engl. and Prantl, ' Pflanzenfamilien/ part insertion 2, p. 21). It is true these genera fall naturally into two distinct sections, which further knowledge may afford reason to deal with differently : viz. with carpels more or less connate and anthers not apiculate (*Trochodendron* and *Tetracentron*); and with carpels free and anthers elongate and apiculate (*Euptelea*, *Eucommia*, and *Cercidiphyllum*). Professor Baillon (' Adans. ' *I.e.*) suggests the affinity of this group with Saxifragaceae and Hamamelidaceae.—D. OLIVER.

Fig. 1. Staminate flower and bracts. 2. Anther. 3. Pistillate flower and bract
4. Same, the ovary laid open. *All enlurged*.



M.S. del. et lith

Cistanche rosea, Baker.



M.S. 101, et lith

Vellozia arabica, Baker.

PLATE 23G4.

VELLOZIA ABABICA, *Baker.*

AMARYLLIDACEJE. Tribe VELLOZIEJE.

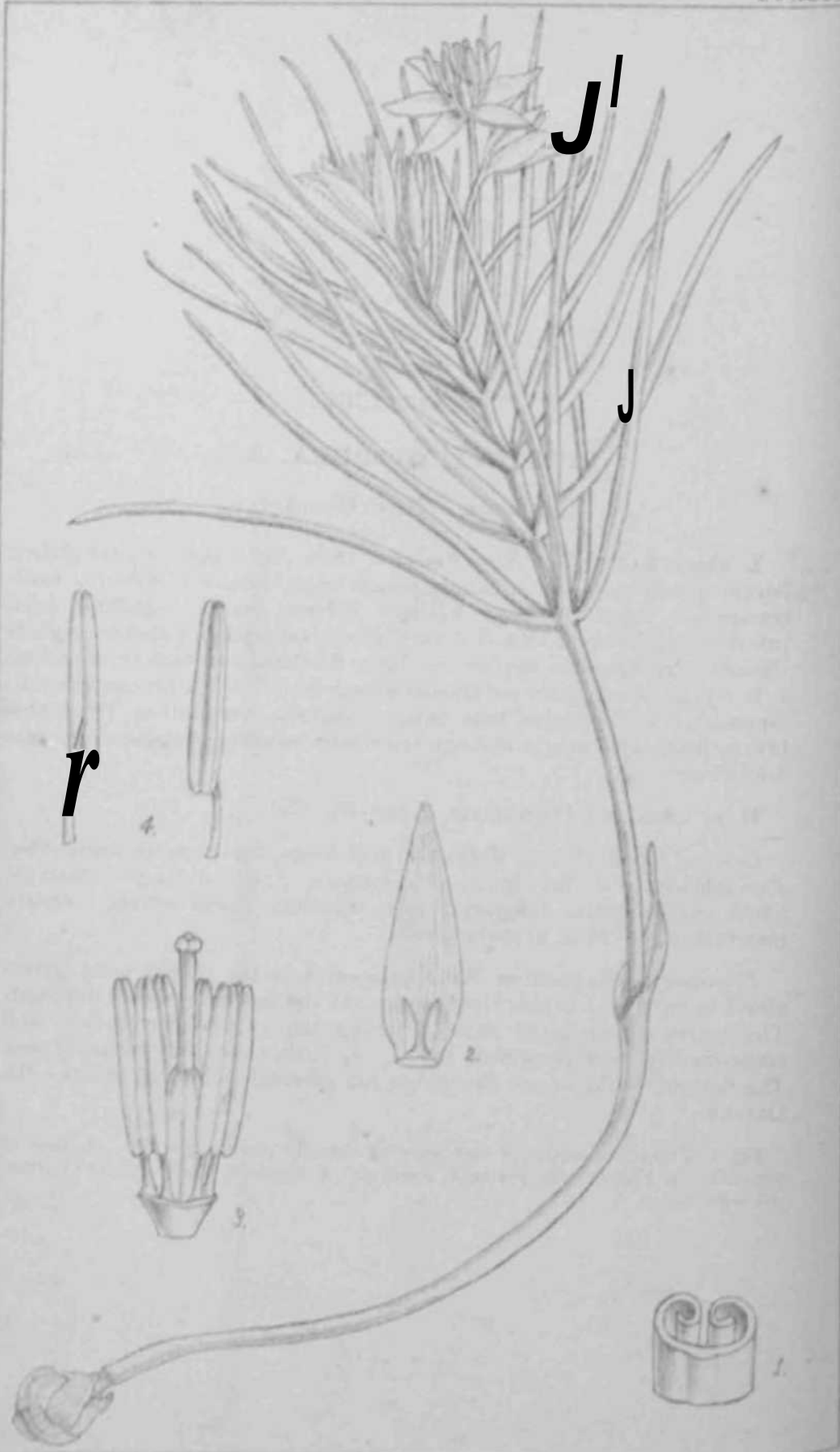
V. (Xerophyta) arabica, *Baker in Kew Bulletin*, 1894, 342 ; herbacea, acaulescens v. caules breves ssepe formans vestigiis fibrosis foliorum delapsorum fibrosis vaginantes, foliis radicalibus v. quasi radicalibus v. anguste linearibus apicem versus attenuatis planis v. plus minus conduplicatis patentibus recurvisve longitudinaliter striatis glabris prope apicem marginibus setuloso-scabriusculis, pedunculis soliteriis unifloris gracilibus cum ovario et perianthii segmentis exterioribus plus minus glanduloso-papillosis, segmentis perianthii oblongis v. ovali-oblongis obtusiusculis, antheris 6 linearibus complanatis filamentis basi inappendiculato 3-6 -plo longioribus.

HAD. Arabia ; Hadramaut, 4000 ft. alt., *Lunt* (No. 205).

Radix fibrosa, fibris primariis elongatis ramulos breves laterales emittentibus. *Caules* interdum $\hat{1}$ - 1 $\hat{1}$ poll, longi. *Folia* 1-3 poll, longa, $\frac{1}{5}$ - $\frac{1}{2}$ poll. lata. *Pedunculus* 1-2 $\frac{1}{2}$ poll, longus. *Mores* albi v. carnosii | - 1 poll. diam.

The nearest ally of this species is, I think, *V. humttis*, Baker, of 8.E. Africa.—D. OLIVER.

Fig. 1. Apex of leaf. 2. Anthers, back and front views. 3. Ovary, style and stigma. All enlarged.



M. S. Dal. et. H. B.

Littonia obscura, Baker

Pun 2366.

LITTONIA OBSCUKA, *linker.*

La JACEE. Trilte Uvui.AttLEJE.

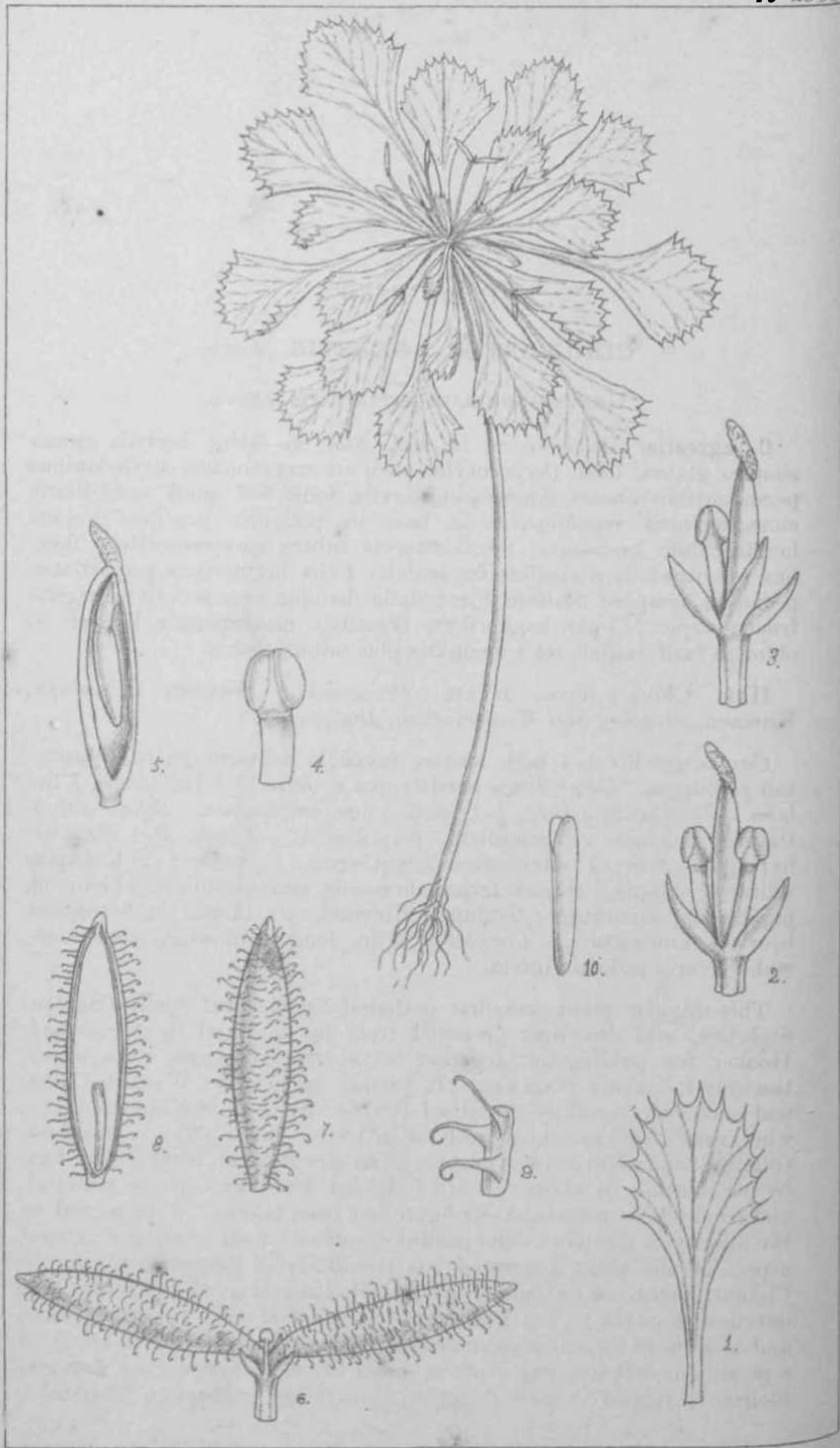
I. obicura, *Babtr in Kew Bulletin*, 1894, 342; **berbi erecta** |kbim, cor no piimi ii\..i),-;i M[tiinii)t |paucis memtai&ftct'tH nl>ecto, c'iu1>* **Ktnipedali BUpra medium** foliifero inferno longo vu^inuUi, *Miis Enfenoribua appradautun 3-5-verticil* llntis Huperiorilmfi Hi<ir<is nngustc **Hnearibiu mai^ginibai mpla**a involutis, **Boribtu** 2-1 c|msi ti>rminaltbuH v. in **uttlisraperioribus podunculat**in, wgimmtiH [«'rianihii **oampAattlati** **llnceisat iicutintottlii** bui bstoi **i-csUofa**, (itftiniuHms **perianthio** breviorib**u**, **tttylo 0** vario o">lungo trisulcato ii-quiun^u, **itignwta** minute 3-lobulato.

HAD. Arabia; Hiwlrannmut, *Lunt* (No. 280).

Cormus $\frac{1}{2}$ poll. diam. *Folia* 2-3 po II. longn, ilores ius p perantia. *Perfnitfiittin* 4J> **tin**, longnnt *AntKsra* **linenri-oblc** ngæ **Dxtronio**, titiuiifiitiM **tutmlatJ**, longioreI, infill ituuliuiu <orso i idixa*. *Ovula* biseriata, c. 1H-LJ in **BtroqM IOOdllo**.

L. minor, Dfil., anuthi-r Ar/iKinn •TfWfm, is tte upccios most M'arly «lli?<| to our **plant in thin Elerbariom, hut the Bowtn** »n' very diMrn-nt. The Ivavch oi our plunt **ihow** a htj-dii^ **bsndattOJ** tO involution, und cons **sqtiientlj** look immwcr, say $\frac{1}{2}$ - $\frac{1}{3}$ **inah**, than they **Kotoally** ai-o. The flowers, HO far as tne can judge, are greenish yellow in colour.—D. M.IVKK.

Fig. 1. TmnsrrrM sect ion of li-nf, uliowing nimn^iy involute nmrpinit. 2. Irfiif of periant h. **t. fUnm**, UM pwkatb rtaumd. *. **nsaumi** btwk unit fiwm **ffnr**< *All enUtr; ed.*



M.S. del et lith.

Cip caeas ter afresUs, Haxim.

PLATE 2366.

CIRCJEASTER, AGRESTIS, *Maxim.*

GENUS ANOMALUM AFFINITATIS DUBLJE.

C. agrestis, *Maximowicz*, in *Mél. Biol.* xi. 346 ; lierbula annua simplex glabra, caule (hypocotyledoneo) erecto pellucido, cotyledonibus persistentibus lineari-oblongis uninerviis, foliis 5-7 quasi verticillatis cuneato ovatis repando-serratis basi in petiolum gracilem saepius longiusculum angustatis menibranceis subtus glaucescentibus, floribus minutissimis umbellato-fasciculatis foliis brevioribus pedicellatis, pedicellis tempore florifero brevissimis denique accrescentibus rigidis fructu ssepe 2-3-plo longioribus, fructibus monospermis lineari- v. oblongo-fusiforniibus setis uncinatis plus minus obsitis.

HAB. China: Prov. Kansu, *Przewalski* ; Western Himalaya, Kumaon, *Strachey and Winterbottom*, *Duthie*.

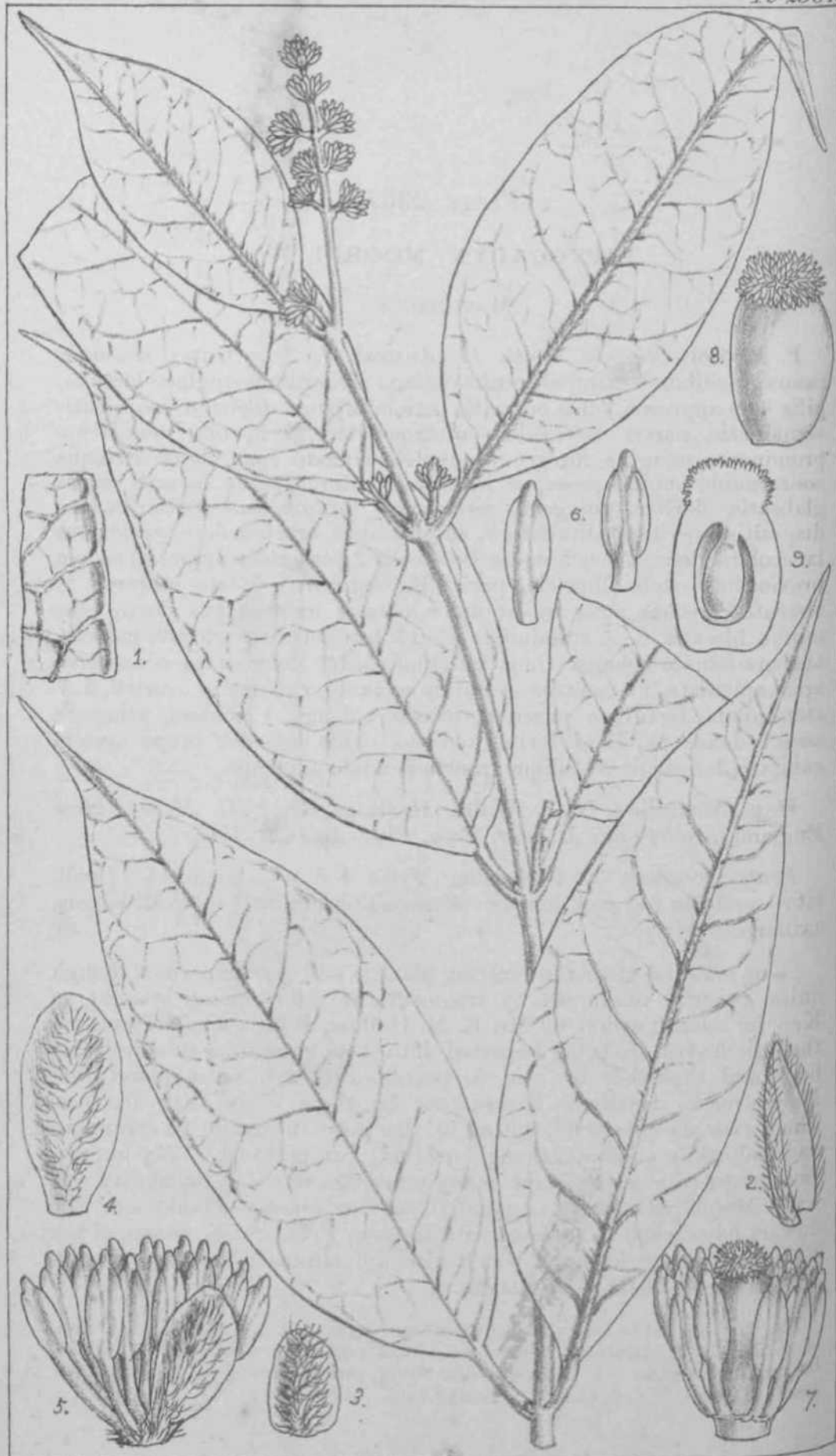
Caulis gracilis 1-4 poll, longus, fasciculo solitario centrali fibrovassali percursus. *Cotyledones* persistentes evolutae 5-6 lin. longaj, 1 lin. latae. *Folia*, cum petiolo, ½-1½ poll, longa, exstipulata. *Sepala* minutissima oblonga v. lanceolata, persistentia. *Petala* 0. *Stamina* hypogyna 2 (v. 1 altero turn ananthero). *Carpella* 1-2-4, ssepius solitaria, obliqua ; stigma terminate sessile lanceolatum v. oblongum, papillosum, coloratum ; ovulum solitarium, pendulum, orthotropum, breviter funiculatum. *Caryopsis* 2 lin. longa : albumen copiosum ; embryo teres radícula infera.

This singular plant was first gathered by General (then Captain) Strachey, and drawings prepared from his material by Sir Joseph Hooker for publication, together with the specimens, were unfortunately lost many years ago. It turned up next in Western China, and was very carefully described by the late C. J. Maximowicz (f.c.), who transmitted specimens to Kew in 1881. Since then it has been collected abundantly in Kumaon, at an elevation of 8000-10500 feet, by Mr. Duthie, to whom we are indebted for very copious material, and from whose specimens our figure has been taken. With regard to the affinity of the plant: the pendulous orthotropous ovule and general Aspect of the plant suggested the possibility of some relationship to Chloranthaceae, as intimated by M. Maximowicz, who referred the question to us (*I.e.*) ; but I now feel less satisfied with this suggestion, And in spite of its many anomalous features, of which the character of^a pendulous orthotropous ovule is one of the more noteworthy, I should fci ne to regard it as a degraded form, allied perhaps to Auemonese

(Ranunculaceae). The petioles, like the hypocotyledonary axis, are traversed by a solitary vascular bundle which repeatedly forks in the lamina, giving off a branch to each serrature, without any looping or intramarginal vein, and, at first, produced considerably beyond the apex of the serrature.*—D. OLIVER.

Fig. 1. Leaf. 2. A diandrous, and 3. a monandrous flower. 4. Stamen. 5. Longitudinal section of ovary. 6. Dicarpeillary fruit. 7* Fruit-carpel. 8. Longitudinal section of same. 9. Uncinate setae of fruit. 10. Embryo, *Except 1, all enlarged.*

* Dr. Scott, at my request, has very kindly reported on the anatomical characters of *Circaaster*, so far as dried specimens enabled him to do so. He finds the structure ¹'too simple' to afford any indication of affinity. * The structure of the stem throughout is that of a diarch bypocotyl; . . . there is scarcely any difference between stem and main root. A small amount of secondary wood and phloem is formed on either side of the diarch xyiem-plate. A single bundle enters each cotyledon.¹



M. S. del. et lith.

Piptocalyx Moorei, Oliv.



PLATE 2367.

PIPTOCALYX MOOBBI, *Oliv.*

MONIMIACEAE.

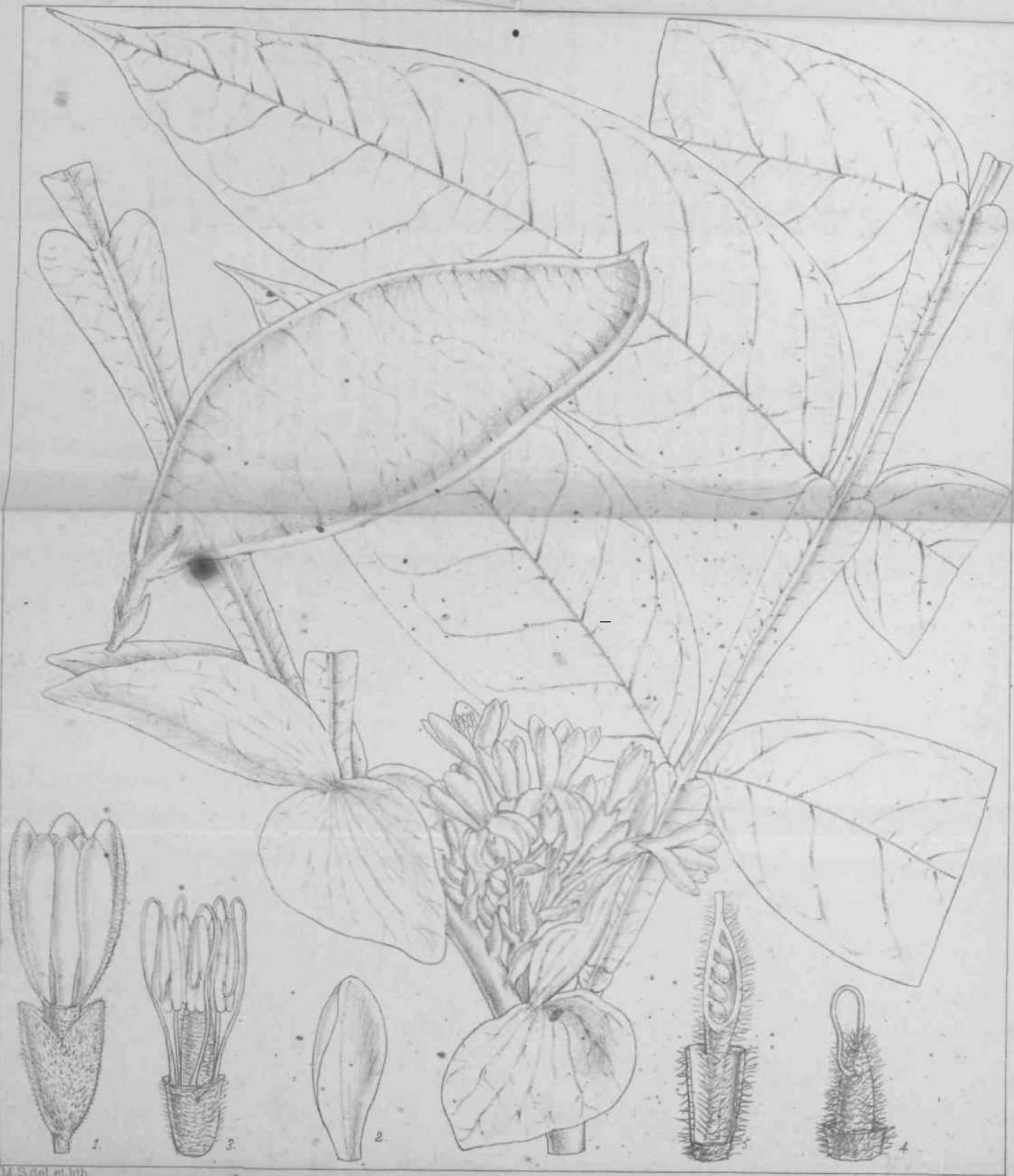
P. Moorei, *Oliv. in Benth. Fl. Austral. V. 292*; frutex scandens ramis gracilibus cum inflorescentia costaque foliorum ferrugineo-hirsutis, pilis laxe appressis, foliis oppositis petiolatis punctatis ovato-lanceolatis acuminatis nervis lateralibus utrinque circ. 7-9, rete venularum prominente margine integro v. obsolete sinuato cum nervo utrinque contermino, subtus praecipue in costa venisque parce hirsutis supra glabratis, floribus polygamiis in racemis terminalibus axillaribusque dispositis, breviter pedicellatis v. subsessilibus, bracteis flore brevioribus lanceolatis dorso dense hirsutis bracteolis 2 perianthio appressis eodera brevioribus ovato-ellipticis, perianthii segmentis 5 late ellipticis v. obovato-ellipticis subscariosis apice obtusis exterioribus dorso plus minus hirsutis, fl. 3 staminibus 15-13 toro breviter elevato insertis, anthera adnata oblonga rimis longitudinaliter dehiscentia connectivo apice apiculata, filamentum evolutum aequante, rudimento ovarii 0, fl. ♂ staminibus fertilibus pauciora, ovario oblongo 1-loculare, stigmate sessili dense papilloso leviter obliquo, ovulo solitario prope apicem cavitatis latiuscule et oblique inserto pendulo anatropo.

HAB. Australia: N. S. Wales, Hastings River, *C. Moore*; New England, *Stuart* {*fide Mueller, Frag. Phyt. Austr. x. 106*}.

Frutex scandens 30-40-pedalis. *Folia* 4-5 poll, longa, 1[^]-1 f poll, lata; petiolus [^]-[^] poll, longus. *Macemus* terminalis 1-1[^] poll, longus, axillaris brevior.

Our material of this interesting plant is still very imperfect, though fluite recently reinforced by fragments of inflorescence brought to Sew for identification by Mr. E. M. Holmes, F.L.S., who informs me that the leaves are being imported into Hamburg as a substitute for hops, and that they are said to be obtained '200 miles inland from Melbourne.' Hastings River must be three times that distance. The leaves are excessively bitter to the taste in the dried specimens and pellucidly punctate, though not very conspicuously. My impression on describing the plant many years ago was that its affinity was with Monimiaceae, and, as pointed out in 'Genera Plantarum,' the flowers have much in common with those in *Trimenia* Seemann, of the Fiji Islands, the leaves of which also are minutely punctate, though distinctly bitter.—D. OLIVER.

Fig. 1. Fragment of leaf, showing the marginal nerve. 2 and 3. Bracts. 4. Leaf of perianth. 5. Staminate flower, one leaf of perianth remaining. 6. Anthers, back and front views. 7. Hermaphrodite flower, perianth removed. 8. Ovary and sessile stigma. 9. Longitudinal section of same. *All enlarged.*



M. S. del. et lith.

PLATE 2368.

HUMBOLDTIA DECURRENS, *Bedd.*

LEGUMINOSAE. Tribe **AMHERSTIÆ.**

H. decurrens, *Beddome in Herb, Kew cum descr.*; arbor 40-50-pedalis novellis cinnamomeo-tomentellis, foliolis ssepius 4-6-jugis, petiolo communi inter foliola alato, foliolis tenuiter coriaceis subsessilibus elongate- ovali- v. lanceolato oblongis acuminatis basi obtusis v. interdum latiuscule rotundatis primum tomentellis mox glabris costa subtus nervisque primariis prorainentibus, stipulis persistentibus oblique lanceolatis v. ovato-lanceolatis acutis basi infra insertionem in appendicem majusculam oblique ovatam v. reniformem productis, racemis brevibus axillaribus solitariis geminatisve stipulas interdum vix superantibus tomentosis, petalis 5 calycem subaequantibus.

HAB. Indian Peninsula ; Travancore, near Colatoorpolay, *Beddome, Bourdillon.*

Foliola 6-15 poll, longa 1|-4 poll, lata, inferiora saepe minora ; stipulae 1J-2J poll, longae. *Bracteae* ovatae alabastris breviores, deciduae ; bracteolae cymbiformes connatae apicibus liberis late ovatis, pedicello, cum tubo calycino, temp, florifero sequilongo v. eodem breviores. *Sepala* 4, oblonga, sequilonga. *Petala* 5 oblanceolata v. ovalia, unguiculata, calyci fere aequilonga. *Stamina* 5-4 cum petalis in margine disci inserta; filamenta aestivatione arete inflexa; antherae oblongae, versatiles. *Ovarium* oblongum, dense hirsutum, pauci-(3-4) ovulatum, stipite ad tubum calycis lateraliter adnato; stylus evolutus superne glaber; stigma capitatum. *Legumen* 3|-5 poll, longum, apicem versus 1-1[^] poll, latum, tomentellum.

This is the *Humboldtia* **referred** to by Col. Beddome in his ¹Forester's Manual of Botany for Southern India/ p. xciii. He describes it as a very large tree, but had not then procured it in flower or fruit. Mr. Bourdillon, to whom we are indebted for recent specimens, speaks of it as a tree of 40-50 feet, the trunk 1 foot in diameter, and very common near Colatoorpolay. It is distinguished at once from other species of *Humboldtia* by the conspicuously alate rachis of its leaves.—D. OLIVER.

Fig. 1. Flower and connate bracteoles, the anterior calyx-segment removed. 2. Petal. 3. Flower, the petals and calyx-limb removed. 4. Pistil. 5. Longitudinal section of ovary. *All enlarged.*

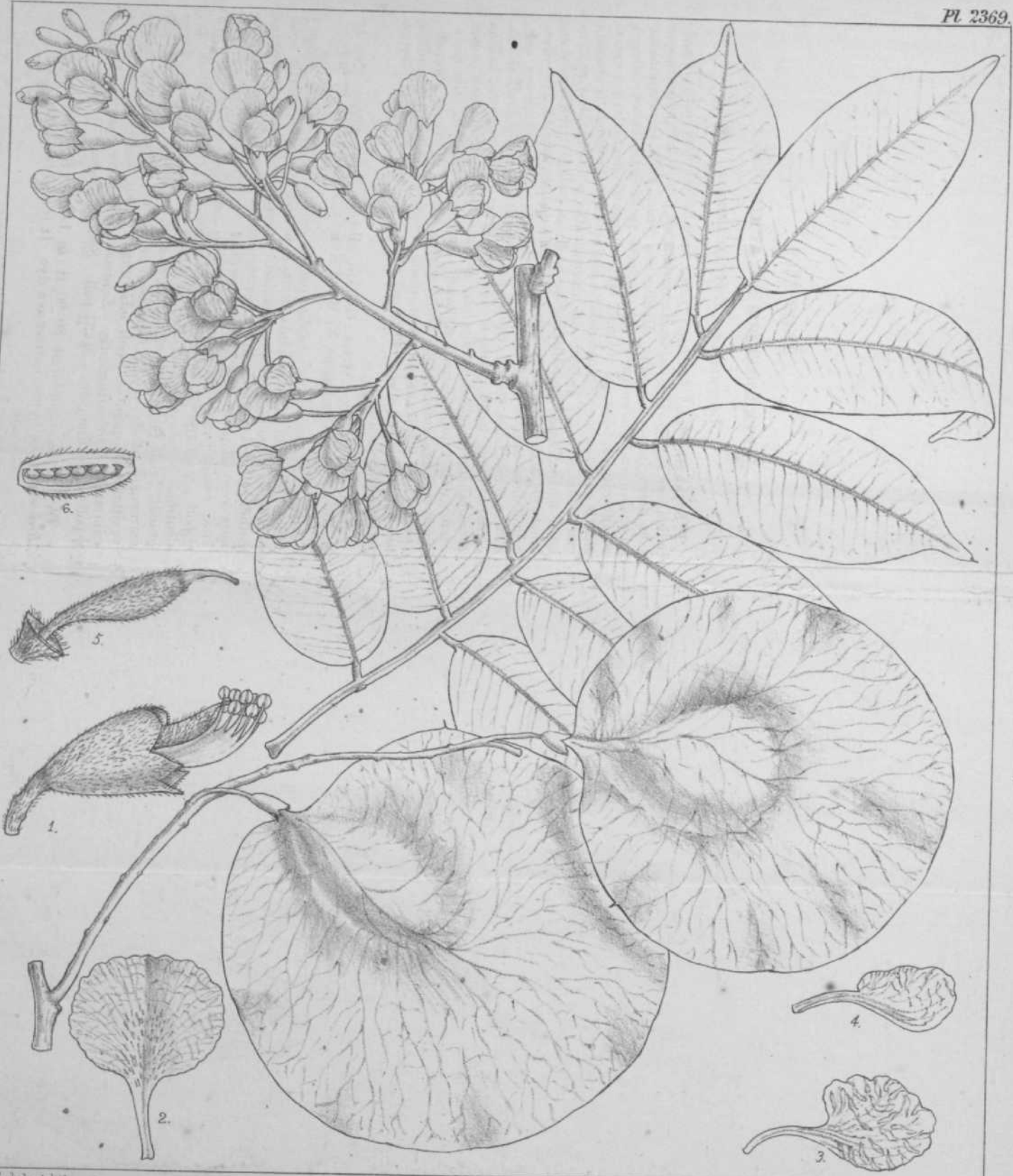


PLATE 2369.

PTEROCARPUS SOYAUXII, *Taub.*

LEGUMINOSAE. Tribe DALBERGIEAE.

P. Soyauxii, *Taub. (sp. nov.)*; arbor ramulis teretibus cortice longitudinaliter rugoso-rimoso obtectis, novellis uti petioli inflorescentiaeque axes ferrugineo-tomentellis, stipulis non visis, foliis imparipinnatis, foliolis alternis plerumque 11-13 distincte petiolulatis lineari-oblongis vel interdum subobovato-oblongis apice obtuse producto leviter emarginatis minutissimeque mucronulatis, basi obtusis vel rotundatis obsolete marginatis utrinque glaberrimis, inflorescentiis pyramidalibus paniculatis, floribus longe* graciliterque pedicellatis, pedicello infra calycem bracteolis 2 alabastrum subsequantibus caducissimis inunito, uti calyce subtubuloso-campanulato breviterque dentato pilis ferrugineis subsericeo-tomentellis, vexillo calycem duplo superante late rotundato s&b cordato supra basin utrinque breviter dentato in unguem lamina stibaequilongum angustato, alis late obovatis longe unguiculatis quam carinae petala duplo latioribus, ovario lanceolato stipitato pilis ferrugineis subsericeo tomentello stylo glabro circa £ breviter coronato, ovulis 4-6, legumine stipitato piano-compresso oblique orbiculato, ala papyracea reticulata cincto, ad semina reticulato-costato, leviter ferrugineo-tomentello.

HAD. West Trop. Africa : Gaboon, Sibange Farm, *Soyauxii* (No. 47 fl. No. 59 fr.) ; Cameroons, N. W. of Kumba, *Preuss* (No. 167 fol.).

Arbor ad 30-metralis. *Folia* petiolo communi 2[^]-6 poll, longo ; foliola supra in sicco nitidula costa impressa, nervis primariis subparallelis prominentibus, secundariis prominulo-reticulatis subtus pallidioribus vix nitidulis, costa in novellis inferne ferrugineo-tomentella *nox vero glabrescente. *Inflorescentia* 4-8 poll, longae, 3_i-4_J poll, latae, ramis patentibus v. subpatentibus, multifloris. *Pedicelli* circa [^] poll. ; bracteolae tomentellae, | poll, longae. *Calyx* tubo 2[^] lin. longo, lenticulis 3 inferioribus acutis. *Vexillum*, cum ungue 2[^] lin. longo gracili, [^] poll, longum, [^] poll, latum, in sicco corrugatum, album, uti aho carinaeque petala medio ferrugineo punctatum lineolatumque ; alae vexillum subsequantes, J poll, latae, ungue 3_i lin. longo ; carinae petala cum ungue 5 lin. attingentia. *Legumen* (non plane maturum) stipite [^] poll, longo, diam. circa 2[^]-3[^] poll. *Semina* ignota.

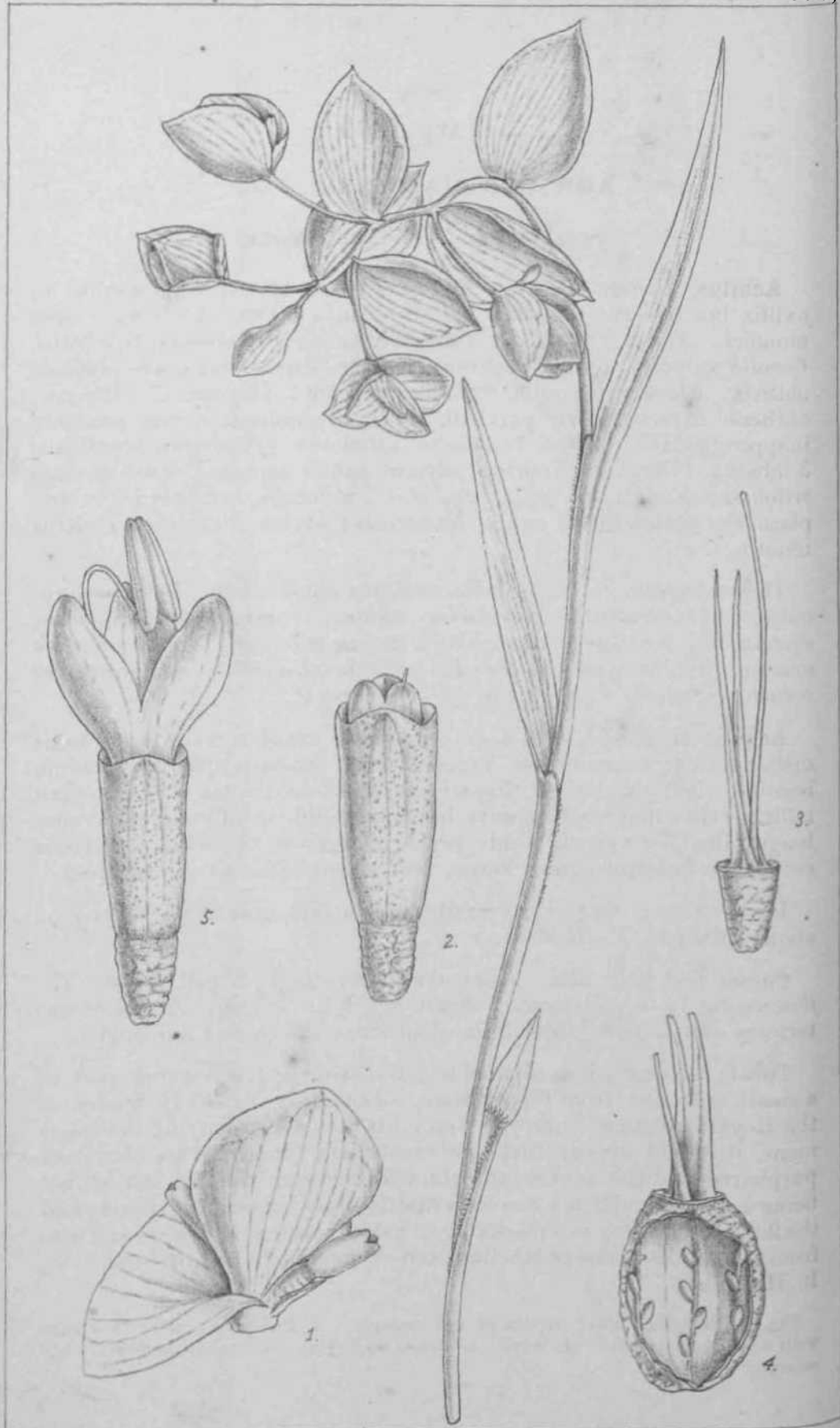
Tree of the virgin forest 80-90 ft. in height, furnishing a *Bar-* or *Red-wood* used by the natives as a dye. It is readily distinguished **from**

the allied *P. tinctorius*, Welw. by the form and nervation of the leaflets, and by the much longer and more slender pedicels of the flowers.*—
P. TAUBERT.

Fig. 1. Flower, the petals removed. 2. Vexillum. 3. Ala. 4. Carinal petal. 5. Pistil. 6. Longitudinal section of ovary. *All enlarged.*

• There is an essential difference between these species in the fruit. That of *P. tinctorius*, which is 4-5 ins. in diameter, has a deep narrow basal sinus (one inch deep or rather more) with the style-scar in contact with the stipes, while in *P. Soyauxii* the style-pear is $\frac{1}{2}$ in. removed from the stipes, and the intervening sinus, if existing at all, is very shallow and broad.

Our specimens of *P. Soyauxii*, Taub., were collected by Soyaux and are labelled "Bed- or Bar-wood of the traders." The confusion hitherto existing in this case—as in so many parallel instances in which dye-woods or other products of economic value are concerned—between the plant here figured and allied species of *Pterocarpus* and Cam-wood (*JBaphia nitida*, Afz.), may now be regarded as satisfactorily cleared up. The importance of Soyaux's remark just cited having attracted Dr. Morris's attention, inquiry was made of the authorities of the Berlin Herbarium as to whether they had dealt with this plant, which was distributed from thence. Dr. Taubert having named it, he has had the courtesy to supply the description given above.—D.O.



M. S. del, et lith.

Achuus siamensis. Hemsl.

PLATE 2370.

ACHILUS SIAMENSIS, *Hemsl.*,

SCITAMINEÆ. Tribe ZINGIBEREJE.

Achilus, *Hemsl.* in *Kew Bulletin* 1895, 39. *Flores* minuti, in axillis bracteolarum solitarii, sessiles, unisexuales, ut videtur, vere monoici. *Flores* ♂ : *Calyx* cylindrico-tubulosus, obscure trilobatus. *Corolla* calycem dimidio superans, alte trilobata, lobis ovato-oblongis obtusis. *Staminodia* nulla. *Stamen* unicum ; filamentum filiforme; antherae exsertae loculi paralleli, contigui, connectivo non producto inappendiculato. *Flores* ♀ : *Calyx* tubulosus, cylindricus, brevissime 3-lobatus. *Corolla* cylindrica, calycem paullo superans, etiam obscure trilobata. *Staminodia* nulla. *Stylodia* 2, filiformia, ovarium 1-loculare, placentis parietalibus, ovulis numerosis; stylus filiforrais. *Fructus* ignotus.

Herba *annua, nana, gracilis, caulibus simplicibus*. Folia *graminoides*. Inflorescentia *terminata, nutans, e spicis paucis, densis, distantibus, graciliter pedunculatis sistens, et bracteis amplis coloratis ornatae*. Flores *bracteolis distichis arete complicatis etiam coloratis fere occulti, inferiores ?, supremus vel superiores* ♂.

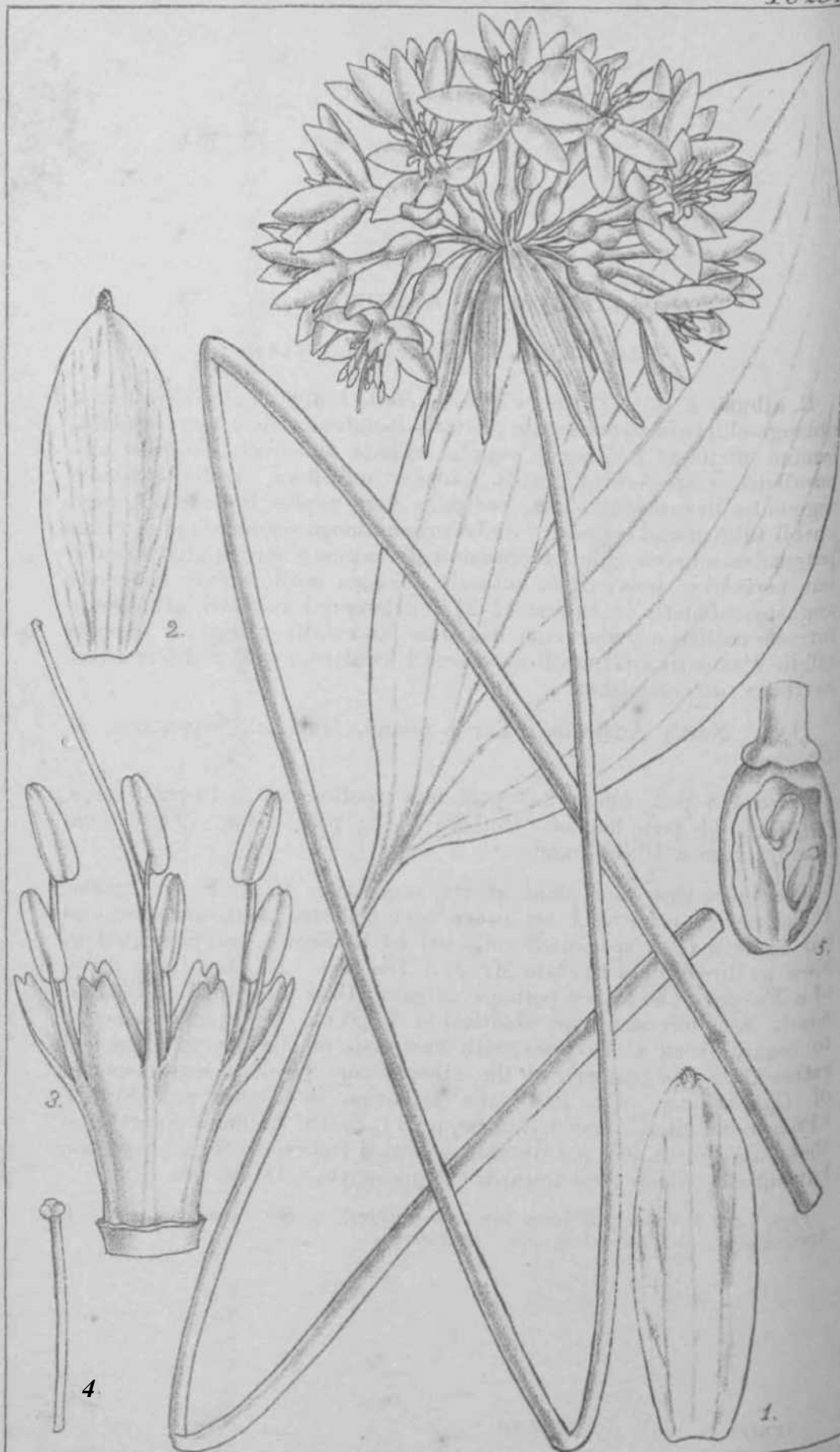
Achilus siamensis, *Hemsl.* l.e. ; *puberula* caulibus 2-3-foliatis, foliis distichis longe vaginantibus, vaginis apertis ciliolatis apice transversim breviter ligulatis, lamina lineari-lanceolata acutissima atque vagina multinervia supra vix hispidula, bracteis sessilibus ovali-oblongis crebre longitudinahter venosis venis prope marginem connexis, bracteolis rotundatis latioribus quam longis, floribus papillosis, ovario ruguloso.

HAB. Siam : open places on Mount Putsum, near Nam Kawng, at about 2000 feet, *F. H. Smiles*.

Caules 6-9 poll. alti. *Folia* absque vagina 1[^]-2 poll, longa. *Inflorescentia* 1[^]-2 poll, longa. *Bracteae* 6-9 lin. longae. *Bracteolae* exteriores complicate circiter 3 lin. diametro. *Flores* 3-4 lin. longi.

This is the new genus alluded to (* *Bulletin/ Lc.*) as forming part of a small collection from Upper Siam, collected by Mr. F. H. Smiles, of the Royal Ordnance Survey. From his note accompanying the specimens, it would appear that the bracts and bracteoles are of a dark purple-red and the very small cylindrical flowers yellow ; but he, not being a botanist, did not correctly discriminate between the bracts and the flowers. *Achilus* is remarkable in having unisexual flowers and also from the total absence of labellum and of staminodia of any kind.—W. 13. HEMSLEY.

Fig 1. Detached lower portion of inflorescence. 2. Pistillate flower. 3. Ovary with style and stylodia. 4. Same, the ovary laid open. 5. »Staminate flower. All enlarged.



M.S. del, et lith.

Calos; lemma album, R. Br.

PLATE 2371.

CALOSTEMMA ALBUM, R. Br.

AMARYLLIDACEAE. Tribe AMARYLLEAE.

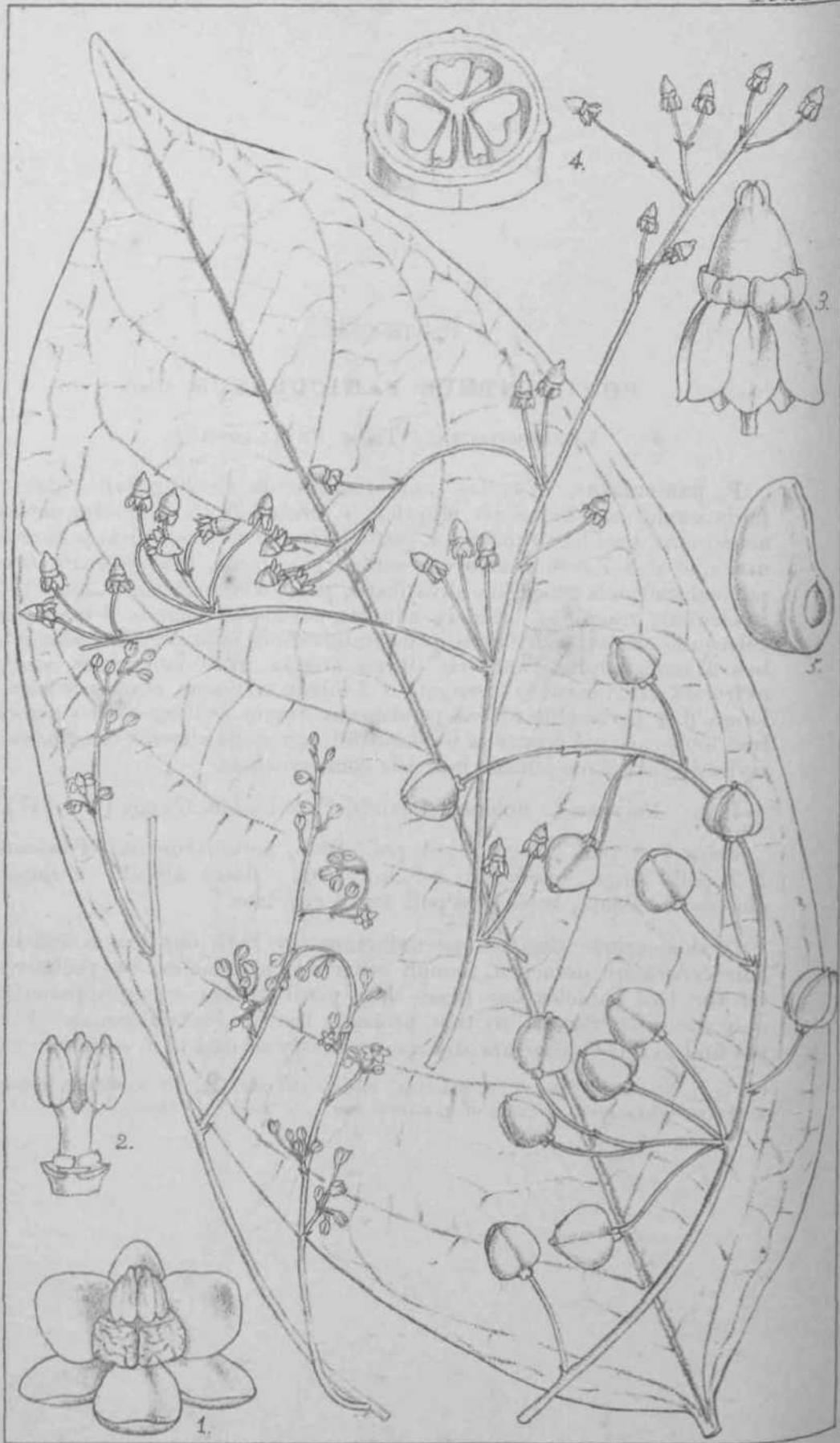
C. album, R. Br., *Prodr. Fl. Nov. Holl.* i. 298 ; foliis ellipticis v. oblongo-ellipticis obtusiuscule acutatis membranaceis longe petiolatis, lamina utrinque 5-6-nervi venulis ultimis numerosis obliquis subparallelis, scapo erecto gracili, umbella multiflora, spatha 3-4-valvi segmentis lineari-lanceolatis, pedicellis flore ssepius brevioribus, perianthii tubo gracili cylindrico limbo subsequilongo segmentis plus minus patentibus anguste ellipticis obtusiusculis ssepius mucronulatis, staminibus perianthio brevioribus, antheris oblongis medio affixis, filamentis anguste subulatis in tubum (2-2[^] lin. longum) tubulari infundibuliformem coalitis margine cum dentibus lanceolatis integris v. breviter bifidis filamentis alternantibus, ovario 1-loculare, ovulis 2-3 fere e basi cavitatis adscendentibus.

HAB. North Australia: Turtle Island, Gulf of Carpentaria, R. Brown.

Folia 4-8 poll. longa, 2-3 poll. lata ; petiolo ad 6-10 poll. longo. *Wapus* [^]-1 $\frac{1}{2}$ ped. longus. *Umbella* 1[^]-2 $\frac{1}{2}$ poll. diam. *Flores* cum ovario infero c. 10 lin. longi.

We figure this rare plant at the suggestion of Sir F. v. Mueller. It has never, so far as I am aware, been collected a second time, and our figure is from specimens collected by R. Brown, and presented to New York by direction of the late Mr. J. J. Bennett. It has all the *features* of a *Eurycle*, the leaves perhaps narrower than those of *E. Cunninghamii*, Ait., but otherwise identical in venation. It might be better to regard it as a *Eurycles* with two cells of the ovary suppressed rather than as a congener of the other linear Narcissus-leaved species of the genus. Dr. Pax calls attention in Engler and Prantl, 'Pflanzenfamilien,' Amaryllidaceae, p. 111, to Dr. Baillon's observation that *Calostemma* does not develop a normal embryo in the embryo-sac, but bulbillae which grow towards the micropyle.—D. OLIVER.

*Figs. 1 and 2. Outer and inner perianth-segments. 3. Corona and stamens. 4. Apex of style. 5. Ovary, kid open. All enlarged.



M.S. del. Lith

Phyllanthus paniculatus, Ohv.

PLATE 2372.

PHYLLANTHUS PANICULATUS, *Oliv.*

EUPHORBIACEJE. Tribe PHYLLAKTHE[^].

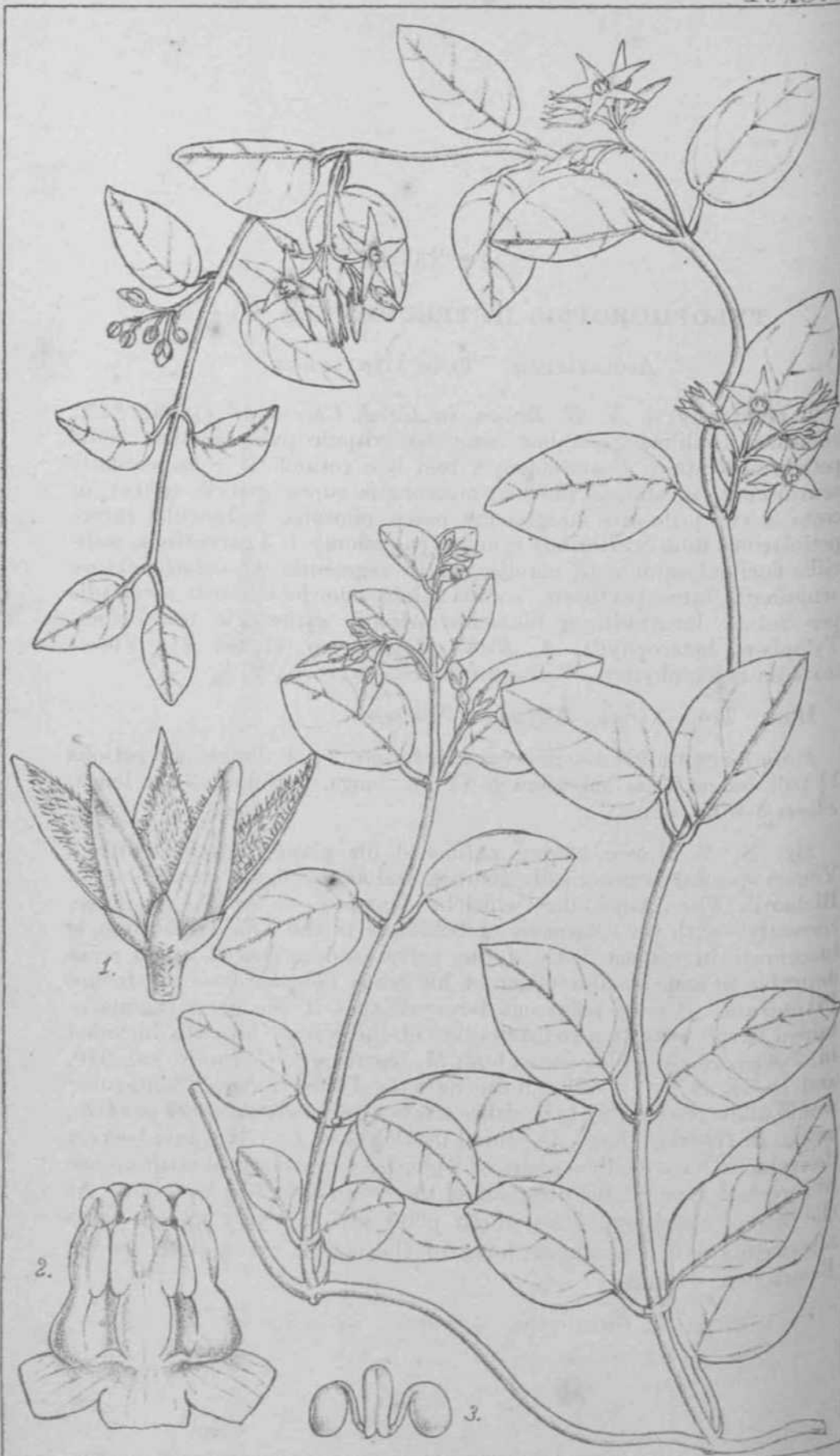
P. paniculatus, *Oliv. (sp. nov.)*; arbuscula 15-20-pedalis, glabra, foliis amplis membranaceis ellipticis v. ovato-ellipticis breviter obtuse acuminatis basi late cuneatis v. rotundatis nervis lateralibus primariis utrinque c. 5-7 rete venularum subtus prominulo, inflorescentia laxe paniculata ramis gracilibus divaricatis, pedicellis solitariis v. ssepe 2-5 fasciculatis gracilibus, bracteis minutis, perianthii laciniis 6 biseriatis subsequilongis exterioribus ellipticis interioribus obovatis, fl. § staminibus 3 monadelphis, antheris liberis erectis ovato-lanceolatis acutis extrorsis, disco carnosio corrugato c. 3-lobato columnse staminee sequilongo, fl. ? perianthio reflexo persistente, ovario ovoideo-conico glabro basi lobis carnosis truncatis 6 perianthii segmentis alternis circumdato, stylis 3 brevissimis obtusis indivisis conniventibus.

HAB. Polynesia : Solomon Islands, Faro Island, *Guppy* (No. 247).

Folia 7-8 poll, longa, 3|-4 poll, lata ; petioli breves. *Panicula* 7-9 poll, longa; pedicelli 4-9 lin. longi; flores albid. *Capsula* globosa, 3-sulcata, laevis, \-[^] poll, longa atq. lata.

Of this curious *Phyllanthus* unfortunately both our leaves and inflorescences are detached, though otherwise satisfactory as specimens. Of the two panicles one bears only pistillate, the other apparently only staminate flowers, so that probably the species is dioecious. I do not find in this Herbarium any species nearly related to it.—*D. OLIVER.*

Fig. 1. Staminate flower. 2. Staminal column and anthers. 3. Pistillate flower. 4. Transverse section of ovary of immaturo fruit. 5. Seed. *All enlarged.*



M.S. del. et lith.

Tylophoropsis heterophylla, N. E. Br.

PLATE 2373.

TYLOPHOROPSIS HETEROPHYLLA, N. E. Br.

ASCLEPIADEJE. Tribe CYNANCHEJS.

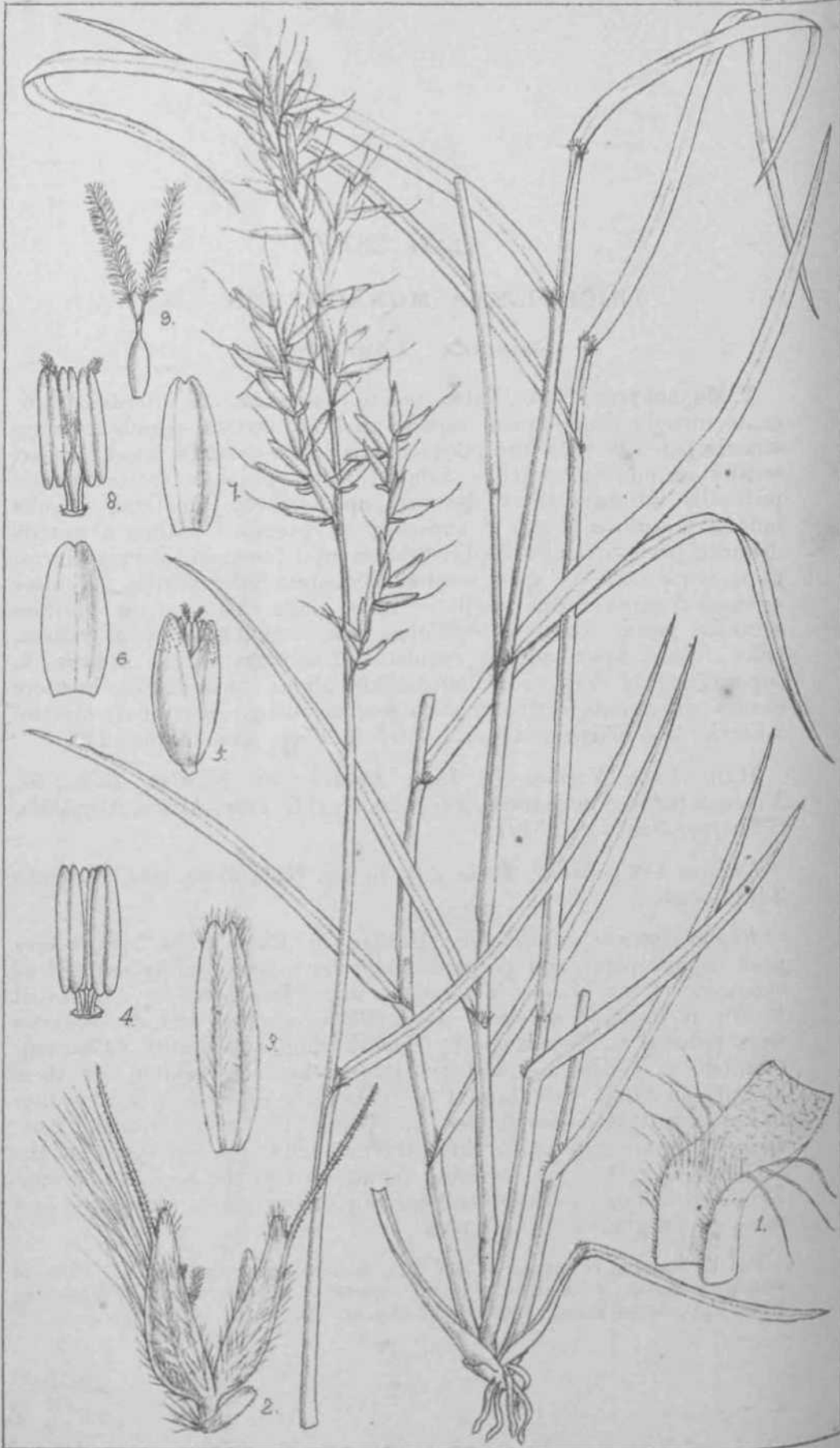
T. heterophylla, Jt. E. Brown in *Gard. Citron.* 16 (1894) 245; voluhilis, caulibus gracilibus teretibus crispule pubescentibus, foliis pctiolatis ovatis v. ovato-oblongis basi late rotundatis v. subcordatis acutiusculis v. obtusis obscure mucronatis supra glabris subtus in costa nervis primariis margineque parce pilosulis, pedunculis interpetiolaribus folio brevioribus cymulas paucifloras 1-3 gerentibus, pedicillis flori subsequilongis, corolla rotatse segmentis lanceolatis obtuse acuminatis intus papillois, corona 5-loba cum lobis dorso carnosulis per totam longitudinem filamentis adnatis gynostegio brevioribus. *Tylophora heterophylla*, A. Rich. *Fl. Abyss.* ii. 41, tab. 71; *Vince-toxicum heterophyllum*, Vatke in *Linnaea*, 40 (1876), 212.

HAB. Trop. Africa : Abyssinia, *Schimper*.

Folia magnitudine maxime varia, inferiora 2 poll, longa cum petiolis 1 poll, longis, folia superiora 8-14 lin. longa, petiola 2-3 lin. longa. *Stores* 5-6 lin. diam.

Mr. N. E. Brown having published his plant (together with a Yemen species) as generically distinct, and as the figure cited above in Richard's 'Flora Abyssinica,' which he identified—so far as I can judge, correctly—with the specimens of Schimper in the Kew Herbarium, is inaccurate in respect both of the pollen and corona, it would seem desirable to issue an illustration of his genus *Tylophoropsis* in 'Icones Plantarum.' I must point out, however, that if the genus be maintained it will involve a redistribution of the species hitherto included in *Tylophora*, in which genus both M. Decaisne (*DC. Prodr.* viii. 610, and *Deless. Ic. Sel.* v. 82) and the authors of the 'Genera Plantarum' would allow the pollinia to be either erect or ¹*a caudicula erecta pendula*, ²as in *Iphisida* Dene., as figured in Delessert, *I.e.* It would be very desirable to have all the species of *Tylophora* re-examined with a view to ascertain how far the direction of the pollinia may be variable. At the base of the gynostegium in our plant are five very minute teeth alternating with the adnate lobes of the corona, as noticed by Mr. Brown.—D. OLIVER.

¹Mr. 1. Flower. 2. Gynostegium. 3. Pollinia. All enlarged.



MB.del.eLnh

Tricholaena Monachyron, Oliv.

PLATE 2374.

TRICHOL-2ENA MONACHYRON, *Oliv.*

GRAMINEA;. Tribe FANICEA.

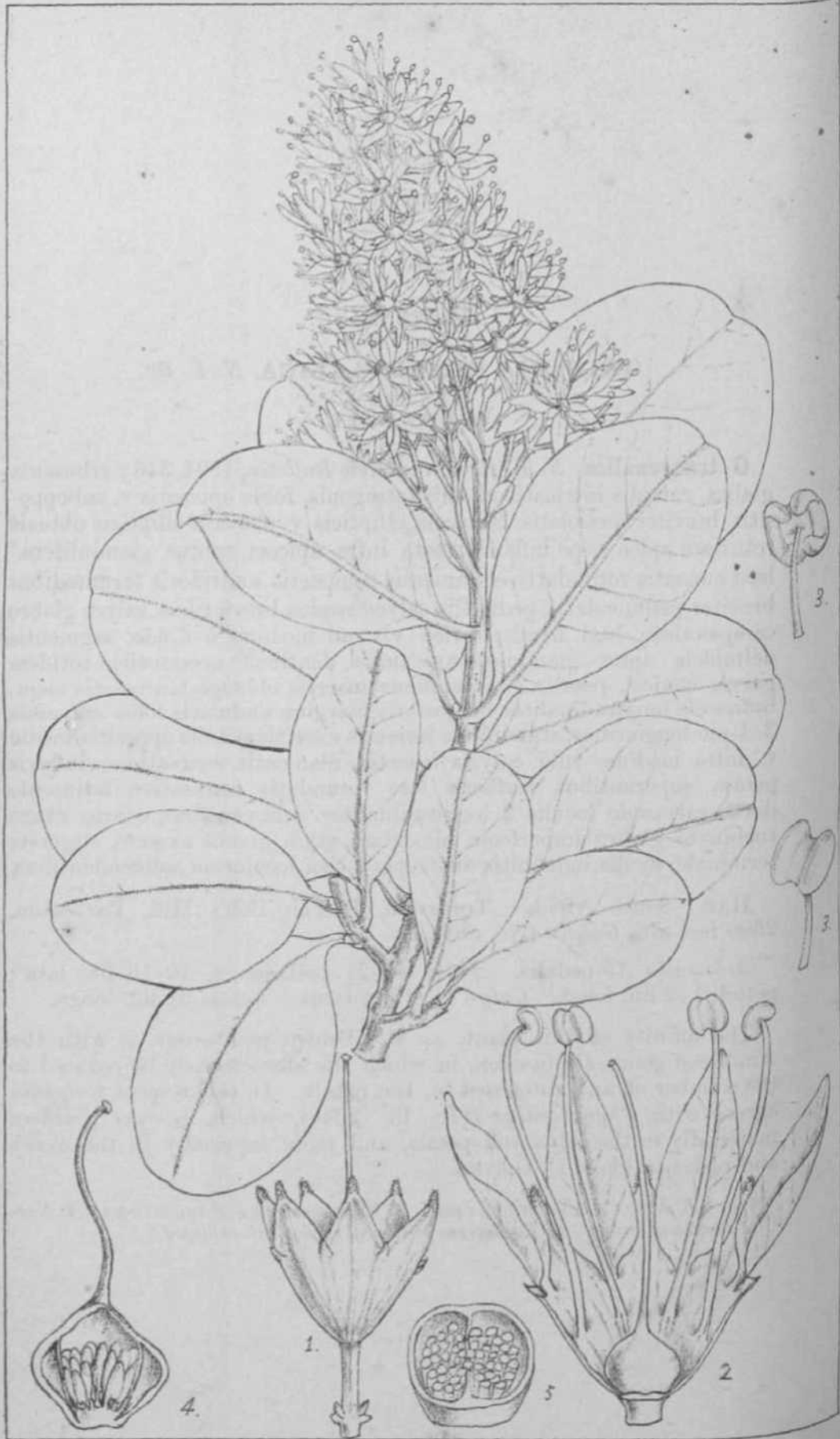
T. Monachyron, *Oliv.*; culmo erecto basi geniculato interdum radicante hirtello nonnunquam superne glabrato striato, vaginis foliorum striatis parce hirtellis ore piloso-ciliatis ligula obsoleta, lamina lineari fienaim acuminata utrinque minute hirta, panicula erecta ramosa pedicellis adscendentibus flexuosis apice minute dilatatis, spiculis bifloris flosculo inferiore cf, superiore £, glumis 4 extima a caeteris distante parva oblongo-elliptica obtusa basi fasciculo pilorum cincta, gl. ii. acute carinata apice scariosa bidentata inter dentes graciliter aristata 5-nerve carina medio et infra longe ciliata, gl. iii. florifera secundae vacuae simili et sequilonga sed carina haud longe ciliata, palea lineari apice minute cucullata 2-carinata carinis ciliatis, fl. superioris £ gl. florifera hyalino-scariosa gluma vacua dimidio brevior obtusa emarginata carinata, palea fere sequilonga emarginata obscure 2-nervi. *Monachyron villosum*, *Parl. in Webb, Spic. Gorgon.* 190.

HAB. Cape Verdes, St. Jago, *Hooker*; St. Nicolao, *Bolle*; St. Vincent, perhaps introduced, *fide Krause* \ (? E. Trop. Africa, Abyssinia, *Schimper*, Nos. 218, 2310).

Culmus 1-2-pedalis. *Folia* 2 (v. in spp. Nub. 3) lin. lata. *Spiculce* 3 lin. longae.

Rhynchelytrum grandiflornm, *Hochst.* (in 'Flora/ 1844, 249), is very near to our plant, and perhaps might have been rightly reduced as synonymous, but in view of the much larger spikelets I have hesitated to cite it formally as such. Both *Rhynchelytrum* and *Monachyron* were reduced to *Tricholwna* by *Hackel* (*Engl. and Prantl, 'Pflanzenfamilien,'* ii. Gram. 36), and *Dr. Baillon* has also pointed out their identity in 'Bull. Soc. Linn. Par.' They are all three reduced by him to *Panicum* ('Hist, des Plantes,' xii. [Gram.] 175). In 'Genera Plantarum' they are referred to three different tribes; *Monachyron*, at the time it was worked up, not being represented in the Kew Herbarium. *Tricholatna Wiyhtii* is another near ally of our plant, with larger and more villous glumes.—D. OLIVER.

Fig. 1. Junction of lamina of leaf with its sheath. 2. Spikelet. 3. Palea of staminal floret. 4. Anthers. 5. Hermaphrodite flower. 6 and 7. Flowering glume and palea of same. 8. Stamens and pistil. 9. Pistil. *All enlarged.*



M.S. del, et lith.

Galpmia transvaalica. N.E.Br

PLATE 2375.

GALPINIA TRANSVAALICA, K E. Br.

LYTHRACEA.

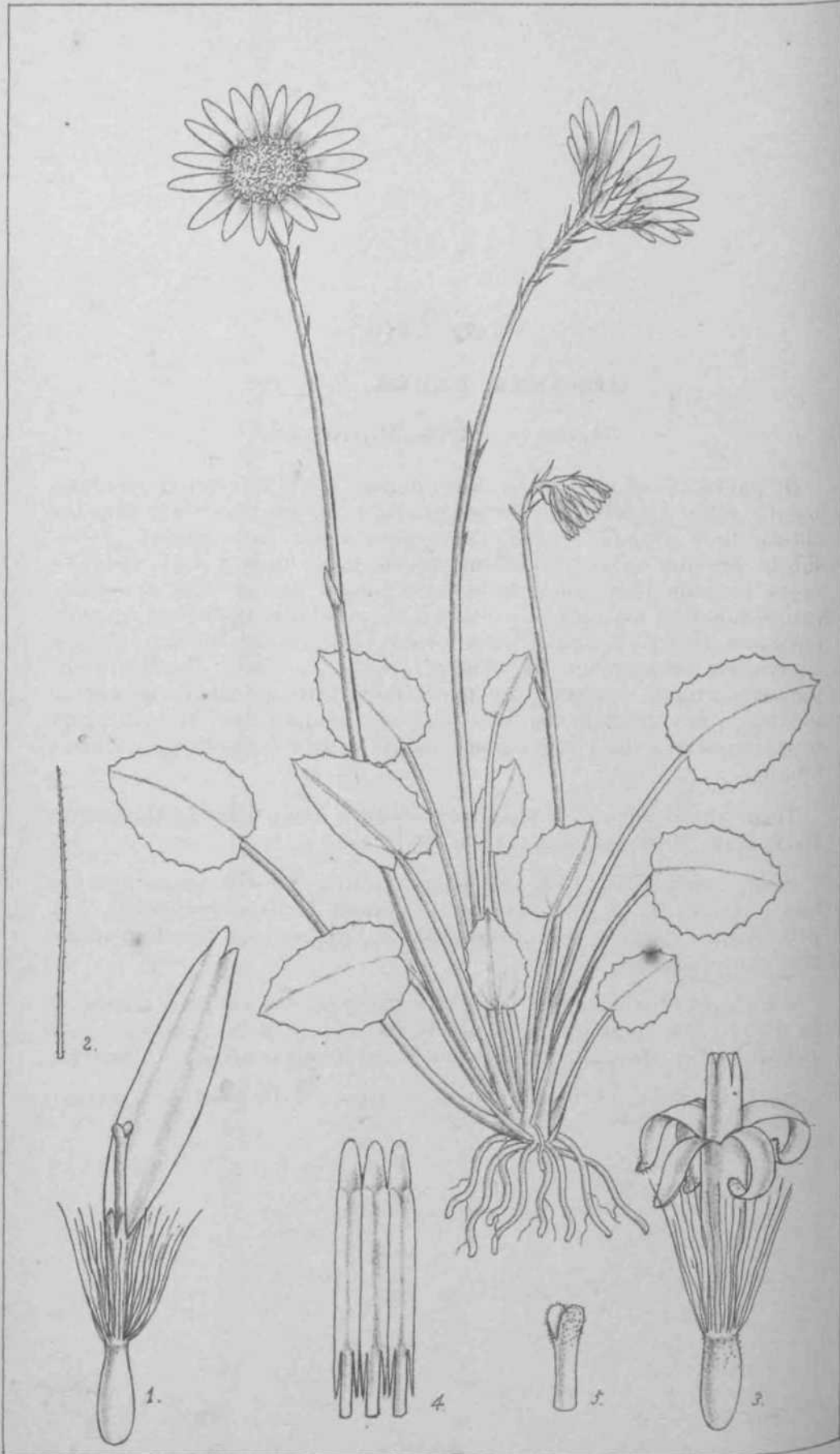
G. transvaalica, JF. E. Brown in *Kew Bulletin*, 1894, 346 ; arbuscula glabra, ramulis intricatis ultimis tetragonis, foliis oppositis v. suboppositis breviter petiolatis coriaceis ellipticis v. obovato-ellipticis obtusis retusisve apice saepe inflexis 'costa infra apicem subtus glandulifera * basi cuneatis rotundatisve, paniculis compactis multifloris terminalibus breviter pedunculatis, pedicellis calyce saepius brevioribus, calyce glabro campanulato basi hemisphaerico vix ad medium 5-6-fido, segmentis deltoideis apice glanduloso-apiculatis dentibus accessoriis totidem par vis conicis, petalis albis sinibus insertis oblongo-lanceolatis membranaceis longitudinaliter unicostatis margine undulatis lobis calycinis 3-4-plo longioribus, staminibus isomeris exsertis petalis oppositis medio v. infra medium tubi calycis insertis, filamentis aestivatione inflexis petala superantibus, antheris late rotundatis connectivo latiusculo dorso carnosulo loculis 2 longitudinaliter dehiscentibus, ovario libero turbinato glabro imperfecte biloculare, stylo gracile exserto, stigmate terminale, ovulis indefinitis anatropis e basi loculorum ascendentibus.

HAB. South Africa : Transvaal, French Bob's Hill, Barberton, 2600 feet alt., *Galpin* (No. 889).

Arbuscula 15-pedalis. *Folia* 1^{^-}2[|] poll, longa, 10-15 lin. lata; petioli 1-2 lin. longi. *Calyx* 1^{^-}2 lin. latus. *Petala* 2[\] lin. longa.

The affinity of this plant, as Mr. Brown points out, is with the American genus *Diplusodon*, in which the stamens may be reduced to the number of, and anteposed to, the petals. In this respect *Galpinia* agrees with *Rhynchocalyx* ('Ic. PL' 2348), which, however, differs materially in the calyx and petals, and more especially in the ovary and placentation.—D. OLIVER.

Fig. 1. Calyx. 2. Flower laid open. 3. Stamens, back and front views. 4. Vertical section of ovary. 5. Transverse section of same. *All enlarged.*



M.S. del. et lith.

Gerbera parva, N.E.Br.

PLATE 2370.

GERBERA PARVA, N. E. Br.

COMPOSITE. Tribe MUTISIACEÆ.

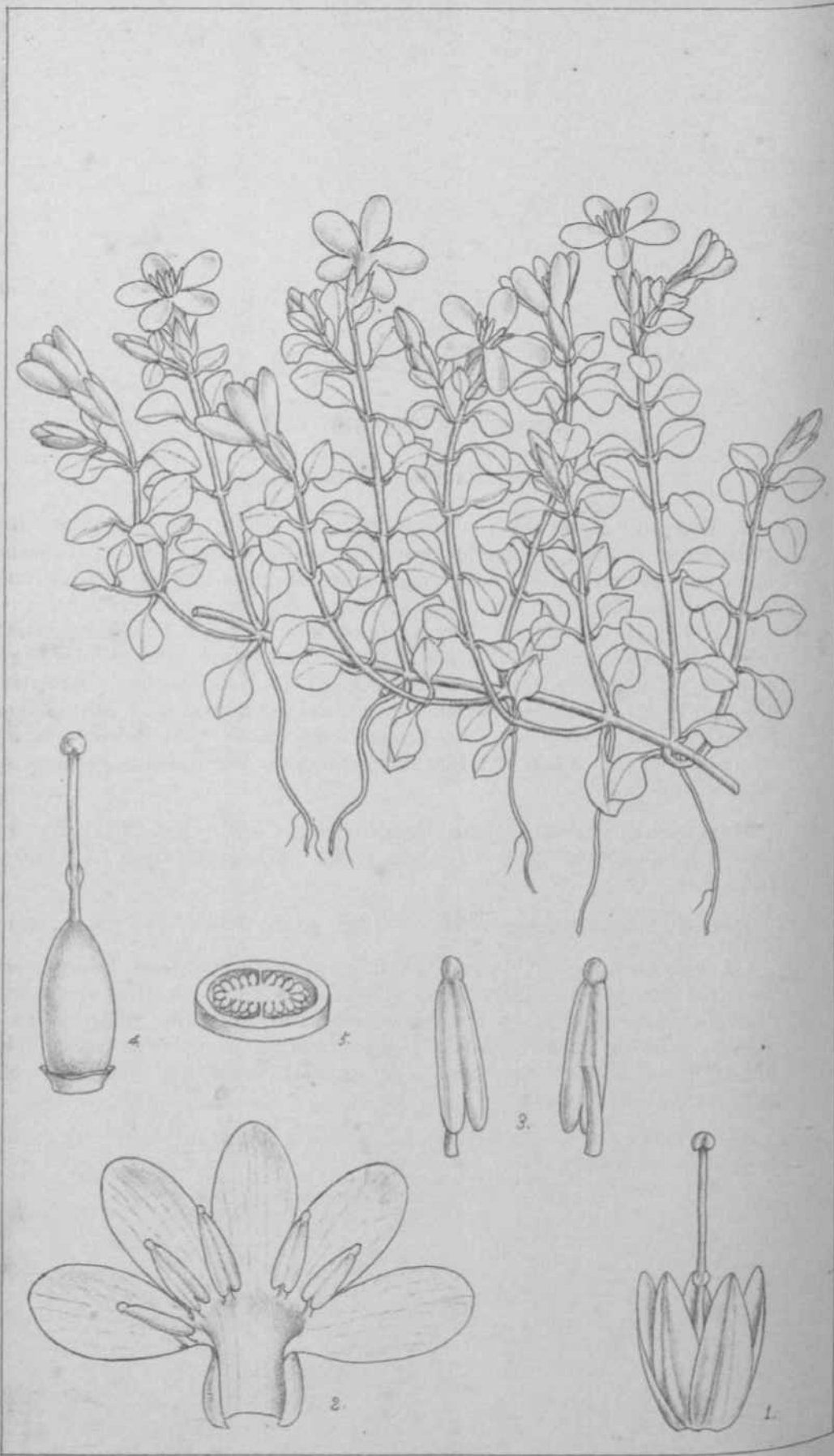
G. parva, *N. E. Brown in Kew Bullet.* 1895, 27; herba concinna acaulis, foliis longe et graciliter petiolatis lamina late ovato-elliptica obtusa basi cordata repando-denticulata supra fere omnino glabra subtus breviter et laxe piloso-tormentosa, scapo foliis 2-4-plo longiore supra medium plus minus tomentoso apicem versus saepe squamulis paucis subulatis instructo, involucri disco sequilongo turbinato, squamis purpureo tinctis biseriatis cum paucis brevioribus lineari-oblongis immixtis, receptaculo ut videtur leviter foveolato, floribus radii uniseriatis ligula exteriori 3-dentata, labio interiore ad * dentes parvos redacto v. fere obsolete, floribus disci cum labiis subsequilongis, pappi setis uniseriatis basi brevissime coalitis ovario longioribus scabridis albidis.

HAB. South Africa; in the Drakensberg, a damp place by Bushman's river, 6000-7000 feet, *Evans* (No. 57).

Folia cum petiolo 1½-2 J poll, longa, lamina j-J poll, longa, 4-6 lin. lata. *Scapus* 3[^]-4[^] poll, longus. *Capitula* florifera, cum radiis, | - 1 poll. diam. *Antherae* basi caudatae, apice in appendicem membranaceam obtusam productae.

An elegant little species,¹ very like *Bellis perennis* at first,¹ according to Mr. Evans; perhaps more nearly resembling *Bellis rotundifolia* or *Pellidiasium Michellii*. It was only found in one locality.—D. OLIVER.

Fig. 1. Ray-floret. 2. Seta of pappus of same. 3. Disk-floret. 4. Stamens.
5. Style. All enlarged.



M.S.del, et lith.

bebyea Evansii. N.E. Br.

PLATE 2377.

SEBESIA EVANSII, N. E. Br.

GENTIANACEAE. Tribe EXACEAE.

S. Evansii, *cf. E. Brown in Kew Bullet* 1895, 27 ; herba humilis glaberrima ramulis primariis prostratis radicanibus, foliis petiolatis carnosulis ovatis rotundatis v. transverse ellipticis lamina in petiolum latiusculum interdum cuneatim angustata, floribus aureis terminalibus solitariis v. in cymulis 2-3-floris approximatis breviter pedunculatis, segmentis calycinis carinatis acutiusculis tubo longioribus, corollae segmentis tubo longioribus obovato-oblongis obtusis, antheris exsertis oblongo-linearibus rectis longitudinaliter dehiscentibus apice connectivo parvo ovoideo obtuso breviter producto coronatis basi bifidis ovario biloculari, stylo ovario longiore infra medium biglanduloso, stigmate capitato bilobulato.

HAB. South Africa; in the Drakensberg, *Cooper* (No. 2761), *Tyson* (No. 1378), *Evans* (No. 56); on rocks at an elevation of 6000-7000 feet.

Herbuh, 2-3-pollicaris. *Folia* 2-3 lin. lata. *Flores* $\frac{1}{2}$ -f poll. diam.

Of this charming little plant, so different in its prostrate habit from its congeners, the excellent specimens sent to the Kew Herbarium by Mr. Evans enable us to furnish a satisfactory figure. Mr. Evans describes it as 'a lovely little plant growing in dense masses with hundreds of flowers together,' adding that it is well deserving of cultivation.—D. OLIVER.

Fig. 1. Calyx. **2.** Corolla laid open. **3.** Anther, back and front. **4.** Pistil. **5.** Transverse section of ovary. *All enlarged.*



M. Schmidt lith.

Crinia senegalensis, Fl.

PLATE 2378.

CEUDIA SENEGALENSIS, *Planch.*

LEGUMINOSÆ. Tribe AMIERSTIÆ.

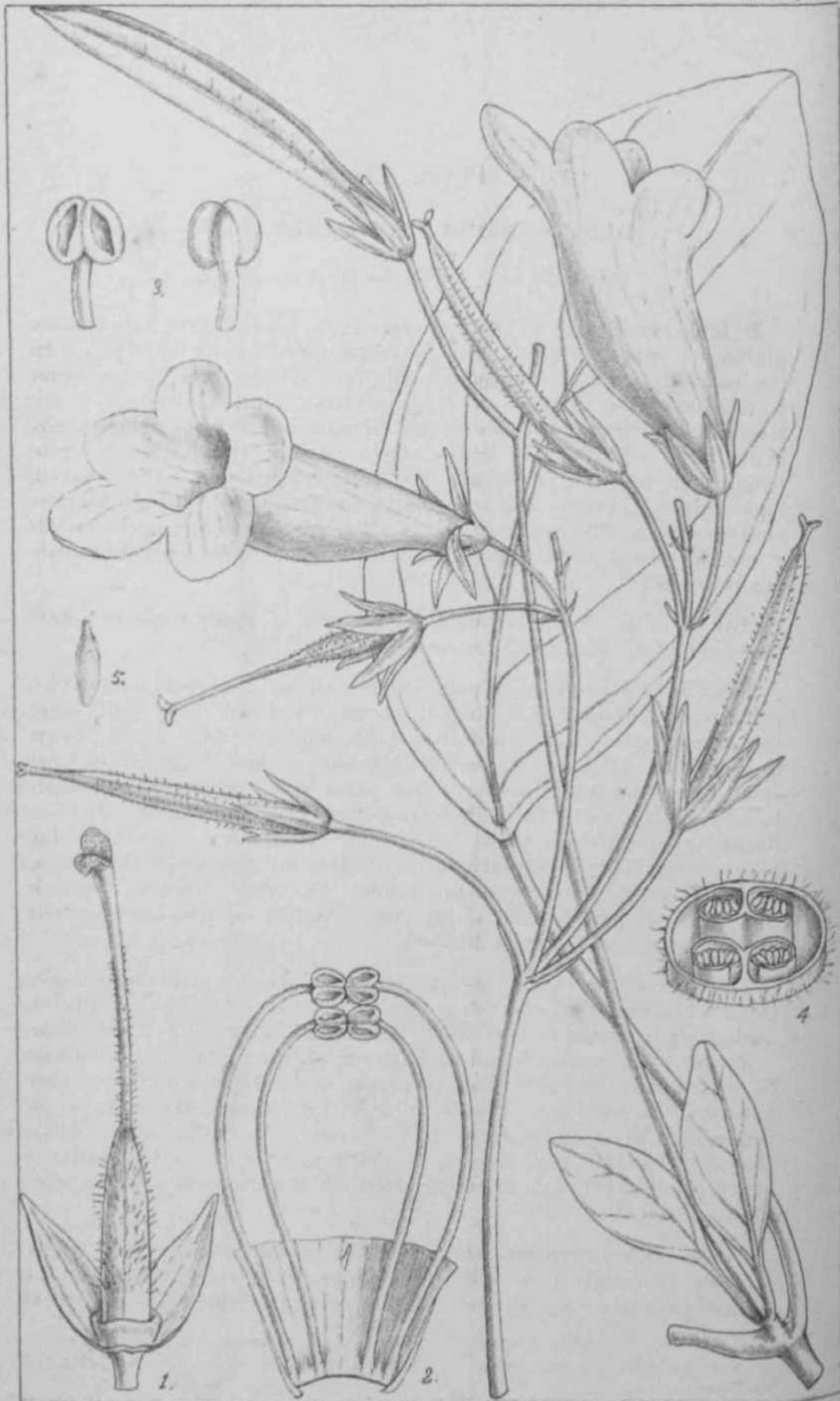
C. senegalensis, *Planch., Benth. in Linn. Trans*, xxv. 314; arbuscula glabra, ramulis teretibus, foliis sæpius 5-7-foliolatis, foliolis alteruis petiolulatis tenuiter coriaceis oblongo-ellipticis breviter obtusiuscule acuminatis, foliolis inferioribus minoribus sæpe ovatis v. ovato-ellipticis, stipulis conspicuis erectis rigidiusculis lanceolatis v. ovato-lanceolatis acuminatis, racemis (sæpe in ramulis brevibus lateralibus) terminalibus folia vix superantibus laxè multifloris, pedicellis gracilibus divergentibus, bracteis bracteolisque minutis v. temp. ti. obsoletis, calycis tubo auguste turbinato limbo 4-partito segmentis tubo multo longioribus sulcatis latè ellipticis v. obovato-ellipticis obtusis siccatione hirsutis denique reflexis exterioribus concavis, staminibus 10 filamentis gracilibus glabris, antheris late ellipticis rotundatisve dorso affixis, ovario breviter stipitato cum stipite interne lateraliter adnato dense fusco-tomentoso utrinque angustato 4-6-ovulato, ovulis superpositis, stylo gracili apicem versus glabro, stigmate terminali parvo, legumine late oblongo piano-compresso coriaceo glabrato apiculo terminali, valvis oblique nervosis, seminibus 1-2 compressis.—*Oliv. FL Trop. Afr.* 312.

HAB. V. Trop. Africa; Senegambia, *Heudelot*; Eppah, *Barter*; Nun river and Fernando Po, *Mann*; Lagos, *Millen*.

Folia pedalia; foliola superiora 3-6 poll, longa; petiolulus 1-2 lin. longus. *Racemi* 4-6 poll, longi; pedicelli 6-8 lin. longi. *Legumen* 3½-4 poll, 2 poll, latum.

Our knowledge of this species is now completed by the receipt of excellent specimens in fruit as well as flower from Lagos, sent by Mr. Millen. As pointed out by Mr. Fienham (*I.e.*), it is clearly similar to *C. Parivoa*, DC, of Guiana, excepting in the remarkable stipules, which Baillon (*Adans.* vi. 199-200) finds intra-axillary and length connate in pairs by their inner margins to about half their length, though I have not observed connation to this extent in our specimens. The legume is much longer and flatter than in *C. Parivoa*, in which, moreover, they are closely tawny-tomentose.—D. OLIVEU.

Fig. 1. Detached flower. 2. Anther, back and front view. 3. Pistil; the ovary laid open. All enlarged.



M. S. del. et lith.

Didissandra longipas. Hemsl

PLATE 2379.

DIDISSANDRA LONGIPES, Hemd.

GKSNERACEIE. Sub-tribe DIDYMOCARPEIB.

D. longipes, Hemd. in *Ke.ir Jiullet*. 1895, *inert.* ; herba fere omnino glabra breviter caulescenti, foliis oppositis approximatis longe petiolatis lamina elliptica v. oblanceolato-elliptica obtusa basi angustissime peltata marline leviter repando-undulata subtus pallidioris nervis lateralibus utrinque 3-4, pedunculis elongatis gracilibus rigidiusculis, cymis 2-3-7-floris, pedicellis calyce sappius (interdum 2-3-plo) longioribus, bracteis parvis anguste linearibus, calycis glabri f>-partiti Boginentis ovali-lanceolatis acuminatis, corolla calyce 8-10-plo longiore ventricoso-infundibularifonni, labio superiore quam inf. brevior late et obtuse rotundato-bilobato, inferiore porrecto 3-lobo lobis subtequalibus rotundatis.

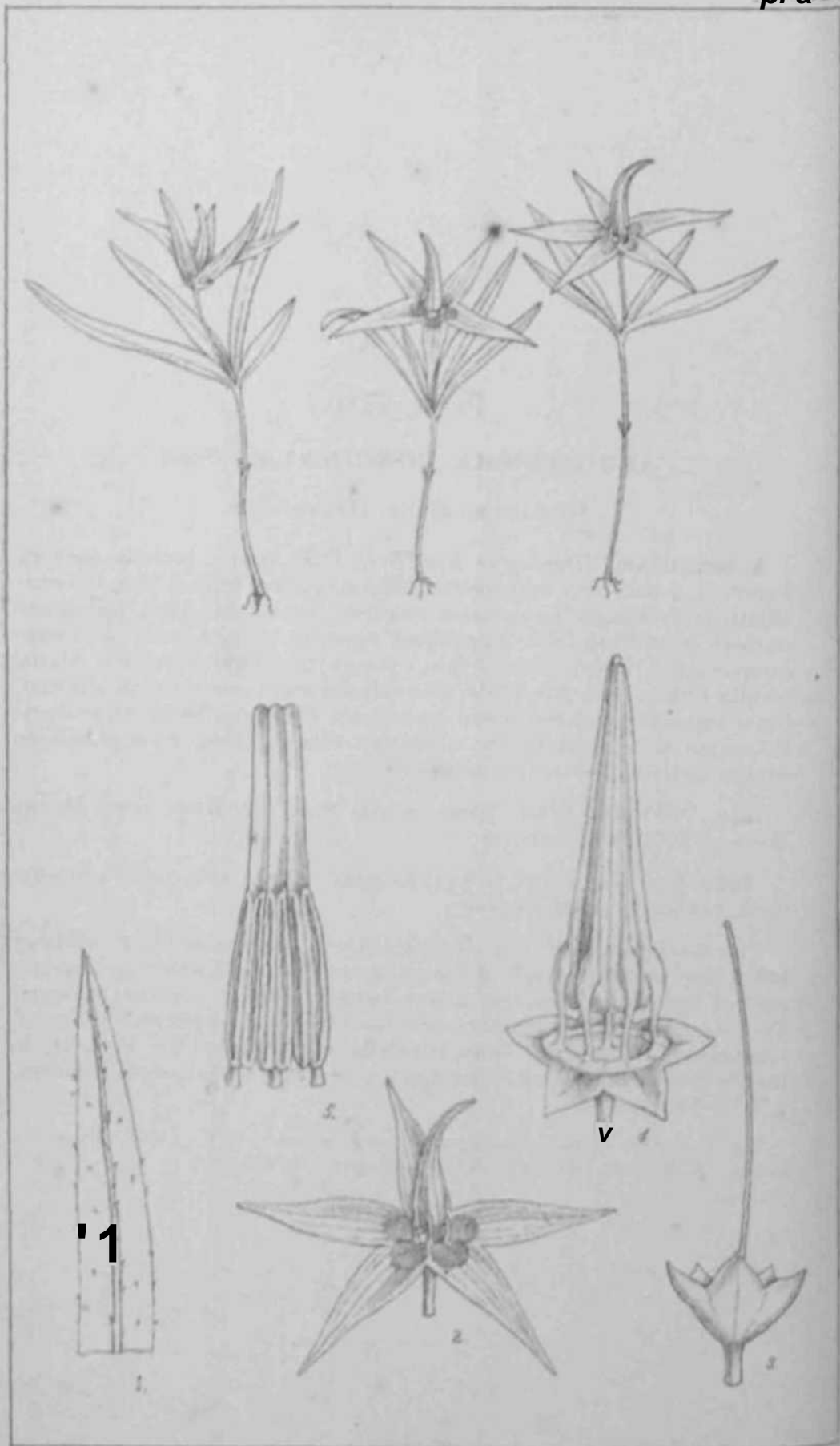
HAD. China; Prov. Yunnan, * in crevices of shady rocks in a dark limestone glen,¹ Mongtse, *Hancock* (No. 50).

Folia cum petiolis 1£-3 poll, longis, lamina 2-4J poll, longa, 1£-2 poll. lata. *Pedunculus* 5-15 poll. longus; pedicellif i .-IJ }oll. longi. *Calyx* segmentis temp, florifero £ poll., temp, fructif. \ poll, longis. *Corolla* 2- 2j poll, longa. *Stamina* didynama, inclusa, filamentis incurvis apice inappendiculatis, antheris per paria apice coherentibus, loculis lale-ellipticis v. rotundato-ellipticis basi leviter divergentibus. *Ovarium* lineare parvo liirtum in stylo elongato attenuatum ; placentis late bilamellatis, lamellis revolutis facie interiore tantum ovuliferis. *Stylus* apice dilatatus; stigma bilamellatum. *Capsula* linearis, bivalvis, compressa, 2\ poll, longa, 2-3 lin. lata. *semina* minuta, lineari-ovalia, utrinque angustata inappendiculata.

This fine species clearly belongs to Mr. Clarke's genus *Didissandra*, so far as its technical characters go ; but the genus, with the additions inside to it since the date of Mr. Clarke's 'Monograph of *Cyrtandrew*' is not a very natural one, and perhaps its species might without violence be distributed between *Didymocarpetum* and *Chirita*, allowing these genera to include both diandrous and didynamous species, and distinguishing them by the form of the corolla. M. Baillon sinks both of these genera, and *Didissandra*, in *Rottlwa*, Vahl, the resuscitation of which name, I think, is to be regretted on the grounds given in 'Gen. Plant.' ii. 1022.

In our dried specimens the under side of the corolla-tube is spotted or more uniformly pale yellow, the upper side and limb tending to purple. Clearly very ornamental and worth introducing.—D. OLIVER.

Fig. 1. Part of calyx and pistil. 2 Attachment of stamens. 3 Anther, back and front view. 4 Transverse section of ovary. 5 Ovule. *Enlarged.*



M.S. del., et lith.

Argostemma concinnum, Hemsl.

Pi u 2KO.

AHGOSTEMMA CONCINNUM, *Ifrm*t.*

EUrsuoso. Tribe HEDYCOUIEAE.

A. COncinilUm, *Httntey in Kew An!F. 1tf.)i\ iwl.*; inrimln unitiota
b«miUt t ^*]M)lii-arU IMU> erecto iililoimi ((lnWro, foliu 4 pseydo-verti-
rillatiK uiwjuilimgia tinearibui v. uigaite lint-lui lanrtMilntia, prdunoh)
anifloro KrtcUlinto Mii* longioribus brtylon, calycis tubi tarbinato-
(aiijuimiliiio limbo brari B Hdo, •ofiionia ovato iteltoidtiis nrtiitt,
corollae rotatae **profandc 5-Sdi** tubo calycem superante infun **dibalifoi mi**,
limbi segmentis an *JQM&m lin<-iiii la* coeolatis, filamentis In < LIMIS, fentl heris
in O1num elongatum leviter arcuurniii **coburentibat, itjlo gncillimo**
conum •ndraecii **bre\bniui6 nipeM** ate.

HAB. Northern Sia in; moss-covered r«k< lu **Kit, nmr** Mount
Mock, c. 6000 ft., *Smiles*.

Folia $\frac{1}{2}$ - $1\frac{1}{4}$ pc'll k<ni){a, 1- I], lin. Uta. *ttorm* tilln, i entro macAn
viiiii iutati, $\frac{2}{3}$ -I JM'U. It ua.

The slender stem of this elegant littl plant bears, nmiit iniitwny
twlow tin- |IMmlw virtiil nl lattVM, BOOtV OT i'ass distillCt IrntCK of a
l'iiir of miiit« iUJUiiiiiti>Mii IfJvtK. wlinh pQMib cotyledonary.
DM ^II»ture had deliuccoc of thi anIhers is dooblc as in A,
>i<>ttf,tninri< !!, illnl itn »llies, carefully described by Mt. Jt.i;nett, in
his MoenU remarks sudd' that *stchm*, in 'Plantae Javanicae Rario
p. 92.—D. Otltl'<.

Fig t. Portion of lEmf, ihowing thn uod*r H>rfice. 2. Expanded flower. 3.
Calyx. 4. Stamens. A. Simiiiiiml tuU- laid OpWL Ait tabfgtd.



M. S. del, et lith.

Rhododendron Heinecockii, Hermsl.

PLATK 2381.

BIXODODENDRON HANCOCKII, *Ifrmti.*

ERICACEA. Tribe KHODOREAS.

R. (§ Lateriflora) *Hancockii*, *lhmd. in Kno Hull ft. lH9li%imd.*; frutex
Klaherrimus, foliis tenuiter coriaceis ohlanceolato- v. oblongo-elliptieis
breviter acuminatis basi in petiolum cuneatim august atii* Silam suhtus
omnino nudatis, cosU subtns prominula nervis laleralibus priuiariis (in
foliis inajoribu8)utrinc|ue 15 '21, gemmis iloriferis 1 Kin axilli^folionun
HUjHirioruin 1 -2-floris, S(|U/unis t<>inp. 11 or'item luxi* dcciduis infernrihus
ovatis ciliolatis superiorihus oblon^o-lanccolatis aciitiH ;ipi<*> tantuin
pilosulis, calycis parvi sc^iikMilis liheris sifpiiiH iniiMjualibus deltoiclr
<I*loq<(isve, corolla iifundilmlari-canipanulata gla*>m allm, lohis lato
obovato-ellipticiK Iwwin versus macula llavida no tat is, Ktaminihus 10
corolla InvvioribuH filantMitüH inferno hirtellis, ovario G-(.)-Kulcato
(r)-)locu!ari tonientollo, stylo glabro.

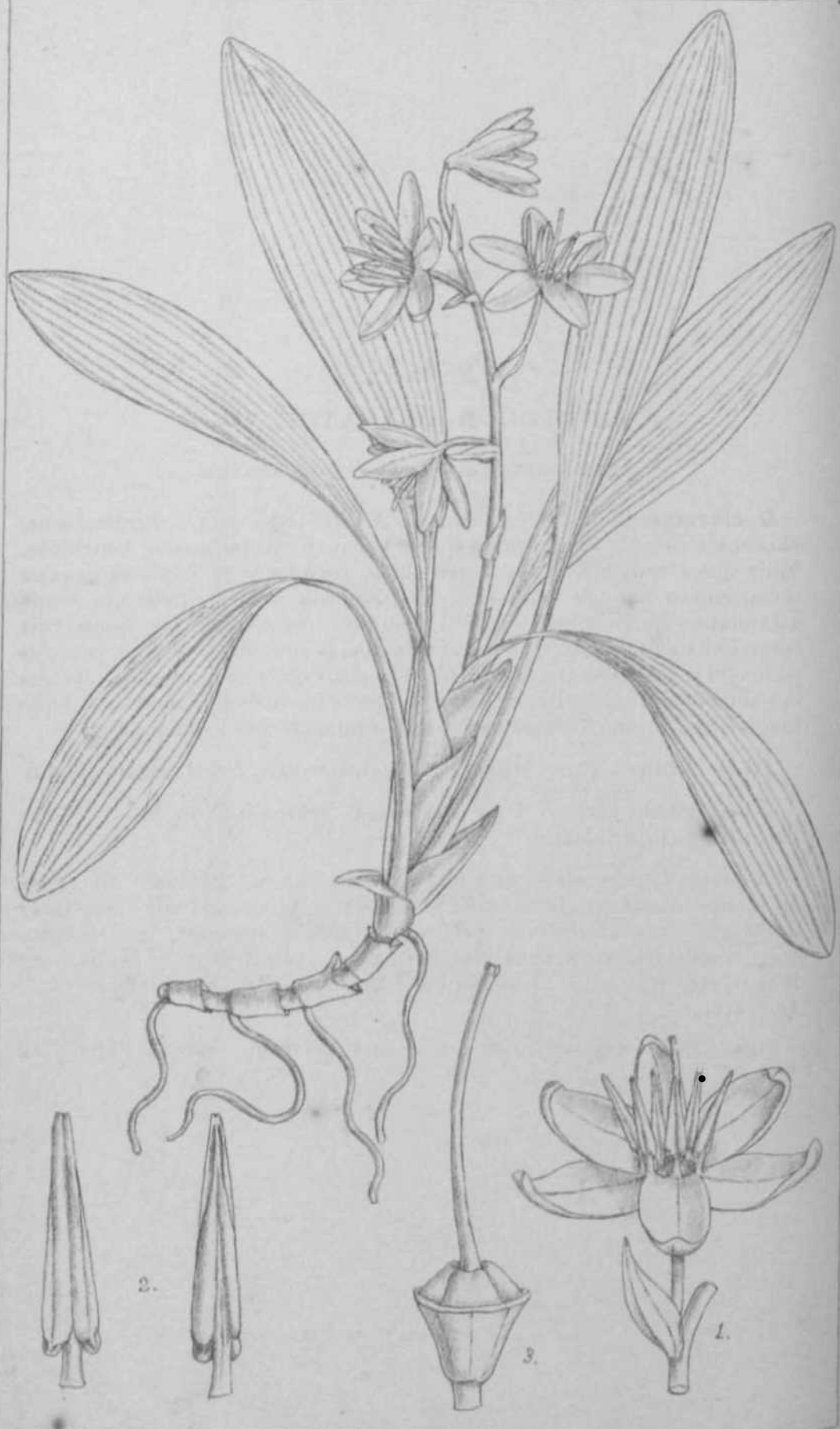
11 AH. China ; Prox* Yunnan, Mon^tse, in a mountain gleñ, alt.
CWO ft., *Hancock* (No. 156).

Folia persistentia, 4 <H poll, longa, 1j-3] poll, lata ; petiolus J-£
p91, longUH. *PedirAli* 1-U poll, longi ; .squamii¹ m/ijores basi at-
tenuatat 1-U poll, longw. *Corolla* 4 -4j poll, diuin. ; He^ineila L¹, 1jj
|K>II. lata. *Stamina* 1!, '2]>oll. longa. *PintiUant* '2]>ull. longum |
'guba capitatum.

Tin's remarkably fine species belongs to the relatively small division
"i *KhtuliMlrwlrnn* in which the, inflorescence is not strictly terminal,
but from the axil of one or more of the uppermost leaves. I rather
hesitate, however, to refer it to the section *Hhodorn*tmnt* of
Maximowicz, althou^li M. Franchet in adopting this section includes
in it species with persistent leaves. It is allied to *It. pittoH/Miri/olium*,
llcmhl. (perhaps identical with *It. *tmnin?UM%* Franch., which is the
typu of M. Franchet's new section *Chonitintrnm*), but differs in the
short and wider tube of the corolla and included stamens.

This is another of Mr. Hancock's recent discoveries well deserving
introduction to our gardens.—1>. OMVKK.

Fig. 1. Calyx Hru ovnry. 2. Author, Imck mid Fruut viuw. 3. Imuavcmu section
ovary. All enlarged.



MS. del., et lith.

Ophiopogon clavatus, Wr.

PLATE 2382.

OPHIPOGON CLAVATUS, *Wright*.

HJBMODORACKA. Tribe OPHIOPOGONIA.

O. clavatus, C. // *Wright in Kew Illustrations* 1895, *ined.*; rhizomatosus, rhizomate cataphyllis scario. siccis sparse vestito fibras radicales emittente, foliis quasi radicalibus longe petiolatis, petiolis saepe recurvis, lamina oblanceolato-oblonga obtusa v. late acutata basi in petiolum longe attenuata, longitudinaliter 7-15-nervosa nervis subtus conspiruis interstitiis pallidioribus, racemo foliis saepius brevioribus 2-3-tiloro, bracteis pedicello subaequilongis, perianthii segmentis oblongo-lanceolatis obtusis apicibus interdum leviter galeatis, antheris 1 inaequalibus filamentis 3-4-plo longioribus, stylo elongato perianthii segmentis fore aequilongo. v>

HAB. China; Prov. Hupeh, in Bamboo woods, *Dr. A. Henry* (6065).

Folia petiolo incluso 4-5. poll, longa, lamina 5-7 lin. lata. *Flares* rubente 9-10 lin. lati.

A pretty species, deserving introduction into our gardens. It grows on mountains at an elevation of 6000 feet. Its nearest ally is probably a dwarf but acute-leaved species, of which a specimen has recently been received at Kew from Northern Siam, collected by F. H. Smiles; it is related also to *O. dracatnoides*, **Ilk.** f., of the Eastern Himalaya.

1). OLIVER.

Fig. 1. Flower and bract. 2. Anther, back and front view. 3. Pistil. *All enlarged.*



M.S. del, et lith.

Brandisia racemosa, Hemsl.

PLATE 2383.

BRANDISIA RACEMOSA, *Ueml.*

SCHOPHULARINEAE. Tribe CHELONBIÆ.

B. racemosa, *Hnml. in Kew Buffet.* 1895, *inatl.* ; fruticosa ramis ut videtur samentosis, gracilibus, fusco-hirtellis, foliis petiolatis ovato-v. oblongo-ellipticis acutis serratis basi rotundatis v. in tenum subordatis trifloratis v. subtus in costa petioloque obsolete hirtis, floribus in racemis terminalibus multifloris v. in latcilibus alihreviatis breviter pedicellatis, bracteis superioribus parvis linearibus, nylcis campanulatis deicibus (interioribus posticis latioribus, corolla calyce) bipartito longioro lobato-juncata labio interno (quam antice *faro* (longioro apice emarginato v. breviter obtuse 2-lobato lateraliter compresso).

HAH. China ; **Pröv. Yunnan**, in shady copses, Mongtso, *Hancock* (No. 144).

Folia 1j-2i poll, longa v. superiora florifera minora; petiolo 1-3 lin. longus. *Floretæ* 1-2 lin. longi puniceæ; corollæ labiis anticis brevissimis obtusis poslicum ovalem 1-2 poll. Ruperrant. *Stamina* didynamæ, 2 antica paullo longiora, parvum 0; antheris cordatis barbatis, loculis basi divergentibus. *Ovarium* ovoidum compressum, biloculare ; ovula plurima, oblonga v. linearia ; stylus apice exsertus.

Although different from previously described species of this genus, from the glabrate foliage, flowers confluent in short or long racemes, and the excessive inequality of the lips of the corolla, there can be no doubt, I think, that it is a true *Brandinia*. Mr. Hancock describes it as a conspicuous shrub, with rich red flowers. It would seem a very desirable plant for introduction.—D. OLIVK.

Fig. 1. Calyx laid open, and pistil. 2. Corolla laid open, and stamens. 3. Anther, back and front view. 4. Ovary, longitudinal and 5. transverse section. All enlarged.



M.S.del. et lith.

Jasminum primulinum. Hemsl

PLATE 2384.

JASMINTJM PRIMULINUM, *HemsL*

OLEACEJE. Tribe JASMINES.

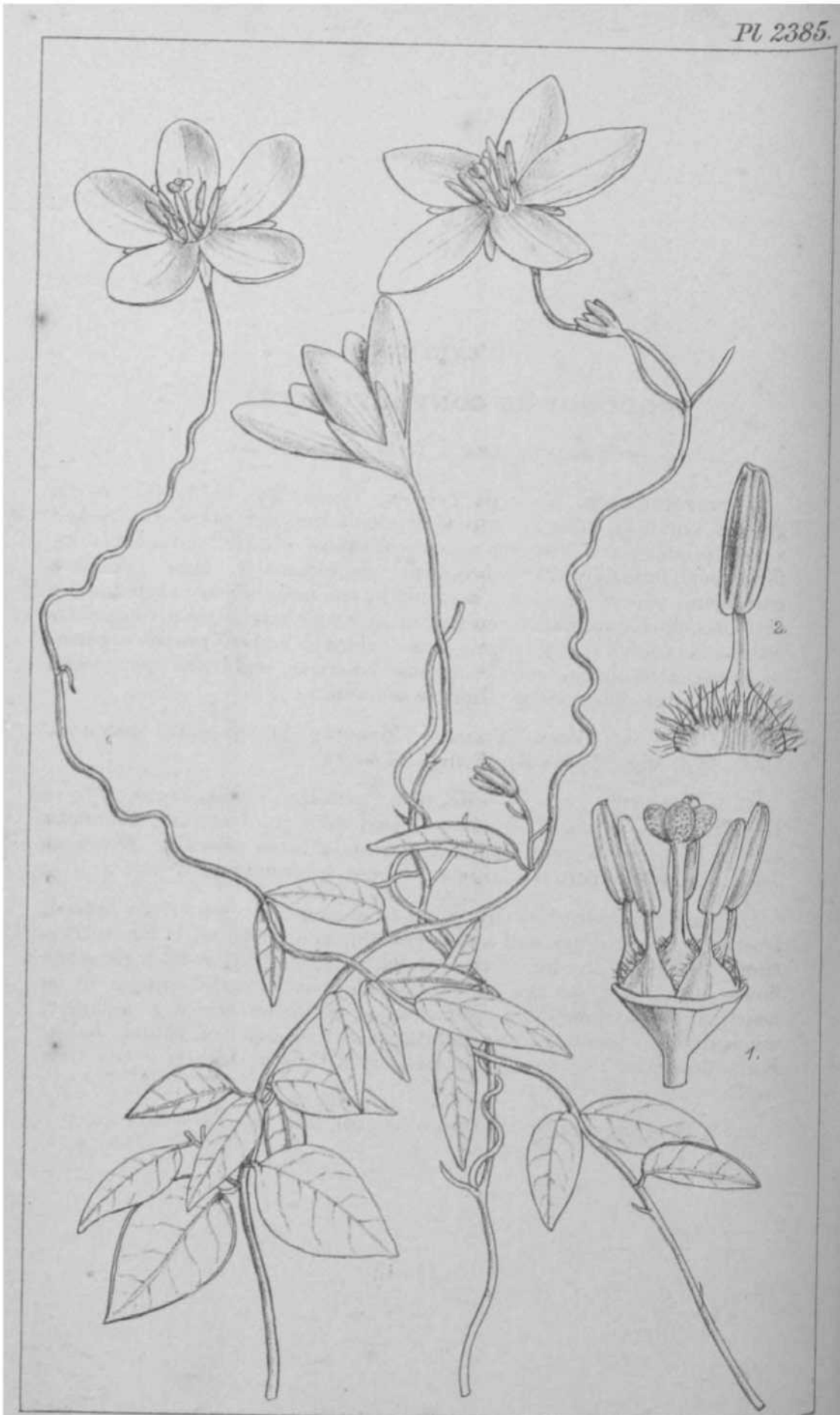
J. primulinum, *Hemsley in Kew Bullet.* 1895, *ined.* ; aff. *J. nudifloro*, ramis vimineis 4-angulatis glabris, foliis 3-foliolatis tempore florifero interdum evolutis, foliolis glabris marginibus scabriusculis lateralibus elliptico- v. oblongo-lanceolatis apice obtusis v. obtusiusculis mucronulatis basi oblique cuneatim angustatis subsessilibus, terminali majore oblongo-lanceolato petiolulato, floribus luteis saepius praecocibus axillaribus solitariis pedicellis 6-8-bracteatis, calycis profunde 6-7-fidi segmentis tubo fere 3-plo longioribus lanceolatis v. lineari-lanceolatis acutis corollae tubo brevioribus, corollae rotatae segmentis 6-7 late v. obovato-ellipticis tubo longioribus, stylo breviter exserto.

HAB. China ; Frov. Yunnan, Mongtse, in hedges and copses, *Hancock* (No. 6).

Folia opposita ; petiolus $1\frac{1}{2}$ poll, longus ; foliola lateralia $1\frac{1}{2}$ poll, longa fol. terminalia $1\frac{1}{2}$ poll, longa. *Bracteen* inferiores parvae, late ovatae, intermedise majores ellipticae breviter petiolatae, superiores ovales v. oblongae. *Corolla* $1\frac{1}{2}$ poll. diam.

Excepting in the larger leaves, sometimes fairly, if not fully, developed at the time of flowering, and much larger flowers, with the limb of the corolla exceeding the tube, this plant might be regarded as a glorified variety of *J. nudiflorum*, Lindl. It is evidently a very free flowerer, and in the very first rank of ornamental shrubs. Let us hope that Mr. Hancock may yet lay us under the further obligation of securing its introduction into British horticulture.—D. OLIVER.

Fig. 1. Fragment of leaflet, showing setulose margin. 2. Calyx laid open, and ovary. 3. Corolla-tube laid open. 4. Apex of style and stigma. *All enlarged.*



M.S. del. et lith.

Codoriopsis conovata Kurz

PLATE 2385.

CODONOPSIS CONVULVACEA, *Knrz.*

CAMPANULACEJB. Tribe CAMPANULEJB.

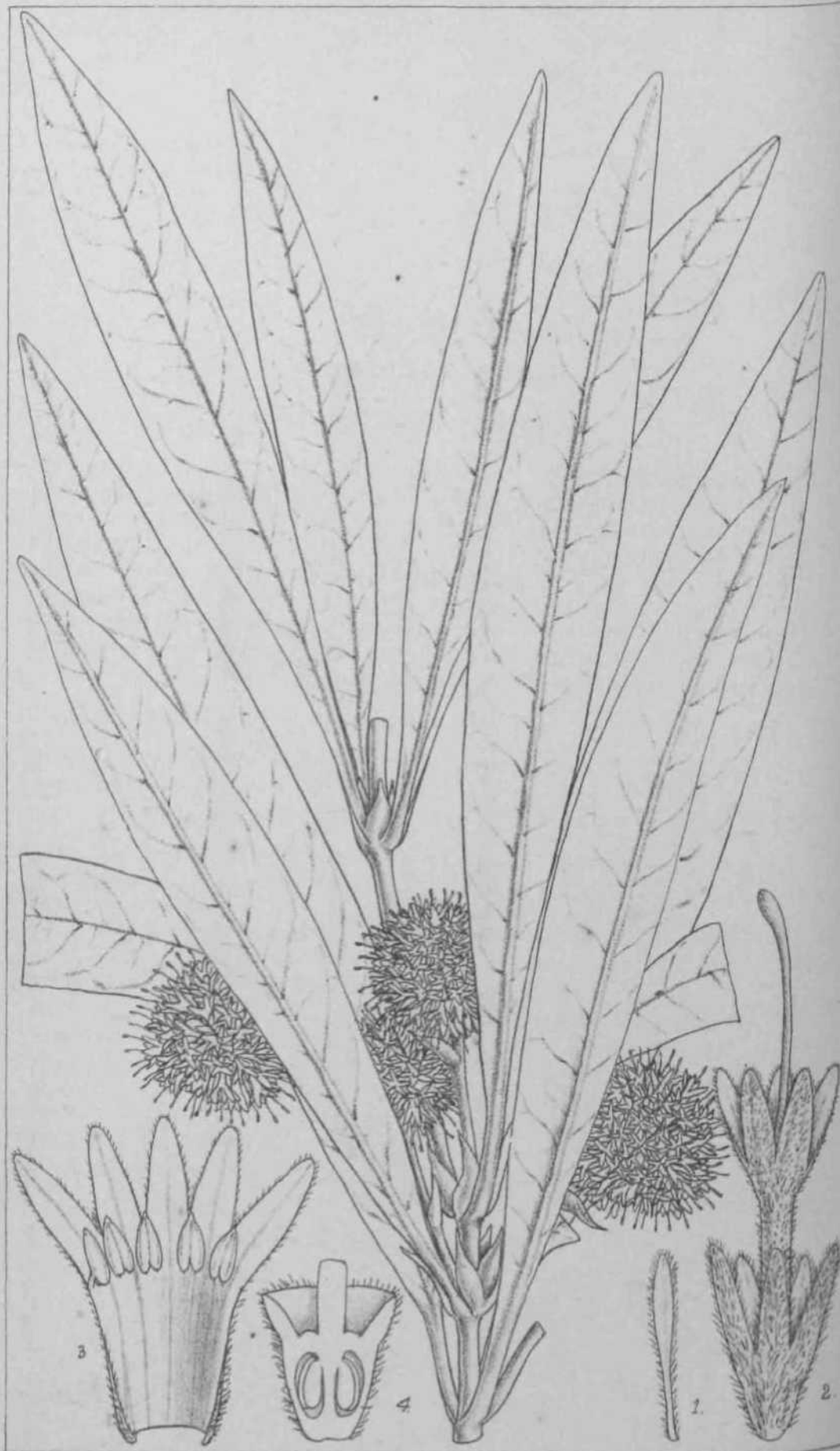
C. convolvulacea, *Knrz in Tritnen, Journ. bot.*, 1873, 195 ; herba gracilis volubilis, foliis alternis v. oppositis breviter petiolatis linearibus v. ovato-lanceolatis integris acutiusculis basi obtusis v. in foliis inferioribus latioribusque subcordatis glaberrimis v. facie superiore marginem versus obsolete scabrido-hirtis marginibus angustissime revolutis, floribus simpliciter terminalibus solitariis longissime pedunculatis pedunculo simpliciter tortis, calycis tubo turbinato limbo 5-partito segmentis lanceolatis acutis, corolla rotate 5-partitiu segmentis patentibus calyce 2-4-plo longioribus ellipticis acutatis.

HAB. China ; Prov. Yunnan, Mongtse, in mountain pastures, 5500-6500 feet, *Hancock* ; Hotha, *Anderson*.

Folia J-H₂ poll, longa, 2-6 lin. lata ; *petiolus* 1¹/₂ poll, longus. *Flores* H₂ poll, diam., cserulei. *Anthercti* lineari-oblongis, basi fixis ; filamenta brevissima, basi late et subito dilatata carnosula intus pilosula. *Ovarium* 3-loculare, semisuperum ; stigma 3-lobum, lobis oblongo ovatis.

Originally described by Mr. Kurz from imperfect material : indeed, fruiting specimens are still a desideratum, as are ripe seeds for cultivation. The deep division of the corolla, which is truly rotate, gives the flower an aspect strange in *Codonopsis*, but it would appear to be nearly as deeply lobed in *C. pedunculata*, Franchet, which is a larger, much stronger plant than ours, without any evidence of voluble habit. Kurz describes the flowers as axillary ; this is doubtless the case occasionally.—D. OLIVER.

Fig. 1. Pistil and stamens. 2. Stamen detached, from inner side. *Enlarged.*



M 3.del, etith

Adma Galpim, Oliv.

PLATE 2386.

ADINA GALPINI, *Oliv.*

KUUIACE.E. Tribe NAUCLEAE.

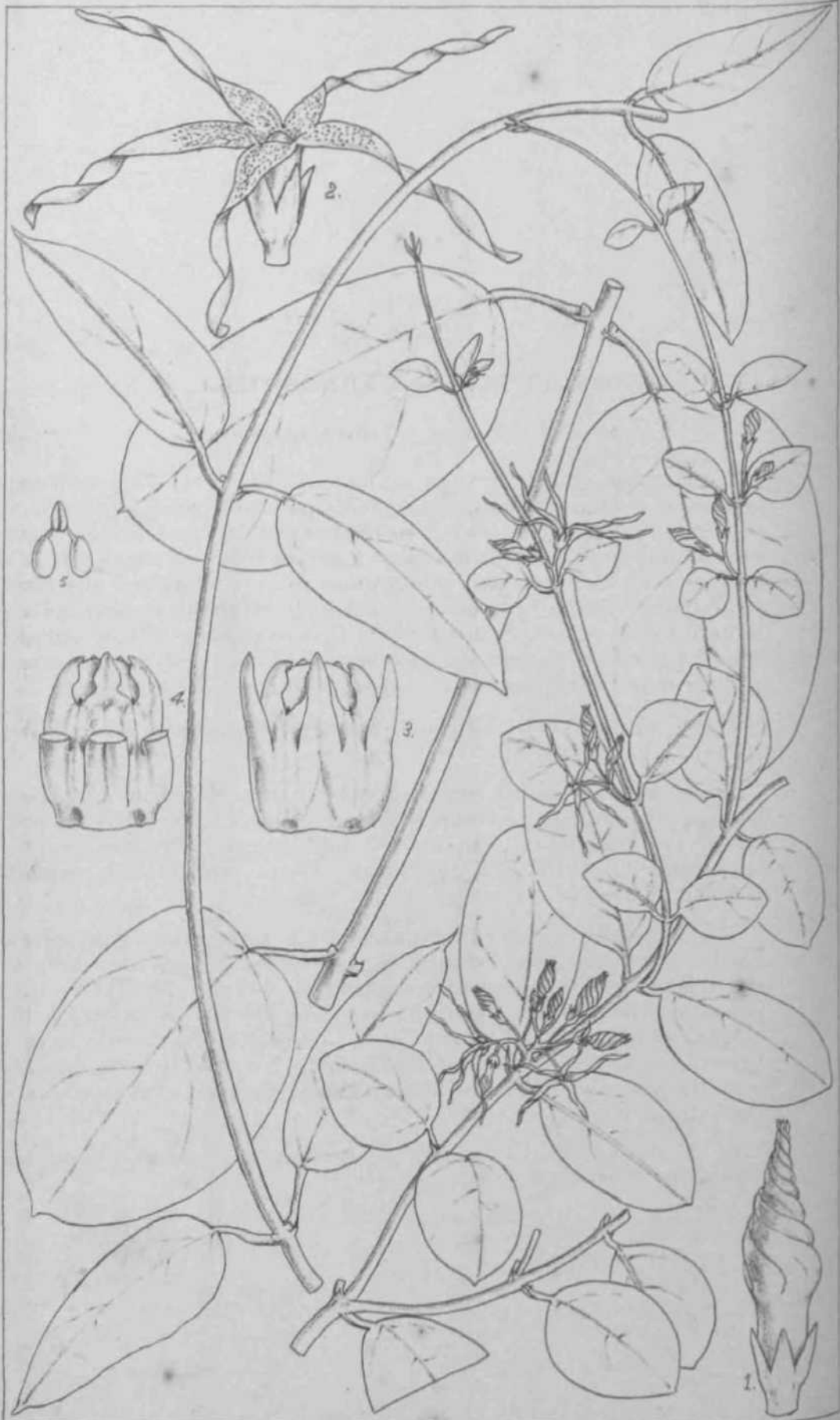
A. Galpini, *Oliver (sj. nov.)* ; arbor glaberrima, foliis 4natis verticillatis coriaceis elongato- ovali-oblongis obtusiusculis basi in petiolum sen si m angustatis, vernatione vernicosis, stipulis deltoideis caducis, pedunculis strictis prope apicem involucri folio multo brevioribus 1-cephalis, bracteolis anguste spathulato - linearibus calyce s^opius brevioribus, calycis tubo anguste turbinato sericeo, limbo 5-partito segmentis linearibus tubo paulo longioribus, corolla sericea? tubo calyce 2-plo longiore segmentis limbi lineari-oblongis quam tubo fere duplo brevioribus, ovula geminata v. ternata oblonga pendula.

HAB. SO. Africa ; Transvaal and Swaziland, *Gatyrin* (No. 1213).

Arbor 30-90 ped. alta, ramulis strictis obsolete tetragonis. *folia* in ramulis floriferis 4i-6 poll, longa, i-[^] poll, lata, novella vernicosa. *Pedunculi* [^]-1 $\frac{1}{2}$ poll, longi. *Capitulā* globosa | poll. diam.

Mr. Galpin describes this species as a tree of 30 to 90 feet, attaining the larger dimension by river-banks, and adds that it affords an excellent timber, 'closely resembling teak.' It is 'known as Cape teak.' A. *Galpini* is clearly a congener, and indeed very close ally, of *Cf. phalanthus spathelliferus*, Baker (*Journ. Bot.* 1882, 137), from Madagascar, which differs in its long peduncles and much broader leaves. As the ovules are not solitary in the Madagascar plant, it must, as the genera now stand, be removed from *Cephalanthus*. Schweinfurth's No. 238 (ser. iii.) from Dar-Fertit is also allied to our plant. M. Baillon, I observe (*Hist. Pl.* vii. 494), sinks *Adina* in *Jvaticlea*. In this, however, I am unable to follow him ; but he retains *Cephalanthus* as generically distinct. I cannot, in the rather advanced state of the flowers in our specimens, speak positively as to the aestivation of the corolla.—D. OLIVEH.

Fig. 1. Bi-actele. 2. Detached flower. 3. Corolla laid open. 4. Vertical section of ovary. All enlarged.



M.S. del. et lith.

Strobopetalum carnosum, N.E. Br.

PLATE 2387.

STROBOPETALUM CARNOSUM, N. E. Br.

AscLEPIADEiE, Tribe CYNANCHE^E.

S. carnosum, *N. E. Brown in *Kew Bullet.* 1894, 390 ; suffrutex prostratus v. laxe soandens, glaber, foliis petiolatis carnosulis ovato- v. oblongo-ellipticis v. fere rotmndatis obtusis retusis v. acutis mucrtnatis basi roturdatis v. in ramis sterilibus niacrophyllis plus minus corcUtis, iloribus axillaribus, in cyrnis subsessilibus pauci- v. plurifloris dispositis, pedicel la ti.s, corolla? tubo calyce 2-plo longiore tubuloso-campanulato intus argenteo-sericeo segmentis liinbi linearibns apioe oblique acutatis tul)o longioribus, corona) squamis lanceolatis ad medium gynostegii ad n at is apice liberis dorsaliter compressis antheris fere fequilongis.

HAD. South Arabia, El Hami, *Schweinfurth (Exped. RieBeok, No, 180).*

Kami ssepe elongati, teretes. *Folia* in ramis sterilibus 1-2J poll, longa, 1^ -1^ poll, lata; in ramulis floriferis stopius minoribus £-1] poll, longa, |-^ poll, lata; petiolus 1-7 lin, longus. *Bractem* minutiv, lanceolatte. *Pedicdli* 1-2 lin. longi. *Floras* viridescetos, expAnsi |-| poll. diam.

The leaves in our dried specimens show their fleshy parenchyma moulded over numerous roundish concretions, which probably form on th« drying up of the tissue after soaking in alcohol. Mr. Brown (/.<?) points out the near allinity of this genus to *Pentatropis*, in which the coronal lobes are laterally compressed. *Strobopetalum Benti* was published in an earlier number of the *Bulletin* for 1894 (p. 336) together with the generic diagnosis. I much doubt the specific distinctness of the two species.—D. OLIVER.

Kip. 1. liutl. 2. Expanded flower. 3. GynoHtege with corona. 4. Same, the coronal lobes removed. 5. Pollen. *All enlarged.*



PLATE 2388.

MUSSJENDOPSIS BECCARIANA, *DailL*

RUBIACEJE.

M. beccariana, *BailL in Adansonia*, xii. 282 ; arbor inflorescentiis exceptis glaberrima, foliis late vel latissime ellipticis brevissime acuminatis integris coriaceis nervis lateralibus 6-7 cum costa proniunuiis venis inconspicuis, pedunculo semicylindrico, stipulis interfoliaribus oblongis gemmam terminalem includentibus mox deciduis, cymis laxe paniculatis ramis ramulisque patulis, pedicellis florum alarum longiusculis caeterorum brevibusvel subnullis, calycis turbinati tomentelli lobis 5 subrotundatis vel uno aniplo foliaceo pallido rotundato abrupte unguiculato e basi 5-nervi, corollae extus tomentellae tubo brevissimo vel subnullo lobis 5 oblongis crassiusculis superne imprimis marginem versus papillosis in alabastro sinistrorsum (ab observatore) tortis, staminibus 5 sub disco insertis, antheris curvatis lineari-oblongis, disco breviter conico crasso, stylo brevi crassiusculo post anthesin mox deciduo lobis stigmatis brevibus rotundatis crassis intus excavatis, ovario biloculari, placentis secundum septum medium ortis. ovulis numerosis dense coarctatis applahatis, fructu capsulari polyspermo septicido, seminibus parvis utriusque in alam productis, embryo carnoso parce albuminoso.—Creaghia fagraeaopsis, *Scortechini in Journ. of Bot.* 1884, p. 370.

HAB. Malacca, *Maingay* (Nos. 835, 1692); Merlimau, Malacca, is? *Derry* (No. 1044); Larut, Perak, *Scortechini*; Sarawak, Borneo, *Beechey* (Nos. 358, 1176, 2651).

Folia 4-7 poll, longa, 3-5 \ poll, lata ; *pedunculus* -J-1} poll, longus. *Panicula* ad 8 poll, longa lataque. *Calyx* 1[^]-2 lin. longus ; lobus foliaceus 1-1} longus latusque. *Corolla*: segmenta li-2 lin. longa[^] 1 lin. lata. *Capsula* 3 lin. longa.

As Baillon and Scortechini have already pointed out, the genus *Mussjendopsis* represents the New World genus *Calycophyllum* in the Old World. Since Baillon's publication, however, a new genus from Hupeh, China, has been described by Professor D. Oliver (in Hooker, 'The Plant.' 1823) under the name of *Emmenopterys*, which seems to come at least as near to *Mussjendopsis* as to *Calycophyllum*, although the corolla-tube is more developed than in *Calycophyllum*, and the aestivation of the corolla-lobes is apparently not contorted but imbricate.—O. STAPP.

Pip. 1. Cymule with one expanded flower, bearing foliaceou* segment. 2. Corolla, o. Ovary and style. 4. Petal. 5. JStamen, back and front view. 6. Ovary, longitudinal, and 7, same, tran*Trcf* section. All enlarged.



TWS.oeUIUth

Stemonon erectus. Wr,

PLATE 2389.

STEMONA ERECTA, Wright.

ROXBURGHACEA:

S. erecta, C. II. Wright in *Kew Bullet* 1895, *ined.*; herba erecta 1-2 pedalis glabra, caule angulato v. valide costato, foliis verticillatis ellipticis cuspidatis v. breviter et subito acuminatis basi in petiolura brevem angustatis trinerviis v. cum nervis arete marginalibus 5-nerviis, venulis approximatis transversis, floribus in axillis cataphyllorum pedunculis flori subaequilongis basi decurvis prope apicem recurvis floribus hinc erectis, perianthii segmentis anguste lanceolatis acutatis 2 exterioribus 7- 2 interioribus 9-nervosis, staminibus leviter p*rigynis perianthio paullo brevioribus, filamento basi dilatato, anthera lineari cum connectivo in appendicem anthera longiorem producto, ovulis 6 e basi ovarii cavitatis erectis.

HAB. China; Nanking, C. Schmidt (No. 1541, *lib. Faber.*).

Folia 2-2½ poll, longa, 1 poll. lata. *Perianthii* segmenta 6-7 lin. longa.

This plant is evidently a near ally of *S. sessilifolia*, Miq., of Japan, figured in 'Somoku Zusetsu/ vol. ii. Tab. 55 (in the copy in Kew library). In the latter species the peduncles are longer, and from the axils of developed foliage-leaves.—I). OLIVER.

Fig. 1. Perianth, laid open. 2. Stamen, back and front view. 3. Ovary. 4. Same, vertical section. *All enlarged.*



MSdel.eUih

Mascarenhasia utilis, Baker

PLVTE 2390.

MASCARENHASIA UTILIS, Baker.

ApocYNACEAE. Tribe ECHITIDEAE.

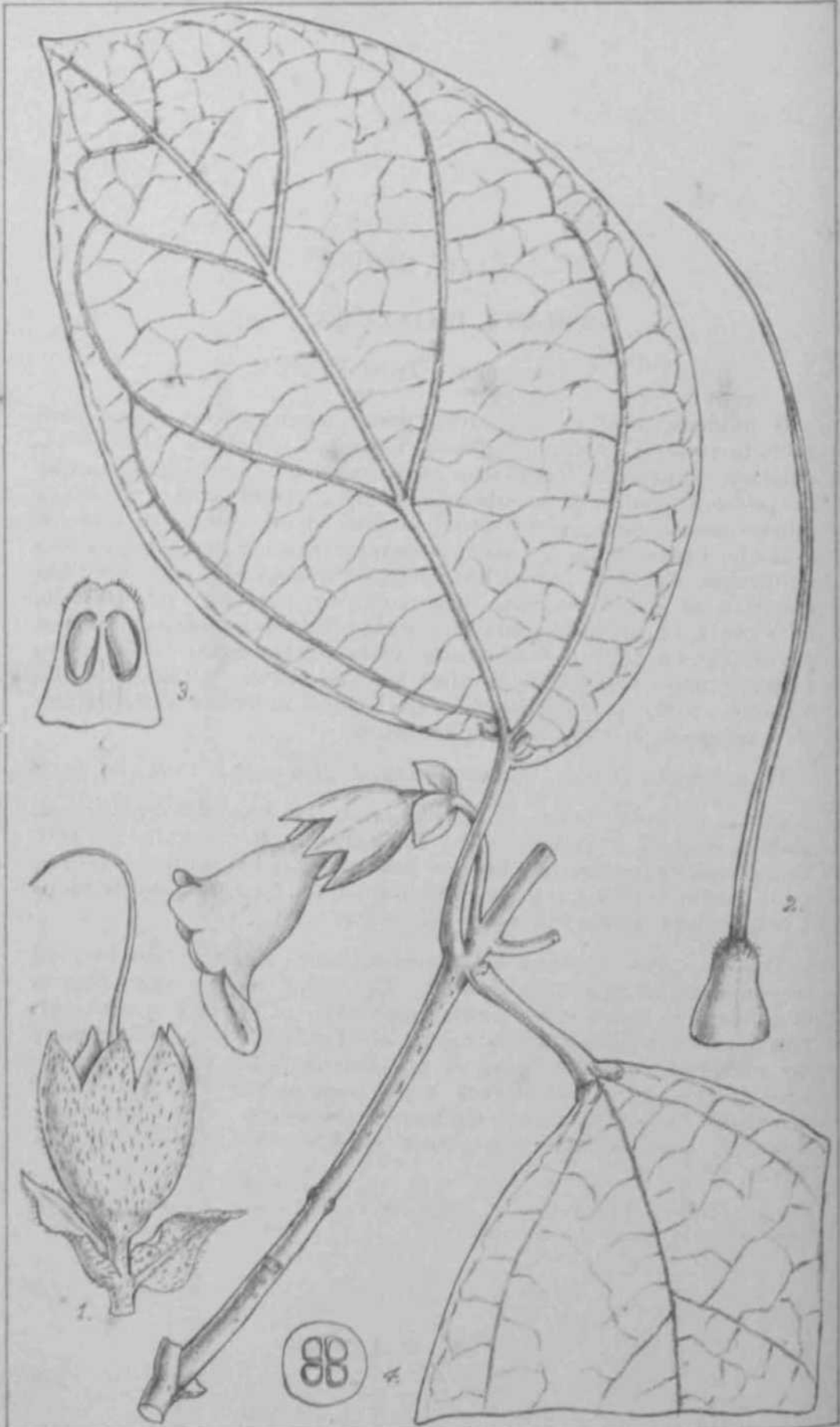
M. utilis, Baker (*sp. nov.*); fruticosa, glabra, foliis breviter petiolatis oblongis obtusis subcoriaceis nitidis basi cuneatis, floribus in nodo solitariis geminatisve pedunculatis, calycis lobis oblongis obtusis foliaceis, corolla? tubo cylindrico supra basin dilatato ventricoso, limbi rosei lobis oblique ovatis obovatisve acutatis flore expanso patulis, genitalibus in tubo inclusis, folliculis cylindricis lasevibus.

HAB. North Madagascar, *Rev. B. Baron* (6370).

Folia 2-2³ poll, longa. *Calyx* 3 lin. longus. *Corolla*; tubus infra medium abrupte constrictus 10-11 lin. longus; limbus expansus 2]-2[^] poll. diam. *Fructus* immaturus 3-3[^]-poll. diam.

Nearly allied to *M. curnoutriana*, Hemsley in 'Bot. Mag.' Tab. 661S. The native name is Ramiranja, and Mr. Baron says: 'It is one of the important plants from which indiarubber is obtained. It is a tall, not widely-spreading, erect shrub found in the open country.'—J. (J. BAKKK).

Fig. 1. Calyx, laid open, and pistil 2. Corolla-tube, laid open. 3. Anther, back and front view. All enlarged.



M.S. del. (tlfi)

Gmelina uniflora, Stapf.

PLATK 2391.

GMELENA UN I FLORA, *Statf.*

VKRBENACKAJ. Tribe VITICEAS.

G. uniflora, *Stnplf. (n. sjh)* ; arbor parva raniulis apicem versus parco fulvo-furfuraceis caeterum glabris, foliis Into ellipticis vel obovato-ellipticis obtusis vel brevissimo acuminatis basi rotundatis abrupto in petiolum contractis membranaceis supra glabris subtus glanduliferis inuerosissimis albis dense vestitis ideoque albidis nervis secundariis utriusque 4 (nervi infimosubbasali venis transversali) distinctis, floribus axillaribus solitariis nutantibus, calyce campanulato post anthesin imbricato intus lobato extus albo-glanduloso et sparse rufo-pilosulo, lobis ovatis acutis, corolla bilabiata luteo-albida extus glabra pilosula intus pilosula a basi sensim dilatato labio supero bilobo (juvina inferius multo brevior, labii inferi lobo intermedio lateralibus nullis longiore, ovario apico pilosulo 1-loculari, ovulis in loculis solitariis fere ab apice pendulis, stigmatibus simpliciter acuto.

IIAB. South Borneo, Banjermassintf, *J. Molhy* (No. 1201).

Folia 4-6 lin. longa, 3-4 poll, latera ; petiolus fulvo-pubescentibus, pubescentibus, ml 1 poll, longus. *Inflorescentia* fulvo-pubescentibus, 1 poll, longus, apice bibracteatus ; bractea ovata, imbricata, extus fulvo-velutina, 1 lin. longae. *Calyx* anthesi circumscriptus 8-9 lin. longus. *Corolla*: tubus 1 poll, longus, labium inferius 4 lin. longus.

This is a very remarkable species of (*hnelimi*. It differs from *til* its congeners in its solitary flowers. The calyx is also larger than in any other species except **. haihanrtuin*, Oliv. The ovary of the single flower which I dissected was completely 1-celled, but it was already far advanced, buds not being at my disposal. There are two large black glands at the base of each of the basal nerves of the leaf ; they are visible on both faces, but more especially below. Our figure of the flower is from a single one, rather imperfect and glued down. -O.

Fig. 1. Calyx and ovary. 2. Petiole. 3. Vertical Motion of ovary. 4. Transverse section of flower. *All etiam/eti.*



MS del et lith

Tænioclæna C. mih. Hk. f.

PLATK 2S92.

T*!NIOCHLJENA GRIFFITHII, *Hook.*

CONNARACEÆ. Tribe <NFKHTIDK Æ.

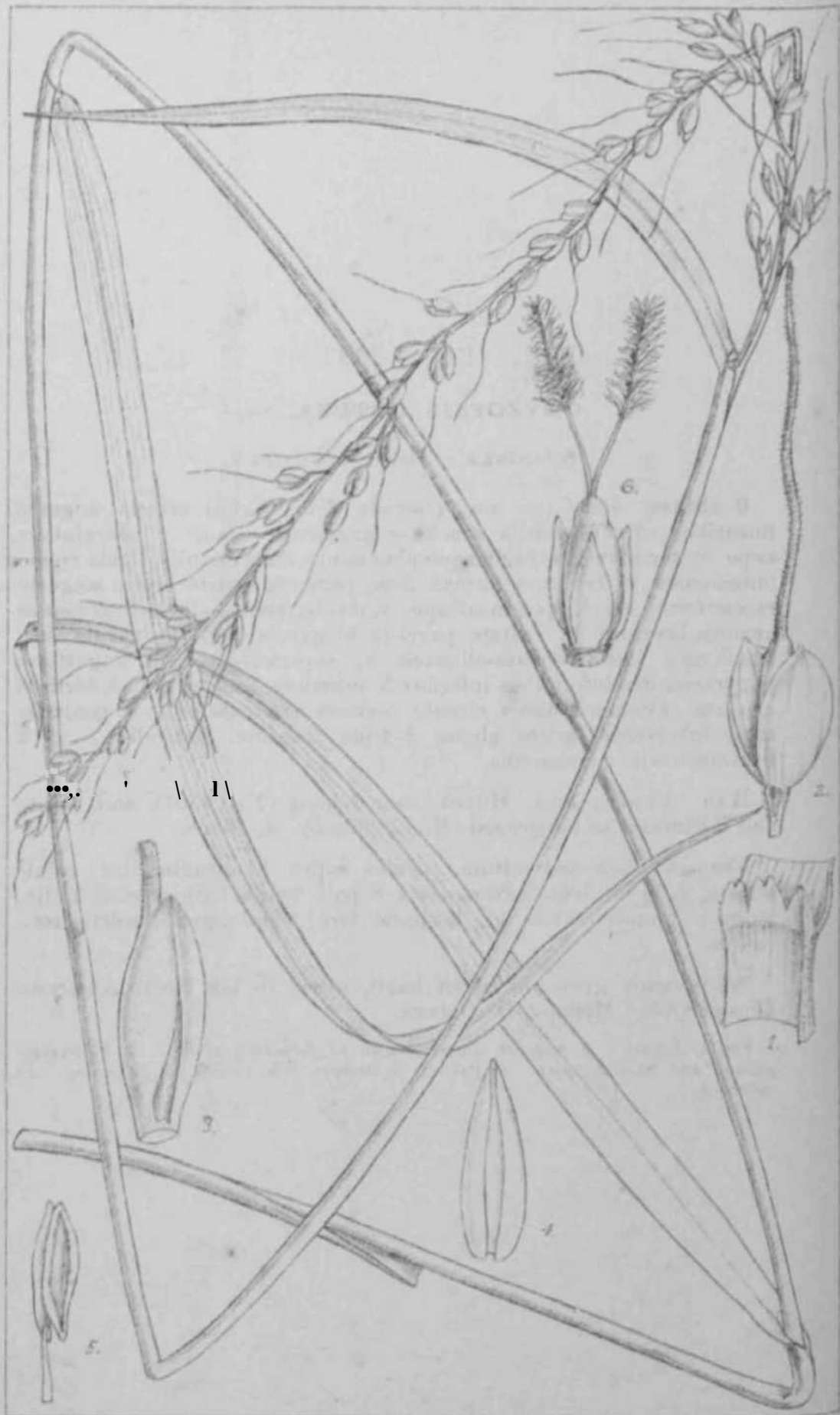
T. Griffithii, *Hockfil in 8mA. et Hook Gen, Plant*, i. 434 ; frutw
subscan• lens, ram is (i-n-tilni.s ^Ifiliratis V. tin veil in obsolete IiirtU, foil in
ituparipinnatis ft- v. ^\ foliolatis, foliolis **rabcoriMeia glftbris** rllipticu
oblongo- v. ovato-ellipticia v. lateralibus iuferioribus niioribiiw ovattt
basi lute rotuinlntis v. subcorelatis **BIRM** plus inimiB **obtain sH»p^**
emaLTgilMtu tabfcoi r^timilati.s nervis piinnriis ntrilK)tt6 3 5 ini'urvis,
KH tin nits fnlvo hirtis axillaribuK e Iwisi nniOMW folio tuulto lin^i<irihjii»,
t'ftlyciiii 5-partiti MglB6ntiH oblon^u-ljinct^ilatis npicf angurt* imbricatis
margin ibut* fju-io<ufl exterior^ Jtlus it) in us hi it is tarn Inn r*t**x t*s ;>tmlis
"!onyatis lineari laic^olatis apiefMti veraus attcnufitia hnsi **brevitei at**
abrupte angustutis glulnis **nJyoe doplo tongioribtu, itaminibui bravil** us
(ilniiimtis **mbnltttii gisbrii nwnpmnafrii** iwwi vix roalitiH, nut l<eris
^>voi<lf.iK biiKitixis mucioiuiilntis, cttprlllis > **tiberu** parvia scfutilihtis
liirtin, Ktigmate (.•upit.elljito, *ovu*in **gpaminfttw**, wir|K?lli» fi uctiferis
oblique ovoirlfMs v. **ellipeoidcis** npie« wvwn rstnntia fuwootnle lis
^<ii us ^lahris.— *Flora Brit ind.* ii. M,

RAB. Mtilac»:i, *Griffith, Maingmy.*

Fillip * 10 (mil. 1<M<II ; **folioU** tE«rniinalia .1 fi p<ill. **ioogft, I 3-21**
poll, latn. ; foliola infirioni \\\ -M_t poll, luu^a, cum **petiolttlu** brevibus
liiHMiu vix **sxoedwttlbiw**. l'<<**nicule** \-3 **poll tongi** ; bractei i parvtx,
obkmao-Umoaobktu, cymbifonnibus, **pedicello mnlto bre^ioribui**. Car-
/W/a fruL-tifpt-a lj -1 poll, **longs**.

I find the ftegmenta of the calyx are slightly **imbriofte**, ronfinning &
"ote in MS. of Dr. Maingay's. 'Calyx . . . very slightly, **bat still**
<tititH distinctly, **imbricated** at tin- **tip*of p** the sepals,' Tin' **venu***, as
yet uionotypie, has not Iwen hitherto fig mud, to my **knowltig**.—
*• **OLIVER.**

ta. I. Dotnehwi flow*r. pnlfid nml brnct. 2. **Btamm.** S, rimil, \. C«fp<l.
longitu linn) »>iion. 6, Seei. *Lrcmpt .V/*>. A, n *fol hrged.*



M.S. del. et lith. Stapf anal.

Oryzopsis obtusa Stapf.

PLATE 2393.

ORYZOPSIS OBTUSA, Stapf.

GRAM IN E*. Tribe AGROHTIDEA.

O. obtusa, Stapf (*j). nov.); stricta, foliis rigidis erectis anguste linearibus sursum versus gradum planis v. marginibus saepe hinc involutis vaginisque plus minus scabriusculis, ligula rigidissima, obtusissima v. truncata tunc plus lissa, panícula stricto erecta anguste racemiformi rachis pedunculi & que scabridis pedunculi strictis hinc plus brevioribus unilateris paucis (2-6) spiculato, glumis vacuis? subaequilongis late obovato-ellipticis v. superiore paulo angustiore papiraceis cineris inferioribus 5- superioribus 3-nervi, gluma florifera aristata castaneo-brunnea nitente coriacea ecarinata palmarum et genitalium arete involvente, arista gluma 2-4-plo longiore, Uxliculi 3 v. 2 linearibus ovatis acutiusculis.

SIAB. China; Prov. Hupeh, near Icbang (No. 3507), and Nanto and mountains to northward (No. 3896), Dr. A. Henry.

d'ramen H-2 ped. altum. *Folia* supra longitudinaliter vix triata, 2-3[^] lin. lata. *Panicula* 4 H poll, longissima. *Spiculae* 2 2i lin. longae; glumae vacuae gl. floriferae fere anaequilongae obsolete reticulatae.

An elegant grass, of strict habit, allied to the North American *O. unperifolia*, Michx.—D. OLIVK.

4% 1. Ligula. 2. Spikelet, Nlinwin[^] iwn of HDWITMK flumr. < Klowrin[^] #tnu« ami bn« of uwn. 4, Puluu. 6. Stam<ii. (i. l'ihlil und ludiriilrn. *All enluryeJ.*



M.S. del. et lith. Stapf anal.

Trichopteryx elegantula, Stapf.

PLATE 2301.

TRICHOPTERYX ELEGANTULA, *Stapf*.

GKAMINKJC Trite AVKNK.G.

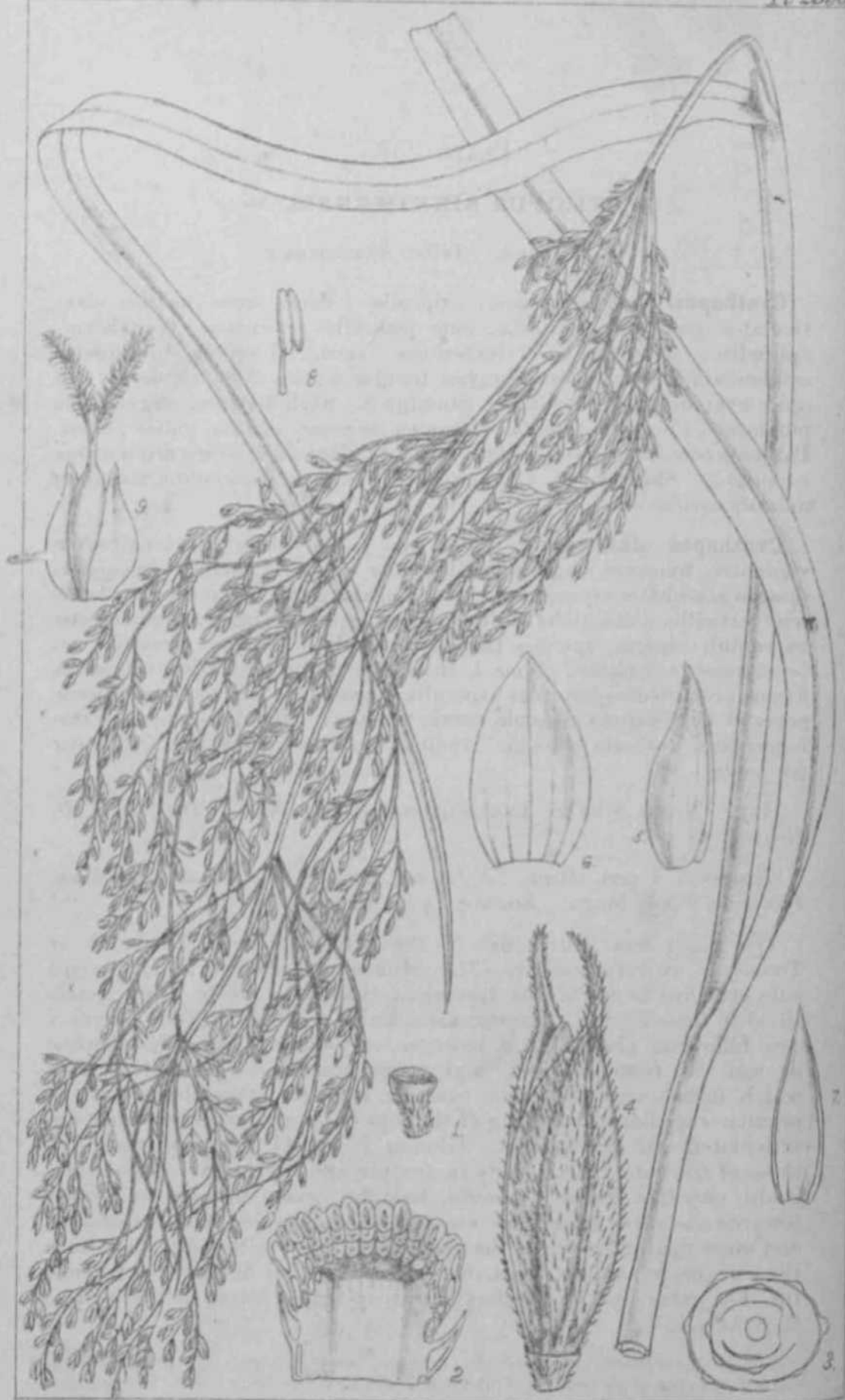
T. elegantula, *Stapf* anmia pumila debilis hasi ramosa, foliorum vaginis striatis laxe pilosis ore harhatis, laminis ovatis vel lanceolatis ucutis pilosis --pilis iiterdum laxis longisque patentibus vel falcatis recurvis marginibus incurvis, panícula ovata, spicula gluma I. ova acuta 3-nervi longae laxaeque subsetulosa pilis tuberculato insidentibus, gluma II. vix consimili sed subduplo longiore magis Kaciuninata, gluma III. <quam gluma II. paulo longiore longius acuminata Hubarintula J-nervi vel sulci-nervi juxta marginem laxe seriatim subsotulosa <quam palea paucisetulosa Horum masculina (?) subtendente, gluma IV. oblonga tenuiter linalina involuta, nthesis breviter oblongis, ovario cylindrico, stylis a basi latis tenuissimis ovario sublongioribus (longioribus) HKtignati- >UH plumosis, caryopis obovato-oblonga gluma rigescente paleae laxo inclusae — *Arundinella elegantula*, *Hook. & Arn. in Journ. Linn. Soc. vii.* (1864), 233.

HAH. W. Tropical Africa, Cameroons **Mountains**, alt. 6000-7000 ft., <>. *Mann* (No. 2092).

Phnta 3-4 poll, **alta**; culmis gracilibus ad modum vix inatis, plumarum violascentibus, sparse pilosis v. glabris. *Folia* 3 (> lin. longa, ad 2 lin. lata; ligula ad lineam longae ciliatam reducta. *Panicula* (ramis inforis additis exclusis) circiter 1 poll, longa, plerumque ramis nonnullis ex folii summi axilla ortis additis aucta, ramulis capillaribus, hexosis, glabris, ramis ad 6 lin. longis, pedicellis 2-3 lin. longis. *tytuhr* stramineis, vix 2 lin. longis; gluma IV. hasi utrinque pilalibus nitentibus barbata pilosula tenuiter 3-nervia apice breviter in dorso in setas longas producta et basi penicillo pilorum alborum nitentium ornata, arista geniculata infra gonum torta adprose scabido-puberula palea oblongo-angulata puberula praeterquam in parte paucis hinc hinc pilis longis, arista ad 1 lin. longa. *Canopy* hinc hinc lin. longa.

The structure of the spikelets and florets of this very graceful little *Klas* is exactly that of a typical *Trichopteryx*, although the general habit is more that of some of the smaller South African species of *Antennaria* (sect. *Pentowhieta*). I always found the palea belonging to the male flower empty, whilst Sir Joseph Hooker describes it as supporting the male flower; but the spikelets which I examined may have been too young.

1. Lateral and vaginula. 2. Spikelet. 3. Third flower. 4. Flowering glume. 5. Lateral. 6. Surstylus. 7. Pistil and ludicula. All enlarged.



M.S. del. et lith. Stapf anal.

Cyathopus sikkimensis, Stapf.

PLATE 2395.

CYATHOFUS SIKKIMENSIS, Stapf.

(IKAMINK.*.: Tribe AtitOSTIDK.E.

Cyathopus, Stapf(*gen. nov.*). Spicula* 1-flora*, sec us ramulos imir-
ticolatos paniculu*. Bolitariie, cum pedicel I o articulatu¹, Horn herm-
aphrodito. (Nunuu 8, 2 exteriores vacua* .{-nerves sulwe<|ualeK
mudiculate ; tertia florens brevior tenuior inutica .)-nervis nervis sub
apice evanidis ; paka hyalinn. Stamina l. Styli distincti, stigmatibus
plumosis. Caryopsis ignota. - (iramen *perrniie, datum, foliitt plani**,
Panicula *terminalin^ jwlunmlahi, elotu/ataK/ticcidula, mini*Jitifortnibu**
ramnlosiH. Spicul^t* *ban nwfa cum pedicello apice in cupulam minutam*
dilatnto articulate,

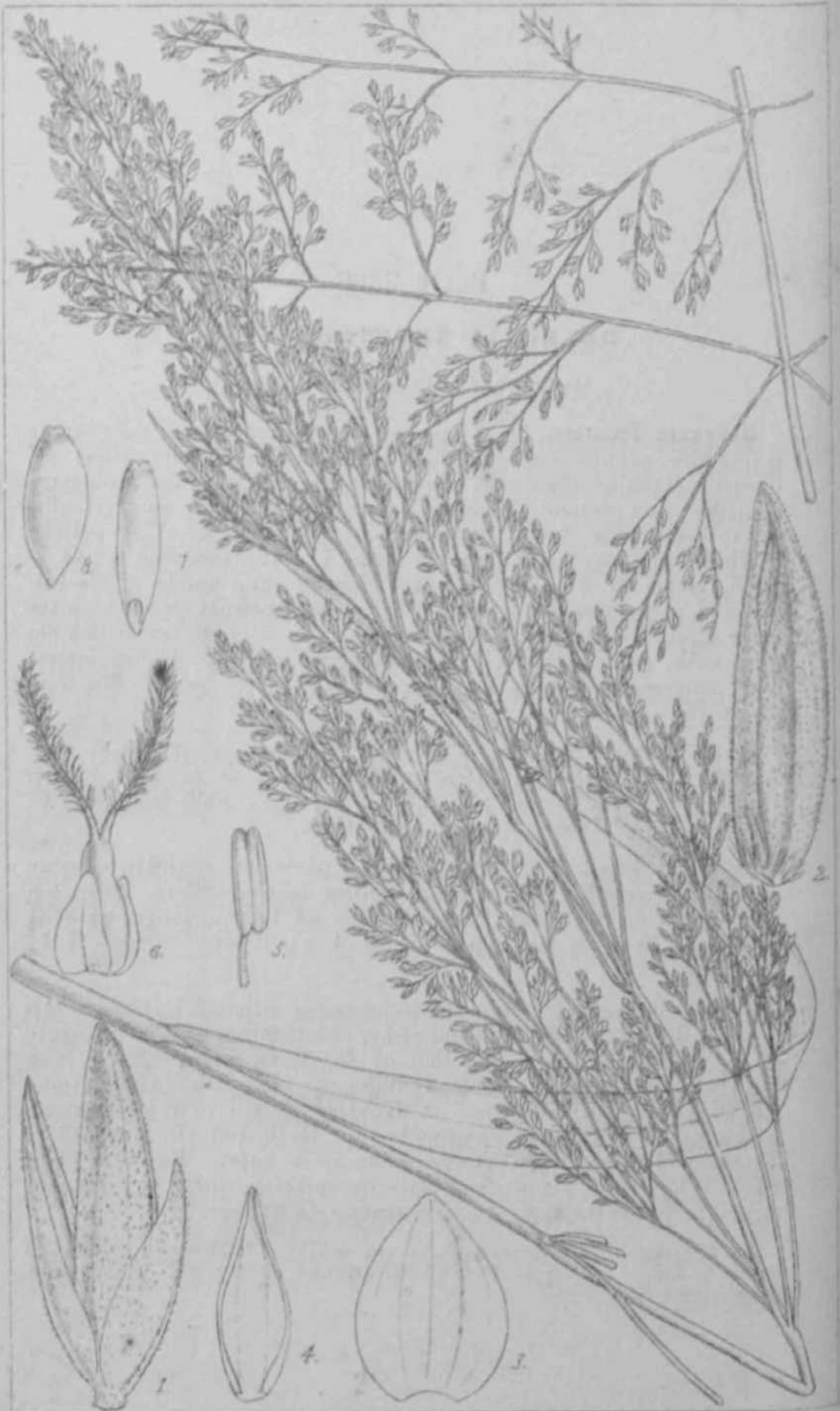
Cyathopus sikkimensis, Stapf (*n. up.*) ; culmis tota longitudinn
vaginatis, foliorum vaginis ampliuHCulis asperulis, lamiiiis lineailuiK
setacet)-attenuatis aaperulis, li^ula elon^ata dorKo j)iiil>erula, pimiculi*
Bemiverticillis distantibus rnultirainulosis, ramis Hexuosis oblicjue erecti<<
ut ramuli asperis, spiculifi pallide viridibus plerumque breviter vel
brevisKimu pedioellivtis, gluma I. et 11. oblon^is acuminati.sint<r nervoH
firmoH proniii)entes tenuibus asperulis, ghnaa III. fere hyalina Hiiporno
parre <t minutissiine aspurula nervis ten ui bus, lodiculis o!)li(jue ova to-
lanceolalis, antheris oblongis brevibus.—Miliun Treutlori, <>. *Kitniv*
(*in Jmrtn*).

HAB. North Sikkim, Lachoong valley in W(MKIH, 11000 ft., </. *IK*
Hooker.

<>'ranu>n 3 4 ped. altum. *Foliorum lamina** {^dalos ad -I lin. *lstr.*
i|uiintJa 9 poll, longa. *Nfjiciilm* 1,) lin. longa*.

This plant was distributed in the ' Herb. Tnd. Or. Honk. lil. et
Thomson,' as ⁴ *Hynwnaclnw* (3).' Munro suggested in a mniuiKcript
note attached to one of the specimens that it mi^lit be a new geiftiH
allied *Uj/fymenacJtns*. Kuntze identified it with his *MUüim Treuth.ri*
(see following plate). It in, however, very distinct from *Hyme.nachnn*
HH well as from *Miliun*, and comes nearest to (*larnotia*, with
whi :h it has very much in common, amongst other characters the
peculiar cup-shaped widening of the tops of the pedicels where they are.
Articulated with the spikelet. (flumes I. and II. are very much liko
those of (*Sarnotia*, particularly in texture and nervation, (flume 111.
is also very like that of *Garntia*, but the nerves lieotne obliterated
towards the apex whilst they aw very faint near the Uise in (*iarmtia*
'nd more distinct towards the apex where they collect and pass into
•he awn, or, in awnless forms, into a very short but distinctly thickened
tip. The name *Cyatkojms* rotors to the cup-shaped top of the pedicels.—
0. STAPF.

. Fig. 1. Ciipulifonn lojiof pdiocl. '2. S;mio. mow •nlmitr<d :l l^itfrann show-
!ipHrransfmpntofi>ljiira. 4. Npikulnf. A Third plumi/. uide view. 6. Suui¹. laid
°I*u. 7. Talca. 8. •Siamcn. 9. i'ibtil UIKI luJiculvn. *All wlujfrtl*.



M. S. del. et lith. Stapf. anal.

Deyeuxia Treutleri, Stapf.

TLATK 2396.

DEYBUXIA TREUTLERI, Stapf.

GRAMINEAE. Tribe ACROSTIDACEAE.

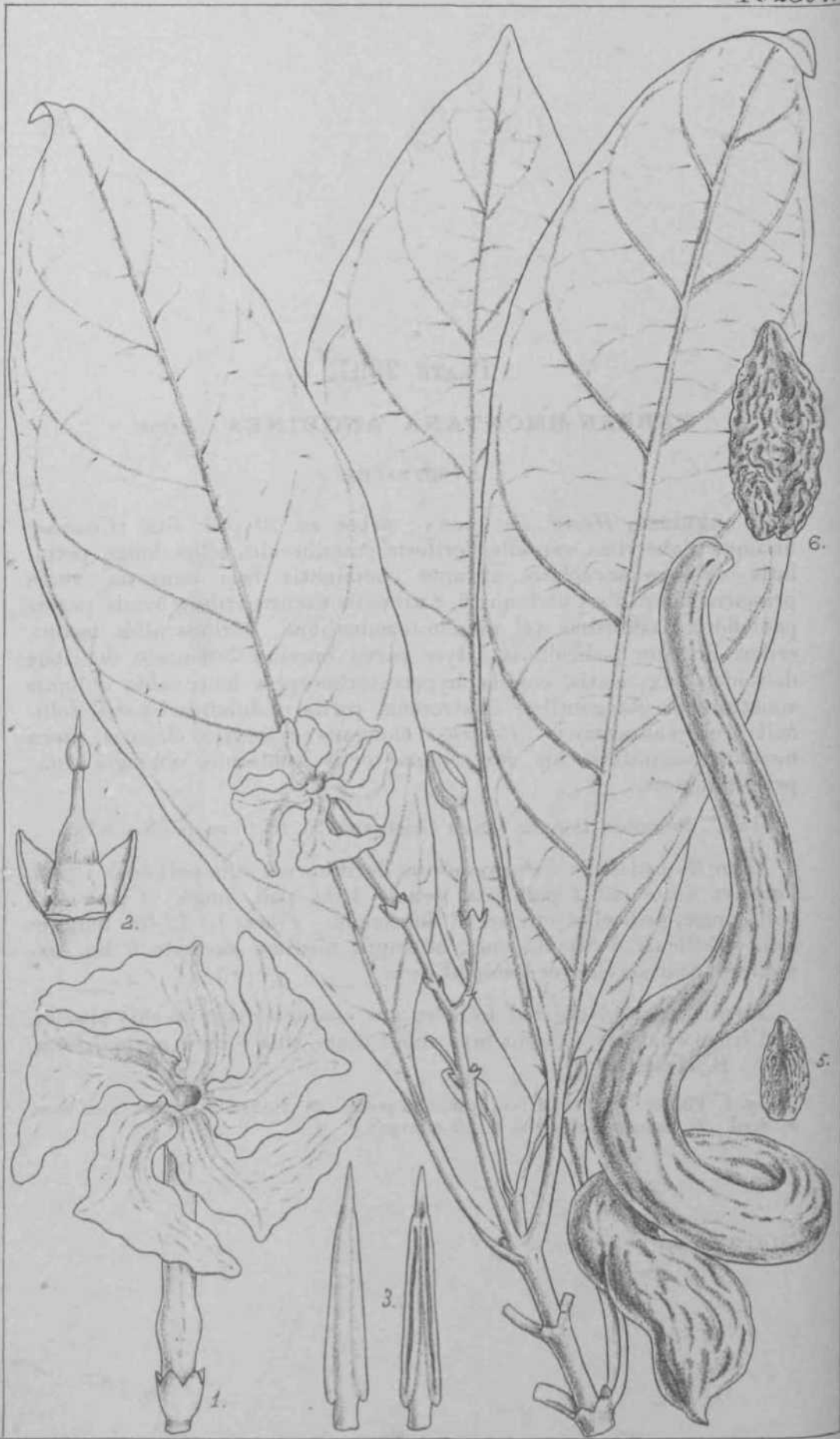
Deyeuxia Treutleri, Stapf: inermis, foliorum vaginis inferioribus laxiusculis minutissimo usperulis, laminis lanceolato-lanceolatis linearibus tenuiter attenuatis flaccidis subtus asperulis, ligula oblonga, panícula ovata primum flaccida deinde rigida patula semiverticillata distantibus nuda ramulibusque asperis, spiculis anguste ovatis pallidis rachilla processu breviterulo, panícula lanceolata acuta linearibus, rachilla II. paululo lateraliter compresso lanceolato-ovata carinata firma asperula una basi pilis brevibus ciliis 5-nervi (Ionium prominulis, panícula III. Hubavjuilona, caryopsi oblonga lateraliter compresso Miliium Treutleri, O. A'umfu' (in jmrtr) Rrv. (fen. Plant. 780.

HAH. Sikkim, Sliinong, 7500 ft. Kuntze; at 10000 ft., Tr-utbr (No. 48fi); from 7000 to 10000 ft., J. D. Hooker; Joicey, 12000 ft., C. H. Clarke (No. 2G041); Tonglo, 8000-9000 ft., U. K. Clarke (No. 27438); G. Kiny (No. 101).

Culmi ad 3 ped. alti, ad 1 vel ten: ad paniculam vaginatis, subulm: asperuli, internodiis 5-7 sursum sensim inaequalibus. Foliorum vaginae quinque ad 9 poll. longae, laminae ad 10 poll. longae, ad 1/3 pan. latae. Panicula ad 10 poll. longa, ad 8 poll. lata. Spicula 1-1 1/2 lin. longa.

This species belongs technically to *Deyeuxia*, although its place in this genus is difficult to point out and rather unsatisfactory. The structure of the spikelet is not unlike that of *Deyeuxia eynuvana* Stapf, from Kinabalu, but the habit is entirely different. It has, however, nothing whatever to do with *Astilium*. O. Kuntze referred to it also a plant, which was distributed as *Illymnnrhna* in *Herb. Ind. Or. Honk. lil. et Thomson* and which is extremely like it in habit. But this plant which is figured in our previous plate, has spikelets with a very different structure and is the type of a new genus.—O. STAFF.

Fig. 1. Spikelet. 2. Flowering glume and rachilla. 3. Flowering glume laid open. 4. Pappus. 5. Stamen. 6. Pistil mid lodiculus. 7. Caryopsis, lateral, and dorsal view.—AH enforced.



M.S. del. et lith.

Tabernaemontana anguinea, Hemsl

PLATE 2397,

TABERNJEMONTANA ANGUINEA, *Hemsl*

APOCYNACEAE.

T. anguinea, *Hemsl. (sp. nov.)*; arbor ad 20 ped. alta (*Comins*) undique glaberrima, ramulis floriferis crassiusculis, foliis longe petiolatis oblongo-lanceolatis abrupte acuminatis basi cuneatis, venis primariis lateralibus utrinque 6-8 arcuatis excurrentibus, cymis parvis paucifloris axillaribus vel pseudo-terminalibus, floribus albis medio-cribus breviter pedicellatis, calyce parvo breviter 5-dentato, dentibus deltoideis vix acutis, corollae hypocraterimorphae lobis valde obliquis sinistrorsum obtegentibus dextrorsum tortis undulato-crispatis, folliculis rubro-aurantiacis (*Comins*) elongatis cylindrico-clavatis supra medium seminiferis bis dextrorsum tortis seminibus oblongis compressis rugosis.

HAB. Solomon Islands; San Crist oval, *R. B. Comins* (No. 83).

Arbor 20-pedalis. *Folia* ramorum floriferorum cum petiolo 5-7 poll, longa et usque ad 2 poll, lata, petiolo 1-1¹ poll, longo. *Cymae* 2-3 poll, longae, pedicellis circiter 3 lin. longis. *Flores* 10-12 lin. longi et lati. *Folliculi* 6-8 poll, longi, et supra medium siccitate 6 lin. diametro. *Semina* circiter semipollicaria.

Much elongated twisted follicles are characteristic of this species, and from what Mr. Comins says about them, this is their normal form.—W. B. HEMSLEY.

Fig. 1. Flower. 2. Calyx, laid open, and pistil. 3. Anther, back and front view. 5. Seed. 6. **Same.**—*Except No. 5, all enlarged.*



M. S. del. et lith.

Stemonurus ? megacarpus, Hemsl.

h. ATK 2398.

ITIMONURUS *f* MKQACARPUS // t>d/

OLACACEE. Tribe ICACINÆ

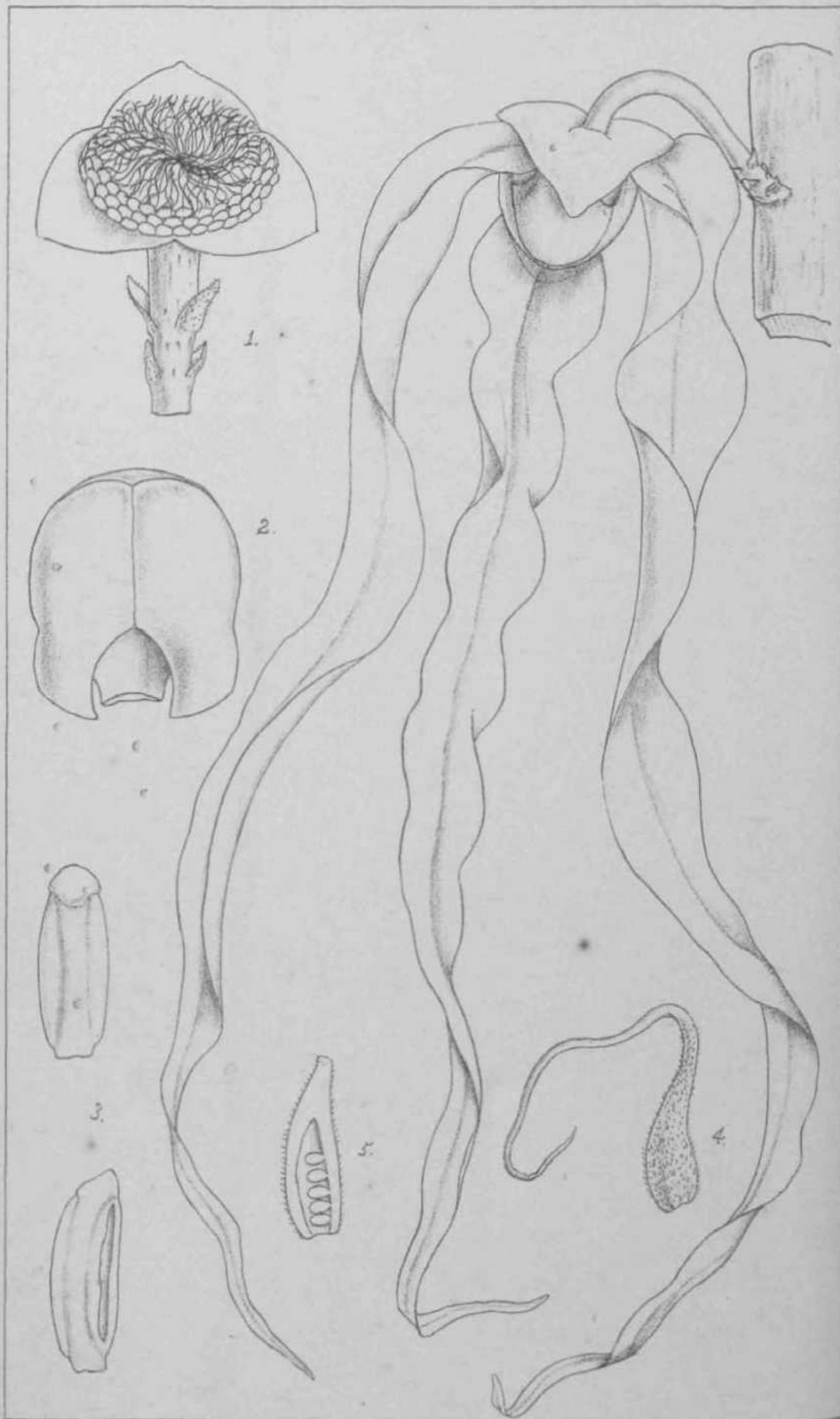
I 1 mttftrptl' M*m»i (*sp. nov.*); arbor magna (*Comins*) foliis alternis breviter petiolatis subcoriaceis leviter obliquis ovato-oblongis obtusis vel acutis glabris, venis primariis lateralibus utrinque 8-10 subtus prominentibus, costa crassa, floribus purpureis (*Comins*) parvis anguste cymoso-paniculatis ramulis crassis subcarnosis, pedicellis brevibus calyce cupulari inequaliter 4-5 lobato lobis rotundatis, petalis 4-5 valvatis oblongo-lanceolatis obtusis intus breviter carinatis, filamentis brevissimis dilatatis, connectivo incrassato ultra loculos antherarum producto inappendiculato, loculis discretis, ovario 1-loculari, ovulis 2 collateralibus pendulis, fructu drupoideo magno ovoideo monospermo, endocarpio crasso dense anguste ovoideo compresso, raphe lata prominente per totam seminis longitudinem extensa.

II kn s.4«Mti ItUmU; San Cristoval, *R. B. Comins* (No. 89).

Folia 8-12 poll. longa et 4-5 poll. lata. *Panicula* 4-5 poll. longa (imperfecta?). *Pedicelli* 2-3 lin. longi. *Flores* circiter 3 lin. diametro. *Fructus* absque epicarpio carnoso 3 poll. longus, endocarpio 3-6 lin. **rruMi**. *Semen* 2-2½ poll. longum.

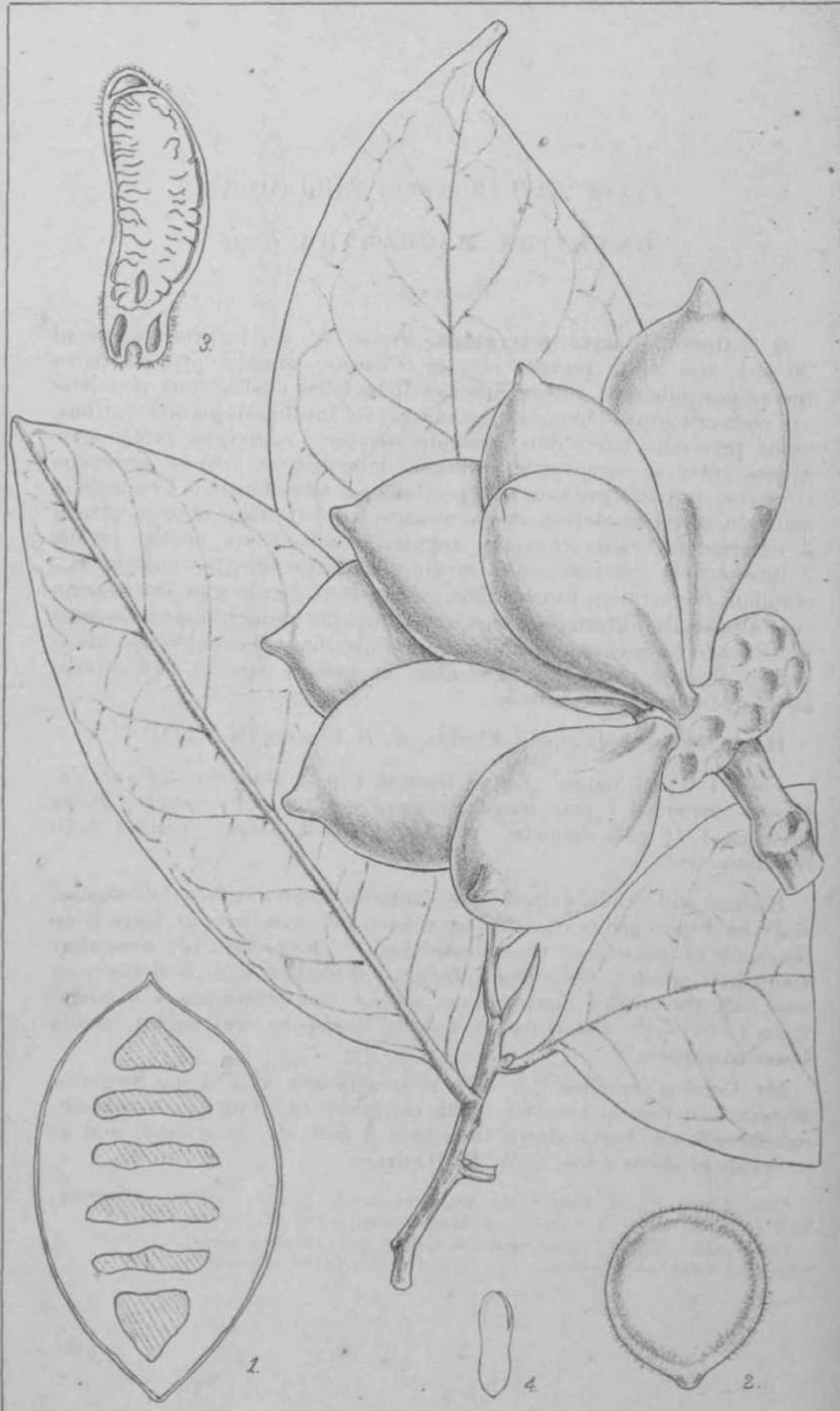
Thr p n m i(t>r ! icacineæ, especially **ttir*** to which the plant described is most nearly allied, have been so differently limited by different botanists that it is difficult to decide to which to refer a plant combining some of the characteristics of *Stemonurus* and *Gomphandra* as defined by certain botanists. In the ovary and fruit *S.7 mēparyus* strongly resembles *S. scorpioides*, Becc. (*Malesia*, i. p. 113 t. 6), but the inflorescence and stamens are very different, and nearer those of some of his species of *Gomphandra*. Having to deal with only one species, the question of the genus must therefore remain uncertain.—
W. B. HEMSLEY.

Fig. 1. Flower. 2. Stamen, back and front. 3. Ovary. 4. Vertical section of ovary. 5. Endocarp. 6. Seed. Excepting figs. 5 and 6, all enlarged.



M. S. del, et lith.

Oxymitra macrantha, Hemsl. (fl.)



MS.del.elhth

Oxymitra xnacrantha. Hera si. (f?*)

PLATE 2390 (flower); 2400 (fruit).

OXYMITRA MACRANTHA, *lfnntl.*

ANONACEÆ.

0. (§ *Goniothalamus*) *macrantha*, *Hemsl. (sp. nov.)*; arbor usque ad 80 ped. alta apice tantum ramosa (*Comins**) ramulis primum parce ferrugineo-puberulis, internodiis brevibus, foliis mediocribus petiolatis vix coriaceis ovato-oblongis apice obtusis vel rotundatis glabrescentibus, venis primariis lateralibus utrinque circiter 12 curvatis prope marginem inter se conjunctis, floribus lateritiis in trunco productis (*Comins*) breviter pedunculatis pendulis ex adumbratione *Cominsiana* solitariis coriaceis glabris, calyce obscure trilobato lobis obtusis, petalis 3 exterioribus valde elongatis angustis caudatis vix acutis, petalis 3 interioribus brevibus supra medium connatis breviter unguiculatis corollam fenestratam formantibus, connective) ultra loculos antherarum eapitato, stylis filiformibus elongatis, carpellis numerosissimis magnis arete confertis brevissime stipitatis pyriformibus vel ovoideis apiculatis glabris minute verrucosis, seminibus in quaque carpella 5-6 orbicularibus compressis tomentosis.

HAB. Solomon Islands ; Florida, *B. B. Comins* (No. 293). c

Folia 4-6 poll, longa. *Calyx* circiter 1 poll, diametro. *Pq̄tala* exteriora usque ad 7 poll, longa, interiora circiter 6 lin. longa. *Tor a A* maturus 1-1½ poll, diametro. *Carpella* 2 poll, longa. *timnina* 9-10 lin. diametro.

Baillon and other writers who combine *Oarymitra*, *Goniothalamus* and the Fijian genus *Richella* have been followed here, as there is no character of importance to separate them. The present is a somewhat anomalous species, the carpels being 5-6-ovulate and, sometimes at least, all the ovules mature into seeds. *Goniothalamus uiwioid***
King [*Ann. Calc. Rot. Gard.* iv. t. 143), is also exceptional in having 4-seeded carpels.

Mr. Comins describes this as a river-side tree, attaining a height of 30 feet, and having a naked trunk on which the long pendent brick-red flowers are borne down to within 2 feet of the ground, and at intervals of about a foot.—VV. B. HEMSLEY.

Plate 2399.—Fig. 1. Flower, the petals removed. 2. Tinner pttals. 3. Stnmen, Wk iind fi-ont view. 4. Carpel. »1 Longitudinal section of ovary.

Hlaie '2*00.—Fig. 1. Loiiuiituliiniil sertiion of C-st-eilHl ifruit-carpel. 2. SVwL .J. ^1ion of Niniif. 4. KmluTM. Fly*. ;\$ and A {Phttv UlnO) niliinjiL