

**India** Botanic Garden Library  
BOTANICAL SURVEY OF INDIA

CLASS No **582**.....

BOOK No **H00-1:V12 i1876**.....

ACC NO. **B1691**.....

HOOKEE'S  
ICONES PLANTARUM;

OB,

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

SKLKCTED FROM THE

KEW HERBARIUM.

THIRD SERIES.

EDITED BY

JOSEPHI DALTON HOOKER, M.D., F.R.S.L., S. & G.S.,

D. CL., OXON., LL.D. CANTAB., CORRESE MEMB. INST. FRANCE.

VOL. II.,

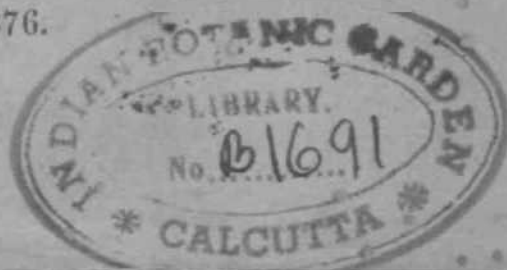
OR VOL. XII. OF THE ENTIRE WORK.

LONDON:

WILLIAMS AND NORGATE,

14, HENRIETTA STREET, COVENT GARDEN. — \* \ , U ^

1876.

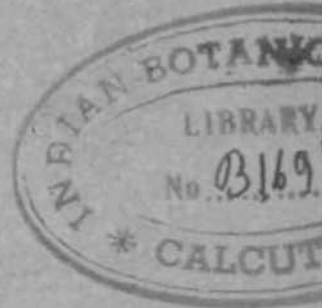


LONDON : PRINTED BY  
SPOTTISWOOD & CO., NEW-STREET SQUARE  
AT THE PRINTING OFFICE

PLATE 1101.

**PENTACHETA GRACILIS, Benih.**

COMPOSITE, Tribe ASTEROIDEÆ.



**P. gracilis, Beatk. sp. tSm.**; emle erecto stricto siibcorymboso-ramoso, rceptaculo **convexo** mibeonico, **atyli** disci rauris acntiusculis,

HAD. Mexico; g'lmiss rocks, near Juqtila **Zacatepeque**, at an elevation of 4000 to 6500 ft., prov. Oaxaca, *Gakotli*, n. 2057; described from specimens in **the** herbarium of the Koyal **Museum**, Brussels.

*Herba* annua, erecta, subpcdiilis, **ramia** jumcis **gracilibua** aiibfiliformibus, basi pilia crispis subUiiala, superne **glubni** v. parce piloauln, *Folia* filU;ma v. inferiora opposita, **tinearia** v. inferiom lineari-lnceolata, **acuta**, **iategerrima** v. nirius paucidentata, inferiora pollicaria, siyieriora minima anfrustissiraa. *Oapittla* ad apices ramorum pcdunculata, **parva**. *Involaennii* late **campaQuktum**, circa 2 lin. **diametro**, brarteis 2-seriatis subwtialibus **anguetie** ri^ide cariuutis Marline **anguste** scariosis. *Meeptaeuium* couvexo-conieum, nudum. *Corol/re* ? 15-20, l-aeriata?, ligula patente linea paullo longiore 3-dentata; § itivolncrum paullo superantes, limbo cyliiidraceo vix ampliato apice pubescente tirevissimequ\*! 5-fido. *Anthera* basi obtusse, integne. *Sly It jl.* § rmi **apice** leviter oomplanati, in appendices acutiuscul:is pro- ducti, dorso papiiosi. *Achmiia* juuiora liucaria, glabra, pappi set is 5 **tenois-**simis subbarbellatis, ima basi brevissime dilatatis.

I had some heailatiou in **referring** this plant to *PetttaCaata*, as the style-branches with **their** appendages appeared to be rather broader (not quite so obtuse, however, as **represented in** our Plate), and the opposite **lower** leaves stemed to connect it technically **with** *Helenioiaea*; but on the whole it appears too nearly allied to *J<sup>3</sup>. anrea*, Nutt., to be generically separated from it. The latter may be technically **ifitingaished** In' the tallowin^ diagnosis:—*P. aurea*, Nutt.; ramis luxis monocephalis, rceptaculo planσ, styli disci ramis **subulatis**.—G. BENT HAM.

Fig. 1. **Baudfl** niy-tl.iret. 2.«Suinmit of its **tfjle**. 3, Diak-florat. 4. Three of the **ttameat**. &. Smuitiit of the style, 6. Seta of the **pappus**.

## PLATE 1102.

STACHYCEPHALTJM MEXICANTJM, *Sch. Bip.*

COMPOSITE, Tribe HKLIANTHOIDEJE.

**Stachycephalum**, *Sch. Bip. gen. nov.* *CapUula* hetcrogama, radiata, florc radii 1 ? fertili, disci pauois \$ sterilibus. *Involucrum* ovoideum, post anthesiii vix mutatum, bracteis tenuiter membranaccis, una lata concava subcucullata, 2 v. 3 minoribus angustis tenuibus. Receptaculum parvum, nudum. *Corolla* ? ligulata, lamina exserta lata patente 3-dentata; \$ rcgulares, tubo brevi, limbo late campanulato apice 5-lobo. *Aniherm* basi auriculis parvis acutis ecaudatis sagittate. *Stylus* fl. \$ indivisus. *Achtpnium* radii ovoideum, compressiusculum, calvum, involucri bractea majorc membranacea arete inclusum, pericarpio crustaceo ; achaenia disci angusta, vacua. —*Herbn glabra*. Folia *ovposila, dtntata*. *Capitula minima, numerosa, cymuloM, cymulis in pamçulam tnchotomam corymbosam dispositis*. *CoxoWmflavfp*.

**S. mexicanm**^ *Sch. Bip. %p. unica*.

HAB. Mexico, near Oaxaqa, *Franco*. Described from a single specimen in the herbarium of the late Dr. Schultz-Bipontinus, now forming part of that of M. Cosson.

*Herba* erecta, trichotoma, glabra v. vix superne minutissime puberula, ramis tenuibus. *Folia* opposita, petiolata, ovato-lanceolata, acuminata, dentata, majora 2-3£-pollicaria, petiolo gracili ad caulem breviter dilatato. *Cym<B* terminates pedunculate, graciles, ramoaissimac, bracteis ramulos sub-tenQentibih parvis squamseformibus. *Capitula* secus ramulos ultimos sessilia v. brevissime pedunculata. *Invol/terum* vix linea longius. *Fiorum* \$ lamina fere orbiculata, lineam diametro, patentissima v. reflexa.

The genus is nearly allied to *Milleria*, but differs too much in the involucre and general inflorescence to be united with it.—6. BENTHAM.

Figs. 1 and 2. Flower-^\*cad. 3. Female floret. 4. Summit of its style. 5. Achenc. 6. Disk-floret. 7. Three of its stamens. 8. Sterile achenc and style.

## PLATE 1103.

OLIVJEA TBICUSPIS, *Sch. Bip.*

COMPOSITE, Tribe HELENIOIDEJE.

**Olivæa**, *Sch. Bip. gen. nov.* *Capitula* heterogamn, radiata, floribus radii foemineis 1-serintis discique hermaphroditibus fertilibus. *Involncmm* late

~~homisphoricum~~ teis 3-4-9criatis lanceolatis subherbaceis inaequalibus apice iaxis. *Receptaculum* planum, nudum. *Corolla* ? ligulata, lamina patente apice vix dentata; § regulares, tubo glanduloso-hispido, limbo ampliato cylindraceo-campanulato, apice 5-fido. *Anthera* basi obtusa?, ccaudata. *Styli* florum disci rami coraplanati, appendicibus lanceolatis hirtis superati. *Achcena* a latere plano-compressa, ovata, 2-alata, v. florum fccmineorum 3-alata; pappi setae ad 10, breviter pluriosae, cnducissimae.— **Herba? foliis alternis integrU v. dentatis. Capitula majuttcula, terminalia.** Corolleefaw?.

**O. tricuspia**, Sch. Bip. mss.

HAB. Near Guadalaxara, Mexico, Schqfner, n. 346; described from specimens in Herb. Co9son.

*Herba* videtur pedalis v. altior, veri9imiliter paludosa, erecta, caule crassiusculo glabro v. superne leviter papilloso-puliescente. *Folia* sessilia, basi cordato-amplexicaulia, anguste lanceolata, integerrima v. basin versus paucidentata, ct nonnulla apice 2-dentata v. bi^viter 3-fida, majora 2-2}- poll, longa, superiora minora, omnia glabra utrinque viridia et 1-nervia. *Capitula* ad apices ramorum solitaria, ^brevitCr pedunculata. *Involucrum* £ poll, diametro; bractea? anguste lanceolata, exteriories herbaceae disco squilongee v. hinc, inde elongate, interiores magis scari©88e leviter papilloso-puberulae. *Floras* radii circa 30, ligulis semipollicaribus, disci numerosissimi, omnes ut videtur flavi. *Achcena* glabra.— G. BENTHAM.

Fig. 1. Female flower with the young acheue. 2. Its style. 3. A bristle of the pappus. 4. Hermaphrodite flower with the achene nearly ripe. 5. Three of the stamens. 6. Summit of the style.

---

PLATE 1104.

CLAPPIA AURANTIACA, Btenth.

COMPOSITE, Tribe HELENIOIDEJE.

**C\* anrantiaca**, Btenth. up. nov.j foliis pinnatisectis, segmentis 5-7 ovatis acutis serratis, itivoluori bracteis. oo-seriatis angustis, pappi paleic l'-scriatis fere ad basin in setas oo fassis.

HAB. Fields of Antigua, prov. Vera Cruz, Mexico, Galeotti, n. 2270; described from a single specimen in the State Herbarium, Brussels.

*Herba* ex cl. Galeotti annua, glabra, ramosa, ut vidAur ultrapedalis. *Folia* alterna, segmentis oppositis cum impari, secus rhacbin distantibus, scssilibus v. paris infimi petiolulatis, ovatis v. ovato-lanceolata acutis arguteque serratis

1-pollicariibus, utrinque viridibus haud tamen glandulosis, petiolo communi (cum rhachi) J-1 poll, longo, basi ciliis paucis longis more *Pectidis* aucto. *Capitula* majuscula, solitaria, longiuscule pedunculata. *Involucris* bracteae pluriseriatae, numerosae, lineari-lanceolatae, acuminatae, interiores 6-7 lin. long®, exteriores gradatim breviores. *Receptaculum* convexiusculum, aetis longis inter flores onustum. *Flores radii* uniseriati flosculi 15-20; corolla? tubo gracili involucro paullo brevior, lamina patente late oblonga integra semipollicari. *Flores disci* numerosi, ut videtur fertiles; corolla? involucro paullo longior, limbi lobis linearibus erectis lineam longis. *Anthera* corolla breviores. *Achenia* immature lineari-cuneata, obscure 10-costata; pappi paleae circa 10, in setas plurimas inaequales fissae, centralibus cujusvis paleae corollae subaequantibus.—G. BEXTHAM.

Fig. 1. Floret of the ray. 2. Summit of its style. 3. Floret of the disk. 4. Three of its anthers. 5. Summit of its style. 6. Palea of the pappus. 7. Section of the receptacle. 8. Two of its setae).

---

PLATE 1105.

CLAPPIA SUJED.2EFOLIA, Torr.

COMPOSITE, Tribe HELENIOIDEAE.

**C. susedsefolia**, A. Gr. in Torr. Bot. Emory Exped. 93; foliis angustis linearibus ciliatis integris v. pinnatis 3-5-sectis, involucri bracteis pauciseriatis latiusculis, pappi setis indivisis basi rigidulis inaequalibus uaricellatis.

HAB. Laredo, on the lower Rio Grande, Texas, Berlandier.

*Herba* e basi perenni ramosa, subpedalis, carnosula, glabra. *Folia* alterna, in parte inferiore caulis conferta, nonnulla pinnatis 3-5-secta, segmentis foliisque crebris subtectibus carnosulis parce glanduloso-punctatis 1-1-pollicariibus, superiora parva distantia. *Capitula* ad apices ramorum pedunculata, pedunculo sub involucro parum incrassato. *Involucris* bracteae pauciseriatae, latiusculae, obtusae, subglanduloso-striatae, exteriores breviores. *Receptaculum* convexum, setis rigidulis achenio aequalibus longioribusve inter flores onustum. *Flores radii* circa 15, lamina quae in *C. aurantiaca* angustior. *Flores disci* numerosi, fertiles. *Achenia* immature oblonga, obscure 6-10-costata, hirtella, pappi setis (15-20?) rigidis subpaleaceis barbellatis inaequalibus, plus minus complanatis at inter se liberis.

The original specimens described by A. Gray were in a very imperfect state, and the pinnatifid lower leaves either had fallen away or were overlooked. The specimens in the Kew herbarium are rather better, but set

the flowers are so rotten that it is possible that some slight errors may have crept into the character given. The genus certainly connects the *Helenioidea Tageiinea* with the *Senecionidea* but appears to be most nearly allied to the former, notwithstanding the exceptional setae of the receptacle.—6. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret. 3. Summit of its style. 4. Disk-floret, with an enlarged seta of the pappus. 5. Three of the stamens. 6. Summit of its style. 7. Uripe achene.

---

PLATE 1106.

BBACHYACTIS MENTHODORA, *Benth.*

COMPOSITE, Tribe ABTEBOIDEA.

**B. menthadora**, *Benth. sp. nov.*; glanduloso-pubescent, caule e basi perenni erecto elato, foliis ovatis oblongisve dentatis, inferioribus longe petiolatis, superioribus angustis sessilibus, plerisque basi amplexicaulibus, receptaculo piano, ligulis stylo suo longioribus.

**HAB.** Sikkim Himalaya, at an elevation of 10,000 to 13,000 ft. The whole plant has a strong, sweet, mint-like scent.

*Caule*\* 1-2-pedales, parum ramosi, demum glabrescentes. *Folia* radicalia lata, in petiolum longum tenuem contracta; caulina inferiora breviter petiolata, superiora 1-2-pollicaria, prope basin contracta, ima basi saepe amplexicaulidilatata et interdum breviter decurrentia. *Capitula* magnitudine eo5?\*" *B. ciliata*, in axillis superioribus breviter pedunculata, solitaria v. pauca conferta, ad apices caulium ramorumque primariorum plurima conferta. *Involucrum* bracteis 3-4 lin. longis, 2-3-seriatis, parum inaequalibus, herbaceis, interiores margine scariosis, una alterave exteriorum interdum magis foliaceae et capitulo longiore. *Receptaculum* haud foveolatum. *Corolla* fl. 5-2-seriatae, ligulis angustissimis pallide ciliolatis stylo suo longioribus, pappum vero vix superantibus. *Corolla* fl. 5-2-seriatae, ligulis angustissimis pallide ciliolatis stylo suo longioribus, pappum vero vix superantibus. *Corolla* fl. 5-2-seriatae, ligulis angustissimis pallide ciliolatis stylo suo longioribus, pappum vero vix superantibus. *Corolla* fl. 5-2-seriatae, ligulis angustissimis pallide ciliolatis stylo suo longioribus, pappum vero vix superantibus. *Corolla* fl. 5-2-seriatae, ligulis angustissimis pallide ciliolatis stylo suo longioribus, pappum vero vix superantibus. *Styli* rami omnino Asteroidearum, angusti, complanati, appendicibus lanceolatis terminati. *Achania* anguste obovato-oblonga, plano-compressa, basi contracta, apice rotundata, margine nerviformi cincta, faciebus ecostatis pilosis. *Pappus* sordidus, achenio parum longior.

. Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret. 3. Summit of its style. 4. Disk-floret. 5. Three of its stamens. 6. Summit of its style. 7. A seta of the pappus.

Closely allied as this species is to several genera of *Atterioidea* there was some difficulty in fixing upon the one to which it should be referred, but upon the whole it appeared the nearest allied to *Brachyactis*, of which it has



the inflorescence, and from which it only differs in the rather more developed ligule of the ray-florets. The typical *B. ciliata* of Ledebour, originally published by him as an *Erigeron*, referred by De Candolle to *Conyza*, included in *Aster* by Torrey and Gray, has now been referred back to *Erigeron* by Russian botanists, and is certainly technically connected with all three, especially/With *Erigeron* and *Conyza*. Unless, however, the three genera, together with six or seven of their allies, are united into one overgrown genus, which even then would not be very distinctly limited, it appears necessary to keep up *Brachyactis*, which with most of the characters and nearly the habit of *Lachnophyllum* has not the involucre of that genus, and differs from *Erigeron* in the small ligulae, leafy stems, short peduncles, etc., from *Conyza* in the Hgulate female florets and habit. The following are the species I should refer to *Brachyactis*:—

1. 2?. *ciliata*, Ledeb. Fl. Boss. ii. 495 ; annua, ramosissima, glabrescens, foliis linearibus integris, receptaculo leviter foveolato, ligulis stylo suo brevioribus v. minimis.—*Erigeron ciliatus*, Ledeb. Fl. Alt. iv. 92; Ic. Fl. Ross. t. 100. *Conyza altaica*, DC. Prod. v. 380. *Crinitaria humUis*, Hook. Fl. Bor. Amer. ii. 24. *Tripolium angustum*, Lindl. in Hook. Fl. Bor. Amer. ii. 15. *Aster mgustus*, Torr. et Gr. Fl. N. Amer. ii. 162.

HAB. Altai and Alatau mountains, and Songaria, *Ledebour, Karelin* and *Jtiriloff, Schrenck*, and others; on the Saskatchewan and towards the Rocky Mountains, *Drummond, Richardson, Bourgeau*.

Var. *carnomla*; foliis carnosufis, involucri bracteis obtusioribus.

HAB. New Mexico, *Wright*, n. 1161; Sonora Pass, *Bolander*, n. 6160.

2. *B. umbrosa*; annua? glanduloso-villosa, caule gracili ramoso, foliis b'bovatis euueatiave dentatis in petiolum longiusculum contractis, receptaculo piano, ligulis minimis.—*Conyza umbrosa*, Karel. et Kir. in Ledeb. Fl. Ross, ii. 498.

HAB. Alatau Mountains, *Karelin* and *Kiriloff*, also *Semenov*, from specimens sent from St. Petersburg under\*the name of *B. ciliata*, perhaps from the misplacement of a label; Western Thibet, *T. Thomson, Stewart*; Lahul, *Jaschke*, 2nd coll. n. 71.

Caules erecti v. adscendentes ramosi, tenues, \$-l-pedales. Folia tenuia, «grosse dentata. Inflorescentia et flores fere *B. ciliata*, capituaia tamen ininora et pappus minus copiosus. Ligulae ovatae v. oblongae, stylo multo breviores, saepe pilosulae.

3. *B. robusta*, sp. nov.; annua? glanduloso-pubescens, caule valido erecto ramoso, foliis obovatis dentatis in petiolum brevem contractis, receptaculo lato foveolato, ligulis quinimis.

HAB. Thibet, *T. Thomson*; Gurwha^ *M. P. Edgeworlh*; Kamaon, *Strachey* and *JFintepbottom, Falconer*.

4. *B. umbrosa* *B. affinis*, sed multo major, capitulis duplo majoribus et receptaculo insigniter foveolato facile distincta.

*B. obovata*, sp. nov.; villosa, caulibus e basi perenni adscendentibus oligocephalis, foliis obovatis subdentatis basi angustatis subpetiolatis, ligulis minimis.

HAB. Mesopotamia or Kurdistan, *KoUchy*, u. 546a.

Stipes vix semipedales. Folia infima conferta subradicalia ultrapollinaria, caulina minora petiolo basi non dilatata. Capitula fere *B. ciliata* sed achamia ut in *B. menthodora* multo majora fere *Vittadinice*, pappo rigidiores. Primo intuitu *Erigeronli penico*, Boiss. subsimilis, sed caule folia et involucri acheniisque facile distincta.

5. *B. menthodora*, uti supra.—G. BENTHAM.

---

PLATE 1107.

LACHNOPHYLLUM NOEANUM, *Bom.*

COMPOSITE, Tribe ASTEROIDEA.

**L\* noeanum**, *Bom.* *Diagn. Pl. Or. ser. 2. iii. 17*; molliter villosum et glanduloso-viscidum, caule robusto, ramis pleiocephalis, foliis oblongis v. oblongo-spathulatis integris.

HAB. In the Alps of Kurdistan, *Noë*, n. 571; in the valley of 'Nandebent, near Kerinanschah, *Haimknecht*; Mount Bimgoell, between Musch and Erzerura, *KoUchy Indlic. Suppl. n. 828*.

*Radix* annua videtur, etsi dura. *Caules* erecti, validi, 1-1<sup>1</sup>-pedales, additis e basi pluribus tenuioribus adscendentibus brevibusque. *Tota planta* pilis longis mollibus et pube glanduloso-viscida vestita. *Folia* radicalia et ima conferta, oblongo-spathulata, basi longe contracta at vix petiolata, pollinaria, caulina oblonga infra medium dilatata et auriculis rotundatis cordato-amplexicaulia, summa parva. *Capitula* ad apices ramulorum brevium breviter pedunculata v. in caule primario laxius irregulariterque corymboso-paniculata, pediculis longioribus. *Involucrum* campanulatum, bracteis plureseriatis angustis acutis, interioribus 4-5 lin. longis margine scariosis, exterioribus gradatim brevioribus dorso hirtis. *Floret radii* sub-2-seriati, ligulis vix 2 lin. longis, disci numerosi involucrum vix sequantes. *Achenia* 1 lin. longa, compressa at crassiuscula, nervo marginata, sericeo-villosula, apice sub pappo brevissimae contracta. *Pappi* setae copiosae, inaequales, basi annulo persistenti affixae at sigillatim caducae.

The typical *L. gossypinum*, Bunge, differs from this species in its slender habit, small broad short leaves, and slender single-headed branches. Further discoveries may, however, possibly connect the two forms. Our drawing was made from Haussknecht's specimens, which although distributed under the name of *Erigeron flagellare*, Boiss. et Hausskn., I readily recognised as a *Lachnophyllum*, and on communicating with M. Boissier I learnt from him that he did not doubt its identity with his *L. Noeanum*, although he had mislaid his specimens of the latter. I have since found in the Hookerian herbarium specimens from Noë, much more perfect than those drawn, showing the primary stems with a loose inflorescence, which are wanting in Haussknecht's, and bearing also some ripe achenes.—G. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret. 3. Summit of its style. 4. Sets of its pappus. 5. Disk-floret. 6. Three of its stamens. 7- Summit of its style.

---

PLATE 1108.

FRESENIA FASCICULATA, Bolus.

COMPOSITE, Tribe ASTEROIDEJE.

**F. fasciculata**, Bol. sp. nov.; foliis lineari-semiteretibus carnosulis glabris ad axillas fasciculatis.

HAB. South Africa; in rocky places at Poortje on the Sneeuwberg, between Graaff-Reinet and Murraysburg, fl. December, JJ. Bolus.

*Suffrutex* 2-3-pedalis, parce ramosus, undique glaber. *Folia* dense fasciculiata, obtusa, mucronulata, l&via, pellucido-punctata, 6-9 lin. longa, \ lin. lata. *Capitula* e foliorum fasdculis solitaria, pedunculata, pedunculo 2-pollicari infra medium 1-bracteato. *Involucrum* oblongum, bracteis 4-eeriatibus linearibus raembranaceis, costa viridi apice in glandulam lucidam products, apice sphacelata cilidiataque. *Flares* flavi, involucri bracteis dimidio longiores. *Achania* obovato-oblonga, pilis purpurascensibus subhyalinis sericeo-villosa.—H. BOLUS.

Figs. 1 and 2. Leaves. 3. Involucre and receptacle, longitudinal section. 4. Floret. 5. Three of the stamens. 6. Summit of the style. 7. Seta of the pappus.

---

PLATE 1109.

ANAGLYPHA ACICULABIS, *Benth.*

COMPOSITE, Tribe INULOIDEA: RELHANIEA;

**Anaglypha**, DC? *Capitula* heterogama, radiata, floribus radii femineis 1-seriatis discique hermaphroditis fertilibus. *Involucrum* late campanulatum, bracteia pauciseriatis imbricatis acutis interioribus lanceolatis margine scariosid exterioribus lineari-subulatis brevioribus. *Receptaculum* planum, nudum. *Corolla* foeminese ligulatae, lamina patente apice minute 3-dentata, disci regulares, tubulosae, limbo ampliato semi-5-fido. *Anthera* basi sagittata, auricula contigua connatis aetaceo-caudata. *Styli* florum disci rami apice truncati. *Achania* (immatura) subteretia, 5-costata, glabra, calva.—**Frutex**, foliis confertis acicularibus. **Capitula ad apices ramorum solitaria, pedunculata.** **Corollae aurantiaca.**

**A. acicularis**, *Benth. sp. nov.!* foliis acicularibus rectis.

HAB. South Africa, Cape Colony, district George, between Cloet'a kraal and Paarde-kraal, *Burchell*, n. 5159.

*Frutex* pedalis, caulibus pluribus erectis, atricte ramosis, ramulis glutinosis puberulis foliisque pilis brevibus rigidulis cernentibus. *Folia* alterna, conferta, acicularia, lineari-aemiteretia, acutissima, 1-1½ pall, longa, demum reflexa. *Capitula* ad apicem ramorum solitaria, pedunculo brevi fulta. *Involucrum* bracteis interioribus latiusculis lanceolatis, breviter subulato-acuminatis, margine scarioso-ciliolatis, circa 3 lin. longis, intermediis angustioribus, exteriores paucae breviores subulatae. *Flaves* radii ad 8, lamina fere 3 lin. longa, tubo hirtello brevi. *Corolla* disci involucri subaequilongae.

The genus is allied to *Nestlera*, and has the habit of some species of that genus, but a very different involucre and no pappus. It had been placed by De Candolle under *Asteroidea* with appendiculate style-branches and tailless anthers, and Harvey had not seen it. I therefore failed to recognize it, and had it figured as new under the name of *OxyUena*. But having since observed that De Candolle had seen neither the styles nor the anthers of his *Anaglypha*, and the other characters agreeing with our plant, I have now little doubt but that it is a congener, and possibly a variety only of De Candolle's species with narrower more acicular leaves.—G. BENTH AH.

Fig. 1. Leaf. 2. Involucre and receptacle, longitudinal section. 3. Ray-floret. 4. Summit of its style. 5. Disk-floret. 6. Three of its stamens. 7. Summit of its style.

PLATE 1110.

HOMOCHJETE CONFERTA, *Benth.*

COMPOSITE, Tribe INULOIDEA EUINLLEJE.

**Homochsete**, *Benth. gen. nov.* *Capitula* heterogama, radiata, floribus radii femineis 1-seriatis discique hermaphroditis fertilibus. *Involucrum*

ovoideum, cylindraceum, bracteis pluriseriatis imbricatis siccis subcoriaceis, interioribus angustis elongatis, exterioribus gradatim brevioribus. *Receptaculum* planum, nudum v. leviter foveolatum. *Corolla* foemineae ligulate, tubo longo, lamina patente subintegra; disci regulares, tubulosae, limbo parum ampliato apice 5-fido. *Anthera* basi sagittate, auriculis contiguis connate longe setaceo-caudatis. *Styli* florum disci rami lineares, apice rotundati v. obtusissimi, exappendiculati. *Jchania* oblongo-subteretia, papilloso-pubescentia, 6-10-costata; pappi setae 1-seriatse, rigidula, subsequales, brevissime ciliato-barbellate, basi in anulum deciduum plus minus connate.—*Frutex dense foliatus glanditloso-pubescens*. Folia alterna, confer la, linearia, integerrima. Capitula terminalialsolitaria. Beasilia. Corollse verimmi-literflava.

**H. conferta**, *Benth. sp. unica*.

HAB. South Africa; Taku's territory, British Gaffraria, *Sutherland*.

*Frutex* undique<sup>^</sup> pilis brevibus rigidulis sordide glanduloso-pubescens. *Folia* conferta, linearia, obtusa, crassiuscula, marginibus revolutis, 5-8 liu. longa. *Capitula* i/iter folia superiora sessilia et ea vix v. non superantia. *Involucrum* semipollicare, bracteis praesertim exterioribus obtusis apice • glutinoso-marginatis. *Corollarum* radii lamina? circa 3 lin. longae.

The genus is nearly allied to *Inula*, but differs in inflorescence, involucre and pappus, besides its geographical station.—G. BENTHAM.

Figs. 1 and 2. Leaves. 3. Capitula. 4. Involucre and receptacle, longitudinal section. 5. Ray-floret. 6. Summit of its style. 7\* Seta of the pappus. 8. Disk-floret. 9. Three of its stamens. 10. Summit of its style.

---

## PLATE 1111.

### CALOSTEPHANE DIVABICATA, *Benth.*

COMPOSITE, Tribe INULOIDEJB EUINULEJE.

**Calostephane**, *Benth. gen. nov.* *Capitula* heterogama, radiata, floribus ~~Thi~~ focmineis 1-seriatis discique hermaphroditis fertilibus. *Involucrum* subhemisphaericum, bracteis subbiseriatis parum inaequalibus herbaceis lineari-subulatis acutissimis. *Receptaculum* convexiusculum, foveolatum. *Corolla* radii ligulatee, lamina patente 3-dentata; disci regulares, tubulosaB, limbo parum ampliato apice 5-fido. *Inthera* basi sagittate, auriculis contiguis connatis' acuminato-raudatis. *Styli* florum disci rami longe lineares, acuti, rigidi, stigmatum seriebus ante apiccm evanidis vix tamen appendiculati. *jfc&mtia* oblonga, subteretia, 10-costato, villosula, exteriora

curvata; pappi pales 5, latro, hyalinae, denticulate, cum setis totidem paleaceis interioribus paullo longioribus serrato-barbellatis alternantes.—Herba, *ramia rigidis alatis*. Folia *aUern#> petiolata, subdentata*. Capitula *pedunculata*. Corollae *flava*.

**C. divaricate**, *Beuth. sp. union*.

HAB. South-East Africa; Caimbo Island, opposite Tete, *Kirk*.

*Gaules* herbacei, in speciminibus nostris 1j-pedales, ramis paucis divaricatis rigidulis alis 2-3 angustis herbaceis a foliis decurrentibus percursis, parce puberulis glabrativae. *Folia* pauca, distantia, petiolata, ovato-lanceolata v. lanceolata, Integra v. parce dentata, 1-2-pollicaria, summa parva, angusta. *Capitula* ad apices ramorum pedunculata, solitaria v. laxe irregulariterque corymbosa. *Involucri* bracteae 2-3 lin. longae, rigidulae, dorso hirtellae. *FLorum* radii ligula? latiuscula, 2 lin. longae. *Corolla* disci involucri sequi-longae, extus hirtella. *Pappus* maturitate eleganter patens, paleis exterioribus late cuneatis interioribus (v. setis) rigidioribus medio parum dilatatis.

Although technically allied to *Pulicaria* the plant differs too much in habit and in the pappus to be included within that genus, the style-branches are also much more acute than in the *Euinulea* generally.—G. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Ray-floret. 3. Summit of its style. 4. Disk-floret. 5. Three of its stamens. 6. Summit of its style. 7. Young achene. 8. Ripe achene, with the pappus spreading. 9. Outer pale. 10. Inner pales or sets of the pappus.

---

## PLATE 1112.

### ONDETIA LIKEABIS, *Benth.*

COMPOSITE, Tribe INULOIDEJE BUPHTHALMEAE.

**Ondgtia**, *Benth. gen. nov.* *Capitula* heterogama, radiata, floribus radii fwmineis discique hermaphroditis fertilibus (v. internis sterilibus?). *Involucrum* subhemisphaericum v. depresso-globosum, bracteis pluriselatis imbricatis appendicibus amplis laxis scariosis terminatis, intimis acutis, exterioribus gradatim brevioribus latisquatis. *Receptaculum* planum v. convexiusculum, paleis rigide scariosis acutis flores subtendentibus onustum. *Corolla* radii ligulatae, lamina patente subdentata; disci regulares, tubo brevi, limbo longo cylindraco rigidulo ad medium v. profundius 6-fido. *Anthera* basi sagittata, auriculis longiusculis contiguis connatis, appendiculis planis ciliolatis caudatis. *Styli* florum disci rami longiusculi, lineari-

lanceolati, rigidi, obtusi, dorso hirtelli, inappendiculati. *Achania* (immature) teretia, pilosa; pappi paleae subbiseriatae inaequales, in setas breviter barbellatas desinentes.

**O. linearis**, *Benth. sp. unica*.

HAB\*V South Africa; at Elephantskloof in Dammar Land, called ' Ondetu' by the Dammaras, and made into a perfume by them and by the Namaquas, *Chapman and Bainea*.

*Herbn* pilis minutis sparsis glanduloso-scabra, caulibus e basi ut videtur perenni pluribus rigidulis ramosa angustissime alatis infrapedalibus. *Folia* linearia, acuta v. mucronulata, integerrima v. parce dentata, 1-2-poUicaria. *Capitula* terminalia, inter folia suprema ceteris paullo minora sessilia. *Involucrum* semipollicem diametro, id *Centaurea* cujusdam simulans. *Bractea* numerosae, basi breviter appressa imbricatsque, appendicibus latis acariosis medio fuscis margine pallidis, intimis mucronato-acutis, extimis obtusis. —G. BENTHAM.

---

PLATE 1113.

LOPHOUENA PLATYPHYLLA, *Benth.*

COMPOSITE, Tribe SENECONIDEJE.

**L. platyphylla**, *Benth. sp. nov.*; foliis amplis late obovatis in petiolum contractis, involucri bracteis exterioribus late foliaceo-decurrentibus, pedunculis monocephalis.

«

HAB. South Africa; in the highlands of Natal and Zulu, 'the leaves resembling those of a cabbage,' *Gerrard and M'Ken*, n. 2023 (*Herb. Kew from Herb. Trin. Coll. Dublin*).

*Frutex* 6-8-pedalia, glaberrimus, glaucescens. *Folia* alterna, iis *Brassica sativa* subsimilia, 4-6-pollicaria, carnosula (interdum latiora quam in icone depicta), in petiolum decurrentia. *Pedunculi* foliis breviores, bracteis decurrentibus alati. *Involucrum* late cylindraceum, semipollicare; bractes interiores oblongo-lineares, erectae, 1-seriatae, awjuales, primum subobscurescentes, margine soluto subscariosae; exteriores 2-3, ample foliaceae, capitulum silbuperantes, basi angustatas et in pedunculum decurrentes. *Florea* involucrum breviter superantes, structura omnino ei *L. Dregeana*, DC, conformes videntur.—(†. BENTHAM.

Fig. 1. Bract of the involucre and floret. 2. Three of its stamens. 3. Summit of its style. 4. Sutu o& the pappus.

PLATE 1114.

**SENECIO RETORTUS**, *Benth.*

COMPOSITE, Tribe SENECIONIDEAE.

S. (§ PINIFOLII, Harv.) **retortus**, *Benth.* fruticosa, glabra, foliis crebris parvis linearibus mucronatis recurvo-patentissimis, capitulis ad apices ramorum intra folia ultima sessilibus solitariis radiatis.—*Felicia retorta*, DC. Prod. v. 221. *Aster retortus*, Harv. Fl. Cap. iii. 77.

HAB. South Africa; Genadendal, on the descent from the great mountain of Baviaan's kloof, *Burchell*, n. 7393.

*Frutex* glaberrimus, ericoideus, ramis virgatis dense foliatis. *Folia* sparsa, cuneatis, basi patente reflexa, coriacea, nitidula, marginibus revolutis, vix ultra 2 lin. longa, sessilia basi subdecurrentia, summa ad basin involucri parva, bracteas exteriores simulantia. *Involucri* bracteae 1-seriatim, angusto, 3-4 lin. longae. *Flores* radii ut videtur fissi, lamina patente circa 3 lin. longa. *Anthodii* (by stylus et achenia omnino *Senecionis* nec *Aster* is.

By some singular mistake this plant was entered by De Candolle under *Felicia*, although he had observed the discrepancy in the achenes. He does not appear to have examined the styles. Burchell had entered it as a *Senecio*. Harvey saw no specimens, and could therefore only leave it where De Candolle had placed it.—G. BENTHAM.

PLATE 1115.

**LEUCOPHOLIS PHYLICOIDES**, *Gardn.*

COMPOSITE, Tribe INULOIDEA GNAPHALIEA.

*LM. phyllicoides*, *Gardn. in Hook. Land. Journ.* ii. 11; ramulis apicem versus breviter lanuginosis, foliis linearibus subtus cano-tomentosis, capitulis sub-10-floris.

HAB. Brazil; sphagnum bog near the summit of the Organ Mountains, *Gardner*, n. 5772, also *Glazion*, n. 2854 and 3692.



*Frutex bipedalis.* *Rami* teretes, dichotomi, dense foliosi et lanuginoso-tomentosi. *Folia* confertissima, alterna, sessilia, oblonga, obtusa (v. mucrone calloso terminata), 3-5 lin. longa, 1-1½ lin. lata, deflexa, margine revoluta, supra glabra, subtus cano-tomentosa. *Capitula* sub-10-flora, homogamni, ad apices ramorum in glomerulum subglobosum aggregata, subsessilia. *Involucrum* laeve imbricatum, bracteis pluriseriatis subsqualibus lineari-lanceolatis acuminatis membranaceis (seariosis) glabris albidis. *Receptaculum* angustum, nudum. *Corolla* lilacinae, glabrae, tubulosae, ½ lin. longae, regulariter 5-fidae, lobis brevibus lanceolatis. *Filamenta* complanata, glabra. *Anthera* vix exserta, basi bisetosa, apice appendice lanceolata terminali. *Pollen* globosum, laeve. *Stylus* glaber, basi bulbosus; rami breves, divaricati, truncati, hispidi. *Achanium* oblongum, dense villosum; pappus uniserialis, multisetosus, setis scabris corolla longioribus (*Gardner, l. c.*).

We have received from M. Glaziou the following second species of this interesting genus, also from the province of Bio de Janeiro, with n. 4841.

***L. latifolia***, *Benth. sp. nov.*; foliis lanceolatis subtus ramoque longe denseque niveo-lanatis, capitulis sub-4-floris. Habitus et folia reflexa. *X. palylicoidia*, sed lana multo longior copiosiorque, folia ½-1 poll. longa, 2-3 lin. lata, capitula minora paucifolia et involucria pallide brunnea, nec nivea.—G. BENTHAM.

---

PLATE 1116.

**DESMANTHODIUM PERFOLIATUM, Benth.**

**COMPOSITAE, Tribe HELIANTHOIDEAE.**

**Desmanthodium**, *Benth. gen. nov.* *Capitula* heterogama, discoidea, floribus femineis 1-3 fertilibus, hermaphroditis paucis (4-6) sterilibus. *Involucrum* ovoideum, bracteis paucis (3-5) ovatis obtusis membranaceis, intimis (seu receptaculi paleis extimis) lageniformibus membranaceis a dorso cotpressis clausis, floras femineos includentibus. *Receptaculum* parvum, planura, sub floribus hermaphroditis nudum v. hinc inde palea angusta instructum. *Corolla* florum femineorum tenues, stylo breviores, in limbum brevissimum truncatum v. 2-3-dentatum patentem apice dilatatae; florum hermaphroditum regulares, tubo brevi, limbo cylindraco apice 5-fido hirsuto. *Anthera* basi obtusae. *Stylus* florum hermaphroditum indivisus, hirsutus. *Acetia florum* femineorum bractea omnino inclusa, obovato-oblonga, a dorso plano-compressa, calva, glabra, corolla persistente apice e bractea

exserta v. inclusa quasi rostrata.—Herbse *elata*, *glabrata* v. *scabro-puberula*. **Folia opposita, subserrata. Capitula parva, in glomerulis capituliformibus pauca sessilia, glomerulis corymboso-paniculatis.**

**D. perfoliatum**, *Benth. sp. nov.*; foliis ovato-lanceolatis basi auriculato-dilatatis connatis, capitulorum glomerulis numerosis late corymboso-paniculatis.

HAB. Mexico; in the province of Oaxaca, at an elevation of 4500 feet, *Galeotti*, n 2050.

*Herba* fide *Galeotti* perennis, erecta, elata, glaberrima v. ramis paniculose linea decurrente pilosum pubescentibus. *Folia* inferiora desunt, superiora ovato-lanceolata acuminata parce serrata infra medium contracta, basi dilatata et auriculis latis connata, utrinque viridia, supra nitidula, 3-5 poll., longa, triplinervia, summa minora. *Capitulorum* glomeruli depresso-globosi, circa 3 lin. diametro, in panícula lata trichotoma numerosissimi. *Capitula* in glomerulo 6-10, 1½ lin. longa. *Floret* femineus in capitulo 1-2, hermaphroditici steriles ad 4.

Fig. 1. Cluster of flowerheads. 2. Female floret enclosed in the bract. 3. Female floret without the bract. 4. Disk-floret. 5. One of its stamens. 6. Summit of its style.

The following second species of the genus is in *Herb. Hook.*, the specimens not very good as to the flowers, but sufficient to show the same structure as in *D. perfoliatum*.

**D. ovatum**, *Benth. sp. nov.*; foliis breviter petiolatis late ovatis, capitulorum glomerulis paucis subcorymbosis.

HAB. Mexico: woods of the province of Oaxaca at an elevation of 7000 to 8000 feet, *Galeotti*, n. 2081; on the mountain San Felipe, *Andrieux*, n. 319.

*Herba* fide *Galeotti* annua, erecta, elata, parum ramosa, caule glabro. *Folia* late ovata, irregulariter serrato-crenata, 1½-3 pollicaria, basi in petiolum breviter ad caulem haud dilatata contracta, 3-5-tuplinervia, supra pilis minutis sparsis scabra, subtus pallidiora glabra. *Capitulorum* glomeruli in speciminibus 3, ad apicem pedunculi longi pedicellati, subglobosi, 3 lin. diametro. *Capitula* in glomerulo 6-8. involucri bractea striatae.—G. BENTHAM.

## PLATE 1117.

## AGRANIPPEA BELLIDIFLORA, DC.

COMPOSITE, TRIBE HELIANTHOIDEA:.

**A. bellidiflora**, DC. *Prod.* vi. 3; caule hirsuto, foliis longe lanceolatis parce dentatis subglabris.—*Heliogoeua longifolia*, Benth. Fl. Hartw. 42.

HAB. Mexico, in marshes near the town, *Berlandier*; near Begla, *Hartweg*.

*Caules* e basi reptante radicanteque ascendentes v. erecti, 1-1½-pedales, simplices v. ramosi, crassiusculi, pilis liyalinis laxè hirsuti. *Folia* opposita sessilia, longe lanceolata, integerrima v. remote dentata, basi latiora et cordato-amplexicaulia, 2-3-pollicaria, 3-7-nervia, glabra v. subtus ad nervos leviter silosa. *Peduficuli* is axillis alterni, 1-cephali, foliis paullo longiores. *Involucris* semisphaerici bractee sub-7-seriatae, subsequales, herbaceae, in parte inferiore marginibus intus plicatis achrenia radii arete includentes, 3-4 lin. longae. *Receptaculum* conicum, paleis membranaceis acutis complicatis flores disci amplectentibus onustum. *Corolla* radii ligulatae, lamina supra achaiium subsessili patente integra persistente; disci tubulosac, limbo ampliato cylindraceo-campanulato apice 5-fido. *anthera* basi obtuse. *Styli* florum disci rami elongati, lineares, obtusiusculi, exappendiculati. *Achnia* obovato-oblonga, calva, radii leviter a dorso compressa, disci subtetragona vacua (v. interdum forte perfecta ?).—*Gt.* BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Bay-floret, with the bract of the involucre enclosing it at the base. 3. Summit of its style. 4. Disk-floret, with the subtending palea of the receptacle. 5. Three of its stamens.

## PLATE 1118.

## AXINIPHYLLUM CORYMBOSUM, Benth.

COMPOSITE, Tribe HELIANTHOIDEA:.

**Axiniphyllum**, Benth. gen. nov. *Capitula* homogama, discoidea, floribus omnibus hermaphroditis fertilibus. *Involucrum* campanulatum, bracteis sub-2-seriatis paucis inaequalibus herbaceis glanduloso-hispidulis. *Receptaculum* subplanum, paleis complicatis flores amplectentibus onustum. *Corolla*

tubo brevi, limbo elongato cylindraceo nrice 6-firio. *AntJutra* basi auriculis brevibus obtusis sagittate. *Styli* rami elongati, hirtelli, in appendices acutas dc9inentes. *Achamia* 4-gona, leviter iucurva, apice subtruncata, calva, disco epigyno parvo.— *Herbie superne viscidula, scabro-pubescentes v. tomentosa. Folia opposite\*, hastalo-3-loba. Capitula ad apices ramorum pauca v. corymboso-pankulata. Achaenia glabra.*

1. *A. corymbosum*, *Benth. sp. nov.*; foliis profunde 3-lobis, lobis ovatis sublobatis subt9 inter vena9 hirsutas glabris, capitulis parvulis irregulariter corymbosis.

IIAB. Mexico; woods in the province of Oaxaca, at an elevation of 7500 feet, *GaleoW*, n. 2069.

*Herba* ex Galeotti annua, erecta, parmm ramosa, 1-2-pedalis, pilis brevibus rigidulis gcabro-pubescentis, in panicula pube glandulosa intermixtis. *Folia* circumscriptione late deltoidea, subbipollicaria, acuta, Jenticulata et profunde 3-loba, lobi9 ovato-deltoidei9 basi 9sepe utrinque lobo parvo auctis, intermedio lateralibus duplo majore, supra scaberrima, petiolia l]-2-pollicaribus alatis basi auriculato-dilatatis connatisque; folia superiora parva, distantia; in panicula bracteaeformia, 9essilia, oblongo-lanceolata. *Panicula* rami primarii elongati, ultimi v. pedunculi breves. *Inwlucris* br«\*ctae 1-2-scriatae, 2-2^ lin. longee. *Corolla* ex Galeotti ro9eo-flavicantes, iuvolucrum subaequantas, cxtus liispidulae. *Achania* matura desunt.

Fig. 1. Floret with the subtending palea. 2. Three of its stamens. 3. Summit of the style.

The following is a second unpublished species of the genus : —

2. *A. tomentOBtun*, *Benth. sp. nov.*; foliis hastato-tfilobis lobis late lauceolatis iudivisis subtus dense tomentosis, capitulis majusculis paucis.

IIAB. Mexico, *Bates* in Herb. Hook.

*Statura A. corymbosi* et pariter supern\* glanduloso-pubescentis. *Folia* crassiora, brevius pctiolata, lobis angustioribus baud divisis, supra scaberrima, 8itbtu9 tomento den9O cane9centia, petiolis ut 'ufa. *corymboso* alatis basi CQimatis; summa indivisa, subscssilia, lanccolata, pollicaria. *Capitula* in sp^cimine 2 tantum, quam in *A. corymboso* duplo majora. *Involucris* bracteaaj 4-7 lin. longse, limmres, foliaceae, glanduloso-pubescentes et hispid©. *Receptaculi* palea? rigid®, acutissimae, rubeutrs, nitida?.

The genus is in many respects allied to *Zaluzania* and *Sabazia*, but differs in habit and in the absence of any ray.—G. BEKTHAM.

## PLATE 9111.

CAMPTOSTEMON SCHULTZII, *Mast.*

MALVACEAE, Suborder BOMBACEA.

**Camptostemon**, *Mast. gen. nov.* *Epicalyx* cupuliformis, margine irregulariter sinuosus, extus uti calyx petala ovariumque dense lepidotus. *Calyx* campanulatus, epicalyce duplo longior, initio ut videtur clausus, demura supra medium in lobos 3 ovatos obtusos divisus. *Petala* 5, imbricata, persistentia, demum patentia, oblonga, obtusa, intus concava, plurinervia, nisi ad basin libera. *Tubae stamineae* petalis parum brevioribusque ad basin conjunctim enatis angulatus, sulcato-striatus, ad apicem in filamenta obovata demum deflexa et ut videtur in phalanges 5 petalis oppositas dispositas divisus. *Filamenta* tubo staminico climacico breviora, anguste liguliformia. *Anthera* adnata, oblongae, connatae postea dilatatae suborbiculatae, biloculares, loculis rectis vel obscure tortuosis, rima longitudinali extrorsum dehiscentibus. *Pollinis* granula globosa, muriculata. *Staminodia* nulla. *Ovarium* sessile, tubo stamineo inclusum, ovoideum, biloculare. *Ovula* in quovis loculo solitaria, hippocrepica, placentae axili versus medium affixa. *Funiculus* brevissimus. *Stylus* columnaris, teres, tubo stamineo inclusus, ad apicem in ramos 2 stigmatiferos breves divisus. *Stigmata* majuscula, ultra os tubi staminei exserta, subtriloba, lobis ovatis canaliculis medio longiore. *Fructus* adhuc ignotus.

**C. Schultzii**, *Mast. sp. unica.*

Arbor, vel frutex, ramis teretibus, ramulis angulatis glabris divaricatis. *Folia* circa 3 poll., longa, 10 lin. lata, alterna, petiolata, elliptica, obtusa, basi cuneata, 1-nervia, arcuato-venosa, coriacea, superne glabra nitida, subtus dense lepidota, squamis orbicularibus. *Petioles* 8-10 lin. longi, superne canaliculati, apice glanduloso-incrassati. *Inflorescentia* cymosa, cymis terminalibus ramosis foliis brevioribus plurifloris, pedunculis divaricatis angulatis lepidotis, pedicellis articulatis floribus brevioribus. *Flos* longitudine 3-6 lin.; epicalyx diam. 3-4 lin.; calycis lobi 4 lin. longi; petala sepalisaequilonga; corolla expansa, 8-9 lin. diametro.

HAB. Port Darwin, North Australia, *Schultz*, n. 511.

In the scaly pubescence, foliage, cupular epicalyx and closed calyx, this plant is closely related to the *Durionea* and especially to *Neesia*, willume. The decidedly 2-celled anthers of the present plant do not invalidate its association with the *Bombaceae*, as *Neesia*, *Eriodendron*, and others have sometimes 2-celled anthers, and at best the character is a very artificial one,

seeing that in a young stage the anthers of *Malvacea* in general are bilocular. The relationship to *Myrodia* (*Sterculiaceae*) is less marked. In any case the 2-celled ovary, paucity of ovules, and 3-lobed stigmas are peculiar.—  
M. T. MASTERS.

Fig. 1. Bud. 2. Staminal tube with adherent petals, laid open, exposing the pistil. 3. Anthers. 4. Calyx and longitudinal section of ovary. 5. Transverse section of ovary. 6. Peltate scale of ovary.

---

PLATE 1120.

**CORYSANTHES CHEESEMANI**, *Nook. f.*

ORCHIDEA.

**C. Cheesemani**, *Hook. f.*; folio sessili cordato-orbiculari apiculato, flore subsessili, pedunculo post anthesin elongato, ovario bractea spathacea vaginato, sepalo dorsali galeato obtuso, laterajibus setaceis minutis labello suppositis v. obsoletis, petalis lateralibus setaceis v. 0, labello tubuloso columnam amplectente, ore ampliato recurvo 2-lobo, lobis rettaxis subitucgris, marginibus basi utrinque in auriculam deflexam obtusam productis.

HAB. New Zealand, amongst bushes at Purewa, near **Auckland**, *F. F. Cheeseman, Esq.*

This curious little species was first brought to my notice in 1867 by F. F. Cheeseman, Esq., of Auckland, a very acute botanist, to whom I am indebted for several other interesting discoveries in the Northern Island, and notably the beautiful little *Hymenophyllum Cheesemani* (Baker, mss.), of which a figure is prepared for this work.

*Cotysanthes* was found at Purewa, about five miles from Auckland, flowering in June and July, in a dense bush, principally composed of *Myrsine Urvillei*, *Senecio Forsteri*, and *Leptospermutk scoparium*, with a thick undergrowth of various species of sedges.

Mr. Cheeseman describes the leaves as more membranous than those of any other species known to him, and the flower as dull purple with several greenish stripes and blotches on the surface of the upper sepal; he adds that the margins of the lip meet behind the column and enclose it, that the lateral sepals, when present, arc very narrow-linear, placed under the lip and never exceed it, and that the petals, when present, are very minute indeed, subulate, deflexed, and placed under the basal tubes of the lip.

This description does not fully accord with my examination of several specimens, nor do either of them accord with Mr. Fitch's drawing, owing to the extreme difficulty of macerating the flower for the purpose of dissection. Mr. Cheeseman does not describe the curious ligulate, often twisted, process which proceeds in some specimens from the very base of the lip, at its medial line, and which I find to be sometimes replaced by two subulate processes; this is incorrectly represented in the accompanying Plate as a continuation of the base of the column. This must either be a process of the base of the lip, or consist of the two lateral sepals,—a view favoured by the fact of its being sometimes replaced by two subulate bodies. The subulate lateral petals I never found in all the specimens which I have examined.

The similarity of this species to Brown's Fort Jackson *O. bicalcarato*, is so strong that I suspect that it may prove identical with it; I hesitate however to unite them without further materials, the dorsal sepal being much less arched in the New Zealand plant.

I regret to observe that it is proposed to replace Brown's generic name of *Corysanthe* by Salisbury's somewhat earlier one of *Gorybas*, the totally erroneous description of which was (as was well known at the time) drawn up surreptitiously from an inspection of Bauer's figure of the Australian *Gorysanthe*\* *bicalcarata*, when exhibited by Robert Brown at Sir Joseph Banks's rooms, with the latter name attached to it.—J. D. HOOKER.

Fig. 1. Flower. 2. The same with the dorsal sepal removed. 3. Column, petals, and lip:—all magnified.

---

PLATE 1121.

NORMANDIA NEO-CALEDONICA, Hook, f

KUBIACEÆ.

**Normandia**, Hook. f. *ſp. nov.* Floret hermaphrodit. Calycis tubus elongato-obconicus, 5-gonus; limbi lobi 5, subulati, paleutes, persistentes. Corolla infundibularis, fauce glabra; limbi lobi 5, in fl. ? breves erecti, in fl. <J longiores patentés revoluti, valvati. Stamina 5, basi tubi corolla inserta, filamentis in fl. ? brevibus inclusis, in fl. \$ filiformibus exsertis; anthers magna\*, dorso prope basin affixae, lineari-obovatae, obtusae, longe exsertae, loculis-basi liberis acutis. Discus minutus, annularis. Ovarium 2-loculare; styli rami 2, a basi disorti, filiformes, papilloſi, demum longe exserti; ovula linearia, in loculis solitaria, e basi erecta, anatropa. Fructua 2-coccus, lobiſ calycinis cornutus, coeds intus medio longitudinaliter

deliiscentibus. *Semina* lineari-oblonga, a dorso compressa, albumine car-  
noso; embryo parvus, exilis, cotyledonibus orbiculatis, radícula tereti  
iufera.—Frutex v. arbuscula, *ramulU striatis*. Folia *opposite*. Stipulae *ulrinque*  
*solitaria, ovata, acutce*. Flores *parvi, in corymbos terminates dupositi*.

**N. Neo-Caledonia, Hook. f.**

HAB. New Caledonia; on the mountains of Kanala, *VieiUard and*  
*Deplanche* (communicated by the bite Dr. Le Normand, of Vire).

*Frutex* v. arbuscula, erectus, ramulia acute 4-gonis, angulis subalatis.  
*Folia* \-\\ poll, longa, elliptico-ovata v. oblonga, subacuta, coriacea, enervia,  
superne siccitate fusca, subtus brunnea, margiibus incrassatis; petiolo £ - \  
poll, longo. *StipultB* interpetiolares ulrinque solitariae, triangulares, integrae  
v. fissae, persistentes. *Flores* iu corymbos terminates dichotome ramosos  
dispositi, breviter pedicellati, pedunculis angulatis, brarteolis minutis  
subulatis. *Corolla et capmla* \ poll. longs. *Slyli* primum exserti; stamina  
serius protrusa.

A. very singular genus, evidently closely allied to *Copro'ma*, though  
differing much in habit and the characters of the flower and fruit.  
—J. D. HOOKER.

Fig. 1. Flower. 2. Corolla laid open. 3 and 4. Stamens. 5. Vertical section  
of ovary. 6. Fruit. 7. Vertical section of carpel and young seed. 8. Ripe seed:  
—all magnified.

---

PLATE 1122.

**DIDYMOCHLAMYS WHITEI, nook. f.**

RUBIACEIE.

**Didymochlamys, Hook. f. gen. nov.** *Calycis* tubus turbinatus;  
limbi 5-partiti segmenta lanceolata, acuminata<sup>^</sup> tubum superantia. *Corolla*  
cylindrico-campanulata, tubo intus basi annulo pilorum instructo, fauce  
glaberrima; limbi brevis lobi 5, erecti, breviter ovato-triangulares, obtusi,  
dorso sub apice setulosi, valvati, marginibus latissime inflexis alseformibus.  
*Stamina* 5, basin versus corollas annulo pilorum inserta, filamentis subulatis  
inequilongis; anthers majusculæ, dorso basi affixte, late oblong<sup>©</sup>, apiculatre,  
inclusa?. *Discus* conicus. *Ooarium* 2-loculare; stylus filiformis, stigmatibus  
clavellato 2-dentato ubique papilloso; ovula numerosa, placentis colum-  
naribus e basi loculorum erectis dense conferta. *FrucUy* . . . —Herba  
*proslrata, ghberrima*. Folia *alterna* \, *disticha*. Stipulfe *lineares, 'dissita*.



**Flores ad apicem pedunculi terminalis intra bracteas 2 amplas occluri, temles, bracteolatu**

**D. Whitei, Hook. f.**

HAB. New Granada; in dense woods at Quibdo, on the river Atrato, an affluent of the Magdalena, growing on stumps of trees, *R. B. White*, Esq.

*Herba* subsucculenta, 3-6-pollicaris, glaberrima, siccitate fragilis nigrescens, caule teretiusculo basi radicante. *Folia* disticha, ut videtur stricte alterna, sed verisimiliter dissita, subsessilia, oblongo- v. obovato-lanceolata, acuminata, basi anguste rotundata, glaberrima, carnosula, costa latiuscula nervisque arcuatis inconspicuis. *Stipula* uti folia ut videtur dissitae, bifformes; alia membranacesB, facie dorsali caulis prostrati sitae, lineari-lanceolatae, integrs v. 2-fideB (v. 2-ns), petiolo remoto v. approximate); alise coriaceae v. siccitate comes, minutae, unguiformes, fere axillares. *Pedunculus* ½-pollicaris, ascendens. *Bractea* transverse ellipticae, 1 poll, diam., apiculato, venose; bracteolae lance data, flores superantes. *Floret* } poll, longi, sessiles, erecti, caerulei.—J. D. HOOKER.

Fig. 1. Portion of stem and leaf, and stipuliform bodies. 2. Stoma of the epidermis (drawn by Dr. M'Nab). 3. Flower and bracteole. 4. Corolla laid open, 5. Stamens (one omitted). 6. Vertical section of ovary:—all magnified.

---

PLATE 1128.

**COBYNULA PILOSA, Hook. f.**

**BUBTACEAE.**

**Corynula, Hook. f. gen. nov.** *Calycis* tubus turbinatus; limbus 5-partitus, laciniis subulato-lanceolatis inasqualibus persistentibus. *Corolla* anguste infundibularis, fauce glabra; limbi lobi 5, breviusculi, erecti, obtusi, valvati. *Stamina* 5, fundo tubi corolte inserta, filamentis filiformibus; anthers dorso basi affixae, lineares, apiculatae, longe exsertae. *Ductus*\* depressus. *Ovarium* 2-loculare; stylus brevis, ramis 2 longe exsertis filiformibus undique hirsutis; ovula in loculis solitaria, e basi erecta, a dorso compressa, cuneata, anatropa. *Fructus* pyriformis, coriaceus, alte 5-eostatus, tarde in coccos 2 1-spermos plano-convexos dehiscens. *Semina* erecta, obovoidea, a dorso compressa, testa brunnea subcoriacea gramilata, albumini dense carnosus; embryo majusculus, cotyledonibus foliaceis cordatis, radícula tereti infera.—*Herba gracilis, repens, pilosa. Folia opposita. Stipulae 35-lola*. **Flores axillares, pedunculati.**

**C. pilosa**, Hook. f.—*Mitchella pilosa*, Benth. in PI. Uartw. 194; Walp. llep. vi. 49.

HAB. Peru; in shady woods at Minasbomba, near Quito, Hartweg; Pichincha, Capt. Hall, Jameson, where it forms great tufts on the ground at 11,000 feet (Spruce, n. 5505). Closely allied to *Nertera*, but differing in the dry 2-coccus fruit and inflorescence.—J. D. HOOKER.

., Fig. 1. Portion of stem, leaf, and stipules. 2 and 3. Flowers. 4. Flower with corolla laid open. 5. Fruit. 6. Fruit, cut transversely. 7. Seed. 8. Vertical section of ditto\*.—*ail magnified.*

---

PLATE 1124.

FERGUSONIA THWAITESII, Hook. f.

HI7BIACE.fi.

**Fergusonia**, Hook. f. gen. nov. Calycis tubus obovoideo-pyriformis; limbi lobi 4, acqimles v. subsequales, erscti, ovato-lanceolati, ciliati, persistentes. Corolla infundibularis, fauce glabra; limbi lobi 4, breves, patentes, npice ciliati, valvati. Stamina 4, ore corollas inter lobos inserta, filamentis breviusculis; antherae dorso affixes, lineari-oblongsB. Discus 4-lobus. Ovarium 4-loculare; stylus filiformis, ramis 2 linearibus hirsutis interdum connatis; ovula in loculis aoHtaria, e basi erecta, obovata, compress, anatropa. Fructus 4-coccus, coccia subp<sup>r</sup>iformibus obscure 3-gonis, lobis calycinis coronatis coriaceis 1-spermis. Semina pyriformia, compressa, erecta, funiculo brevi rigidulo, testa membranacea, albumine dense carñoso; embryo in basi seminis rectus, subcylindricus, cotyledonibus planis radicula tereti infera vix latioribus.—Herba ramoxa, bad radican\*. Folia opposita. StipulaD intrapetiolares, Integra, persisteutes. Flores axillares, solitarii. Fl-uctus parvusj

li Zeylanica, Hook. /.—*Borreria telrqpocca*, Thwaites, Enum. Fl. Zcyl. 442; Beddome, Ic. PL Ind. Or. t. 39.

HAB. Ceylon, near Colombo, W. Ferguson, Esq.

Herba gracilis, 1-2-pedalis, habitu *Spermacocis*, caule 4-gono ramoso basi prostrato radicante, ramulis flexuosis adscendentibus noil is ciliatis. Folia 1-H poll, longa, opposita, brevissime petiolata, lanceolate, v. ovato- v. elliptico-lanceolata, acuta v. acuminata, subchartacea, suabcrula. Stipula bnceolatse, herbace©, erect©, persistentes, utrinque cum petiolis conuat©

*Flores* £ poll, longi, in axillis foliorum solitarii, breviter pedicellati, bracteis 2 oppositis utrinque cum stipula conjunctis involucriati. *Fructus* parvum, tumidus.—J. D. HOOKER.

Fig. 1. Flower and bracts. 2. Corolla laid open. 3. Vertical section of ovary. 4. Fruit. 5. Coccus. 6. Seed. 7. Vertical section of ditto. 8. Embryo—*all magnified*.

---

PLATE 1125.

CEBATOFYXIS VERBENACEA, Hook. /.

RUBJACEE.

**Ceratopyxis**, Hook. f. gen. not. *Calycis* tubus ovoidcus; lobi 5, rigidi, erecti, subulato-lanceolati, persistentes. *Corolla* infundibularis, fauce glabra; limbi lobi 5, linearilanceolati, revoluti, valvati. *Stamina* 5, fundo tubi corollas inserta, filamentis liberis coinplanatis puberulis; anthero dorso prope basin affixo, exsertae, lineari-elongatae. *Discus* 4-lobus. *Ovarium* 2-loculare; stylus filiformis, stigmatibus clavellatis apice bifido; ovula in loculis solitaria, ab apice pendula, elongata, cylindrica, funiculo incrassato. *Capula* parva, subcoriacea, pubescens, fere orbicularis, a latere valde compressa, 2-locularis, septicide 2-valvis, valvis calycis lobis rigidis patentibus coronatis. *Semina* pendula, subreniformi-oblonga, a latere compressa, funiculo incrassato, testa tenuissima, albumine dense carnosum; embryo parvus, teretiusculus, cotyledonibus brevibus ovatis, mdicula longiuscula supera.—**Fruticosa resiniflora**. *Folia* opposita. *Stipulae* intrapetiolares, in vaginam connatae. *Flores* parvi, in thyraos terminales erectos demifloros dispositi.

**C. verbenacea**, Hook. /.—*Rondeletia* ? *verbenacea*, Griseb. Gat. Pl. Cub. 130. *Phialanthus* *spicata*, Sauvalie, Pl. Cub. 71.

HAB. Western Cuba, Wright, n. 2695.

*Frutex* strictus, erectus, robustus, ramulis teretibus, nodis resinosis. *Folia* 2-3 poll, longa, elliptico-obovato-lanceolata, acuminata, breviter crasse petiolata, glaberrima, nervis numerosis gracilibus parallelis a costa valida divergentibus in unam intramarginali confluentibus. *Stipula* intrapetiolaris, majuscula?, late ovatae, cuspidatae, coriaces, fuscse, persistentes, in vaginam annularem denum solutam connatae. *Mores* } poll, longi, in thyrsos axillares et terminales cylindricos erectos denifloros dispositi, pedunculo valido, in femore saepe stipulis virgatis. *Capsulae* i poll, longae, pubescentes.—J. D. HOOKER.

Fig. 1. Flower. 2. Stamen. 3. Anther. 4. Vertical section of ovary. 5. Capsule. 6. Seed. 7. Vertical section of ditto:— *all magnified*.

## PLATE 1126.

ATJIIAGOCALYX JASMINIFLOBA, *Hook.f.*

RUBIACEJE, Tribe ALBERTEJS.

*Aulacocalyx*, *Hook.f. in Benth. and Hook.f. Gen. PL ii., 109.*

HAB.—Western tropical Africa; Mount John River, Kongui, Lat. 1° N., *G. Mann.*, Sept., 1862.

*Frutex* 15-pedalis, ramosus, ramis terctibus, ramulis et inflo9centia sericeis. *Folia* opposita, breviter petiolata, 3-4 poll, longa, elliptica v. elliptico-lanceolata, caudato-acuminata, basi in petiolum vix | poll, longum angustata, vix coriacea, utrinque costa puberula excepta glaberrima, nervis paucis tenuibus obliquis, nervulis transversis crebris parallelis tenuissimis. *Stipula* intrapetiolaris, subulato-lanccolatae, rigidae, sericeae, deciduae *Flores* in pedunculos breves axillarcs fasciculati, sessiles, bracteati; bracteis ovajo-subulatis, calycis tubum aequantibus. *Calyx* j—pollicaris, elongatus; tubus brevis, obovoideus, profnnde 5-sulcatua; limbus tubolosus, extus et intus aericus, 5-fidus, laciniis elongatis subulato-lanceolatis erectis rigidis. *Corolla* infundibularis, extus sericea, tubo pollicari gracili intus basin versus pubescente, fauce glabra; limbi 1-poll. diametro lobi 5, patentes, lineari-oblongi, subacuti, stride contorti, extus sericei. *Stamina* 5, fauci corolla? inserta; antherse sessiles, dorso affixae, anguste lineari-elongatae, recurvse, apiculatas, ^-exsertae. *Discus* depressus. *Ovarium* 2-loculare; stylus gracilis, exsertus, supra medium incrassntus, ramis 2 brevibus v. elongatis recurvis; ovula in loculis solitaria, septo infra apicem affixa, pendula, raphe ut videtur ventrali. *ffiuq£u8* ignotus.

*Aulacocalyx* belongs to a small group of *Rubiacea*, distinguished by the contorted corolla and 2-celled ovary with solitary pendulous ovules, having a superior micropyle, all of which hitherto discovered are tropical African; but it appears to differ from the rest of this group in the ventral position of the raphe; if, indeed, I am right in this, a difficult point to discover in living one-ovuled *Bubiacea*, and much more so in dried specimens <f them. Be this as it may, it certainly belongs to no other section, and resembles *Qrema&pora* in too many points to be removed far from that genus. The fruit is unfortunately unknown.—J. D. HOOKER.

Fig. 1. Calyx, style, and bracteoles; 2. Vertical section of calyx and ovary; 3. Corolla-lobe and stamens.—*all magnified.*

## PLATE 1127.

**BELONOPHOHA COFFEOIDES**, *Hook. f.*

BUBIACEJS, Tribe ALBEBTEA.

**Belonophora**, *Hook.f. in Benlh. and Hook. f. Gen. PL ii. 109.*

HAB. West coast of Africa; Isle of St. Thomas, alt. 3000 ft., *O. Mann.*, 1860.

*Arbor* 40-pedalis, floribus exceptis glaberrima; ramulis gracilibus teretibus, cortice pallido, ultimis compressis. *Folia* 5-8-poll. longa, opposita, breviter petiolata, elliptico- v. obovato-lanceolata, obtusa, caudalo-acuminata, in petiolum angustata, vix coriacea, exsiccata sordide-viridia, costa nervisque paucis divergentibus tenuibus, nervulis reticulatis tenuissimis; petiolo *i* poll. longo. *Stipule* pollicares, intrapetiolaria, e basi subulato-lanceolata longissimae tenuissime products, cliartaceae, striatse, deciduss. *Floret* axillares, sessiles, fasciculati. *Calyx* parvus, 4-bracteolatus; tubus obconicus; limbus 4-5 fidus, lobis subequalibus obtusis ciliolatis, persistens. *Corolla* hypocraterimorpha ½-pollicaris, tubo cylindraceo sericeo, fauce glaberrima; limbi *i*- | poll. diam. lobi 5, lineares, oblongi, obtusi, patentes, stricte contorti. *Stamina* 5, tubo *COTONSB* inserta; antherae sessiles, dorso medio affix©, lineares, subulato-acuminatsB, inclus. *Discus* tumidus. *Ovarium* 2-loculare; stylus brevis, ramis 2 subulatis suberectis papillosis; ovula in loculis solitaria, ab apice pendula, anatropa. *Fructus* globosus, coriaceus, 2-locularis, loculis 1-spermis, septo tenui. *Semina* pendula, ovoidea, hilo apicem versus ventrali minute, testa firma, albumine corneo; embryo minutus, curvus, apicem versus seminis inversus. cotyledonibus parvis cordatis, radícula tereti obtusa hilo proxima.

This and the following genus belong to a small West African tribe of Al-bertheae; it resembles *Goffea* in habit/but differs in the position and direction of the ovule, in the eglandular calyx, and in the albumen not being furrowed in front.—J. D. HOOKEB.

Fig. 1. Flower; 2. The same with the corolla laid open; 3. Stamen; 4. Style and vertical section of ovary; 5. Ovule; 6. Fruit; 7. vertical and 8 transverse section of ditt?; 9,10 and 11. dorsal lateral and ventral views of seed; 12. vertical section of the same; 18. Embryo:—all but 6-11 *magnified*.

## PLATE 1128.

HOMALOCLADOS COLOBATA; *Hook.*

RUBIACEJS. Tribe COUSSABEJE.

Genus *Homalocladus*, *Hook.f. in Benth. and Hook.f. Gen. Pl. ii. 122.*  
*//. colorata, Hf. I.e. Faramea colorata, Benth. in Linnaea xxiii., 452.*

HAB. Rio de Janeiro; in virgin woods, *Ihoedie, Gardner, Sello, Olaziou,*  
 etc.

*Frutex* 6-pedalis, glaberrimus, sempervirens, 2-chotome ramosis, ramis saepe supra-alaribus, divaricatis, ramulis compressis v. angulatis, cortice pallido. *Folia* 2-3{--poll. longa, breviter petiolata, elliptico-ovata-i. obovata, acuta obtusa v. obtii9e-9ubcaudata, coriacea, pallide viridia, subtus pallidiora, marginibus undulatis, nervis numerosis patentibus tenuibus; petiolo -Af-J-poll, longo. *Stipula* intra-petiolares, latae, coriaceae, carinatae, carina in mucronem rigidum acicularem pungentem excurrente. *Cynae* terminales, umbellaeformes, erects, 3-5-flores; pedunculo ^-pollicari, compresso; pedicellis pedunculo aequilongis compressis. *Calyx* |-|-poll. longus, coloratus; tubus brevis, turbinatus; limbus magnus, infundibularis v. campanulatus, membranaceus, reticulatus, ore ampliato ^-poll diametro, 4-6 fido, lobis obtusis, persistens. *Corolla* elongata, hypocraterimorpha, tubo cylindraco calyce longior, fauce glaberrima; limbi i-poll. diametro lobi 4, lati, patentes, 'valvati. *Stamina* 4, basin versus tubi corollae inserta, filamentis brevibus; anther© dorso "supra basin affixae, lineares, inclus. *Discus* elevatus. *Ovarium* 1-loculare; stylus filiformis, ramis\* brevibus v. linearibus pubescentibus; ovula in loculi basi gemina, erecta, sessilia, obovoidea. *Fructus* globosus, pisiformis, J-poll. diam., calycis limbo persistente indurato coronatu", ccriaceus, viridis, 1-spermus. *Semen* globosum, cavum, basi pericarpium adnatum, foramine magno infero, testa inconspicua, albumine cameo; embryo minutus, kitalis.

When described in the *Genera Plantarum*, the fruit of this genus was unknown. It has since been received from M. Glaziou, and proves to be identical with that of *Faramea*, and is similarly deeply excavated at the hilum 3 to such an extent, indeed, that the albumen forms a hollow sphere with a large basal circular aperture.

*Homalocladus* contains but two known species, both Brazilian, and agreeing remarkably in habit. It belongs to the small tribe of *Coussarea*, which differs from *JPsychotria* in habit, in the ovary being 1-celled, or if 2-celled with the septum evanescent, in the amphitropous basilar ovules inserted very close together, and in the 1-sceded fruit.—J. D. HOOKEE.

Fig. 1. Flower; 2. the same with the corolla removed and laid open; 3 and 4. Stamens; 5. Style and vertical section of ovary:— *all magnified.*

## PLATE 1129.

PSILANTHUS MANNII, *Hook, f.*

RUBIACEAE, Tribe IXOSEJE,

**Psilaanthus**, *Hook, in Benth. and Hook. Gen. Pl. ii. 115.*HAB. Fernando Po; on the beach, *G. Mann* (1860).

*Jffrutex* glaberrimus, 10-pedunculis, ramulis gracilibus teretibus, ultimis compressis, cortice lavi brunneo. *Folia* opposita, 5-7 poll, longa, breviter petiolata, elliptico-oblonga, obtuse caudato-acuminata, vix coriacea, pallide viridia, costa tenui, nervis paucis arcuatis, nervulis remotis; petiolo 1-1.5 poll, longo. *Stipules* parvae, intrapetiolares, triangulares, acutae. *Flores* majusculi, axillares, solitarii v. pauci, albi, pedunculo minuto turpido ebracteato sessiles. *Calyx* minutus, tubo brevi obconico; dentes 5, minuti, triangulares, in fructu foliaceo-dilatati. *Corolla* alba, tubo gracillimo 2-8 J pollicari, fauce nuda; limbi 2-3 poll, diametro lobi oblongi, subacuti, membranacei, stricte contorti. *Stamina* 5, ore corollae inserta; antherae sessiles, dorso affixae, lineares, apice unguiculatae, J-exsertae. *Discus* tumidus, *Ovarium* 2-loculare; stylus filiformis, rarais 2 brevibus linearibus obtusis; ovula in loculis solitaria, septo medio late adnata, amphitropa. *Fruetus* obovoideus, vertice late umbonatus, lobis calycis subfoliaceis coronatus, endocarpio tenuiter crustaceo. *Semina* oblonga, umbilico ventrali.

A very singular plant, especially in respect of the development of the flower. In an early stage the calyx, which is always very minute, is found seated on a tumid subglobose annulus or peduncle in the thickened node, at the leaf axil; the nature of this ring I cannot discover from the dried specimens, but it probably consists of a floral pedicel with confluent bracteoles. The ovary and calyx never exceed the twelfth of an inch long. The corolla appears as a cylindrical body, somewhat dilated in the middle, when dry coated with a gummy secretion, and is not more than 1/12 of an inch long at the time when the calyx and ovary are fully formed; after this its tube rapidly elongates to nearly four inches, and the lobes at the same time expand. There are no specimens in a state between that of the fully formed flower and of the fully formed fruit in which the minute calyx-teeth that crown the ovary are developed into green coriaceous lanceolate lobes half an inch long.

The fruit contains no seed, but I have little doubt that the plant is correctly referred to the tribe *Ixorea*; from the solitary ovules, broadly adnate to about the middle of the septum, with the micropyle (I think certainly) downwards. As a genus it is evidently clearly allied both in habit and characters to *Coffea*, differing in the accrescent eglandular calyx, and in the structure of the fruit, which is crustaceous and 2-celled, not drupaceous with 2 pyrenes. I do not, however, place much dependence on this last point, for though fully formed, being seedless, the fruits of *Psilaanthus* may be abnormally developed.

Fig. 1. Ovary, calyx, bracts and style; 2 and 3. Stamens; 4. Vertical section of ovary:—*alii magnified.*

## PLATE 1130.

## HUALANIA COLLETOIDES, PA.

POLYGALACEJE.

**R. colletioides**, *PkUUpi in Linnaa xxxiii.* (1864.) p. 19.

*Frutex* aphyllus, glaberrimus, spinosus, spinis crassis alternis patentibus; floribus in basi spinarum glomcratis, breviter pedunculatis, albidis.

HAB. Prov. Mendoza, *Diaz*; Copinpo, *B. Pearce* / arid shingly plain near Jachal, Argentine Republic, *Dr. Jameson* 1

*Spina* i poll, longs, tote virides. *Flores* numerosse e tuberculo earum basali prorumpunt et limbo brevissimo squamuloso circumdantur; pedunculi ad summum 1 lin. longi. *Calyx* parura brevior; foliola ejus ovata, apice rotundata fere coriacea, margine albido scarioso. *Carina*- 2 lin. longn, e lutescente albida; petala lateralia 1J lin. longa angusta oblonga centro puncto violaceo notata. *Fructm* immaturus (?) viridis, 8-lin. longus, 1^—lin. JWrassus, basi longe attenuate. *Semina* cum pilis albis sericeo-micantia, § lin. longa. (*Description from Phillipi, /.<?.*)—D. OLIVER.

Fig. 1. Flower, side view; 2. Petals and staminal sheath; 3. Same laid open; 4. Anther j 5. Piitil with, and 6 without, calyx; 7. Young fruit.

## PLATE 1131.

HYMENOCABDIA ULMOIDES, *Olw.*

EUPHOBBIACEIE.

**H. «lmoidei**, *Olw\** \ fructibus late obovato-rotuudatis emarginatis basi obtusis v. late cuneatis, margine utrinque a basi ad aficem latiuscule alatis, oculis centra fructuum dimidiam longitudinem latitudinemque occupantibus.

HAB. Dar Salam, Zanzibar, *Dr. Kirk!* Angola, *Dr. WelwiUch!*

*Ramuli* graciles, glabri, v. primura pubescentes. *Folia* oblongo-vel ovato-elliptica leviter obtuTsiuscule acuminata, glabra vel glabrescentia, 1-1 f poll, longa, \ -i poll, lata; ptfiolus gracilis \ poll, longus. *Spica* masc. -J-f poll, longs, saepius jn paniculas distichas parvas dispositae. *Flores* ^ poll. diam. *Fructus* \-\ poll, longi et lati; gynophorus i-^poll. longus; pedicelli fructiferi filiformes, rigidi, §-% poll, longi.— D. OLIVER.

Fig. 1. Branch wii male flowers; 2. Male flower with bract; 3. Same laid open; 4. Anthers; 5. Branch with pistillate flowers (collected by Dr. Welwitsch); 6. Pistillate flower; 7. Ovary; 8. Branch bearing fruit :—»«\*. size.



## PLATE 1132.

HYMENOPHYLLITM (LEPTOCIONIUM) CHEESE-  
MANNI, Baker.

FILICES, Tribe HYMENOPHYLLEA.

**H. Cheesemanni**, Baker *n. sp.*; rhizomate nudo filiformi, stipitibus brevissimis filiformil)U9 nudis, frondibus minimis dichotome furcatis vel palmatim 3-4-fidis raro simplicibus, lobis ligulatis obtusis ciliato-dentatis, venis in segmentis solitariis centralibus, soñs solitariis terminalibus, involucri valvis rotundatis integris basi solum immersis.

HAB. New Zealand; Titiranga range, at an elevation of 1200 feet, discovered by Mr. T. F. Cheesemann in 1871.

*Rhizomata* late vagantia intricate. *Slipites* segregati, erecti, 3-6 lin. longi, glabri, haud paleacci. *Lamina* viridis, membranacea, glabra, mox brunnescens, 3-6 lin. longa, basi in stipitem angustata, lobis 3-5 lin. latis ligulatis 9iin- plicibus, lateralibus erecto-patentibus. *Dentes* marginales lineari-subulatae, ascendentes, Tlemum caducae, cellular magnaè irregulariter hexagons marginales reliquis conforraa3, parenchymatose. *Involucrum* vix lineam longum, semper ad apicem frondis vel segmentorum solitarium, termitiale, valvis duris brunneis integerrimis linealo-marginatis dorso nudia lsevibus.

A very distinct novelty, nearest // *minimum*, A Rich,' Yoy. Astrolabe,<sup>9</sup>1. 14, fig. 2; but differing essentially in the involucre, and in the cutting of the frond, in which it much resembles some of the forms of *Triehomaneadigitatum*. —J. G. BAKEB.

Fig. 1, Lobe of frond with involucre. 2. Valve of involucre removed, exposing the sporangia; 3. Sponnge.

## PLATE 1133.

## BOTHBIOCLINE SCHIMPEBI, Oliv. ei Him.

CcMPt&gt;sr-E, Tribe VERNONIACEJE.

**Bothriocline**, Oliv. *gen. nov.* *Capitula* homogama, tubuliflora. />>- *volucrium* campanulatum, bracteis oo-seriatis imbricatis tenuiter herbaceis scarioso-marginatis v. interioribus siccis, exterioribus gradatim minoribus. *Receptaculum* planum v. convexum, alveolatum. *Corolla* seuales, regulares, tubo tenui, limbo anguste 5-fido. *Antherce* basi sagittatae, auriculis obtusis. *Slyli* rami subulati, hirtelli. *Achenia* (immatura) obovoidea v. turbinata, 5-4-costata, apice rotundata. *Pappi* setae paucae, scabrae, caducissimas.— **Herba foliis oppotitti verticillatUve. Capitula corymbom. COTOUK purpurca f**

**B. Schimperi**, *Oliv. et Hiern. Fl. Trop. Afr. iii. ined., species wiica.*

HAB. Abyssinia, *Schimper, coll.* 1863-8, w. 1497. There is also a variety gathered on Mount Kilimanjaro by the Rev. C. New, differing in the more tomentose stem and under side of the leaves.

*Herba* erecta, valuta, pluripedalis, superne ramosa, glabra v. superne tomentoso-pubescentis. *Folia* plerumque 3-4-natis verticillata, ramealia interdum opposita, ovato-lanceolata v. lanceolata, aruta, serrata, basi rotundata, 3-6-poll. supra glabra subtus sparse pilosula; petiolis brevissimis ciliatis linea pilosa cuneata. *Capitula* vix semipoll. diametro, in corymbo terminali lato numerosa, conferta, pedunculis brevibus. *Involucrum squamulae* eleganter scarioso-marginate, interiores acuta?, intimae lineari-oblongae undique acariosae. *Corolla* vix involucrum excedentes, leviter glandulosae.

This genus is allied to *Centratkerum*, of which it has the pappus, but the involucre is different, and the opposite or verticillate leaves are quite exceptional in the tribe.—G. BENTHAM.

Fig. 1. Involucre and receptacle, longitudinal section; 2. Floret; 3. Three of its stamens; 4. Summit of its style; 5. Bristle of the pappus.

---

**PLATE 1134.**
**HETEBOFHYLELJBA PUSTULATA**, *Hook.f.*

BUBIACEAE, Tribe CINCHONEA?

**Heterophyllum**, *Hook.f. in Benth and Hook.f. Gen. Pl. ii. Stf.*

HAB. Juguy Mountains in the northern district of La Plata, on the confines of Bolivia, *E. Pearce. Fl. Feb.* 1864.

*Frutex* 4-6-pedalis, sempervirens, gracilis, glaberrimus, ramis gracilibus teretibus, cortice pallido crebre pustulata, pustulis apice depressis. *Folia* opposita, 2-3-poll. longa, breviter petiolata, lanceolata, acuminata, crenata, sinibusque pustulatis, coriacea, exsiccata superne fusca, nervis obscuris, subtus pallidiora costa crassiuscula. nervis obliquis, nervulis laxe reticulatis; petiolo vix 1/2 poll. longo. *Uipula* interpetiolares, triangulares, acutae v. apice 2-dentatae, diu persistentes. *Flores* in cymis axillares pustulatas paucifloras dispositi, odori, albi; pedunculo brevi nutanti, pedicellis alternis 1-poll. basi bracteolatis, bracteolis lineari-subulatis, elongatis, deciduis. *Calycis* tubus 1-poll. longus, obovoideus; limbi lobi 4-5, subulato-lanceolati, tubuloso, erecti. *Corolla* tubus 2 1/2-3-poll. longus, lente curvus, fauce vix ampliata in^us villosa; limbi lobi 4 v. 5, breves, ovato-lanceolati, subacuti, patentes, valvati. *Stamina* 5, ima fauci corollae inserta; antheris subsessilibus dorso affixis, lineari-oblongis,

utrinque obtusse, indusse. *Dticus* hemisphæricus. *Ovarium* 2-loculare; stylus filiformis, ramis 2 filiformi-subulatis patentibus semi-exsertis undique pubescentibus; ovula in loculis perplurima, placentis tumidis septo adnatis undique peliatim affixa. *Fructus* ignotus.

The pustules, which extend over the stem, leaves, peduncles, pedicels, calyx, and stipules of this plant, are unique in the Order, and resemble those of *Ruta* in external appearance; and together with the strongly crenate leaves and alternate pedicels, combine to render this one of the most anomalous of *Rubiacea*. Nevertheless, from the structure of the stem, style-arms, anthers and ovary, I have little hesitation in placing it in the tribe *Cinchonea*, and near to *Bonvardia* and *Manettia*, differing from the latter in the insertion of the placentas. The crenation of the leaves, the margins of which are slightly thickened and furnished with a pustular gland at every sinus is very remarkable, and quite unlike the tothing of *Carle\* mannia*, or *Sghianthus* (Plate 1048), or of *Neurocalyx*.

I have seen but one specimen of this plant, which was discovered by Mr. Pearce, a very intelligent collector for Messrs. Veitch, who formed an excellent herbarium in North La Plata, and other parts of South America, that had not previously been visited by any naturalist.

Fig. 1. Portion of leaf. 2. Peduncule and flower-bud. 3. Upper part of corolla laid open. 4. Vertical section of ovary, with style. 5. Ovule:—*all magnified*.

---

## PLATE 1135.

**SFHOOPHYLLTJM BOJEBI**, *Benth.*

COMPOSITE, Tribe INULOIDEA<sup>^</sup> BUFGTHALMEJE.

**Sphacophyllum**, *Benth. gen. nov.* *Capitula* heterogama, radiata, floribus radii foemineis 1-seriatis discisque hermaphroditis fertilibus. *Involucrum* late campanulatum, bracteis pauciseriatis angustis acutis, exterioribus brevioribus. *Receptaculum* convexiusculum, paleis complicatis rigidulis (lores disci amplectentibus deciduis onustum. *Corolla* foemineae ligulatae, lamina patente subintegra; hermaphrodite regulares, tubulosae, limbo anguste campanulato semi-5-fido. *Anthera* basi caudis longis tenuibus simplicibus appendiculatae. *Staminodia* in floribus foemineis plus minus evoluta. *Styli* florum hermaphroditum rami lineares, subcoxplanati, apice rotundati. *Achania* angustis, 5-costatis, callo basilari majusculo. *Pappus* brevissime cupulatus, denticulatus.—*Suffrutex* brevissime pubescent, foliis alternis. *Capitula* parva, terminalia, v. in axillis superioribus pedunculata. *Corollas* *Have*.

*S. madagascariense*, Benth. *tingle specks*. *Epallage salvifolia*, D.C. Prod. vi. 3.

HAB. Madagascar. Dry stony places round Mananzary in the province of Emirna, Bojer.

*Caules* basi lignosi, ramis tenuibus superne pubescentibus et minute glandulosis. *Folia* ovato-lanceolata v. ovato-cuneata, obtusa v. mucronato-acuta, integerrima v. minute undulato-dentata, 1-1½-pollicaria, basi in petiolulum 1-2 lin. longum contracta. Nervis et tenuiter reticulato-nervis utrinque subtus praesertim minute glanduloso-puberula. *Capitula* 3-4 lin. (diametro, pedunculis tenuibus 1-1½-pollicaribus fulta, saepius 3-5 ad apices ramorum, quorum inferiora ad axillas foliorum superiorum.

Fig. 1. Receptacle, involucre, and paleae, longitudinal section. 2. Floret of the ray. 3. One of its staminodia. 4. Summit of its style. 5. Floret of the disk and subtending palea. 6. Three of its stamens, the anther-tails not represented sufficiently fully. 7. Summit of its style.

This plant was included by De Candolle in his genus *Epallage* from the same country. The true typical species of that genus have, however, a very different habit, no tails to the anthers, and the ribs of the\* achenes terminating in small aristae alternating with distinct scales of the pappus, which places them among the Helianthoideae, whilst *Sphacophyllum* appears to me to be a genuine Bupthalmaea.—6. BENTHAM.

---

PLATE 1136.

COLEOCOMA CENTAUBEA, F. Muell.

COMPOSITE, Tribe INFLOIDEJS PLUCHEINEA.

*C. centaurea*, F. Muell. in Hook. *low Journ.* iz. 19 j Benth. *Fl. Austral.* iii. 533.

HAB. Tropical Australia; Start's Greek, F. Mueller.

*Caules* humiles, duri, erecti, rigidissimi, glabri, basi v. lignosi quamvis forte annui. *Folia* alterna, subsessilia, linearia v. lineari-lanceolata, acuta, dentibus paucis parvis acutis notata, basi contracta, superiora interdum breviter decurrentia, vix pollicaria, summa saepe 2-3 sub capitulo conferta. *Capitula* inter folia ultima ad apices ramorum v. in dichotomiis sessilia. *Involucrum* ovoideum, 4-5 lin. longum, bracteis luteis coriaceis appressis, apice scarioso-marginatis mucronulatis, more *Centaurea* subappendiculatis. *Corolla* vix exsertae, forminaeas 2-3-seriatse tenues, hermaphroditse plures, steriles. *Pappi* paleae 1-seriatse, florum fertilium alte connatae, florum sterilium (pre liberum).

Fig. 1. Involucre and receptacle, longitudinal section. 2. Female floret. 3. Summit of its style. 4. Hermaphrodite sterile floret. 5. Three of its stamens. 6. Summit of its style represented as divided, but the branches usually cohere to the end. 7\* Achene of the female florets with its pappus.

The genus is closely allied to *Pterigeron* from the same country, differing chiefly in the pappus and in the habit which is not unlike that of some European *Centaurea* or South African *Geigeria* or *Gymnarrhena*.—G. BENTHAM.

---

## PLATE 1137.

### CHILIOCEPHALUM SCHIMPEEI, *Benth.*

COMPOSITE, Tribe INULOLDEIS GNA?HALIEJE.

**Chiliocephalum**, *Benth. gen. nov.* Capitula heterogama, disciformia, floribus in ambitu femineis fertilibus plurimis, in disco hermaphroditis perpaucis (1-2) pariter fertilibus. Involucrum oblongum, bracteis paucis imbricatis hyalino-scariosis appressis, exterioribus brevioribus dorso sublanatis. Seceptaculum parvum, nudum. Corolla omnes tubulose, fames tubo filiformi, limbo parvo campanulato 3-5-fido; hermaphrodite tubo brevi, limbo elongato angusto apice 5-fido. Anthera basi sagittata, auriculis caudis brevibus subramosis appendiculatis. Styli florum hermaphroditorum rami subteretes, apice truncati. Achania anguste oblonga; pappus 0.—Herba, erecta cano-tomentosa, habitu Achyroclinis. Folia alterna, integra. Capitula minima, dense conferta, corymbosa.

**C. Schimperi**\* *Benk. single species.*

HAB. Abyssinia; banks of derated mountain streams in Saman, *Schimper*.

Caules e basi dura (an perennif) erecti, subsimplices, 1-2-pedales, laxe cano-tomentosi v. sublanati. Folia sessilia v. anguste decurrentia, lanceolata v. anguste oblonga, acuta v. obtusa, integerrima, saepe undulata, supra tenuiter tomentosa v. demum glabrata, subtus cano-tomentosa, majora 1-2-pollicaria. Capitula vix lineam longa, innumera, densissime cymosa, cymis 3-4 poll. diametro plurimis interdum numerosis in corymbum densum 2-4-poll. diametro confertis. Involucra canescentia,—G. BENTHAM.

Fig. 1. Flower-head much magnified. 2. Involucre and receptacle, longitudinal section. 3. Female floret. 4. Summit of its style, the branches represented too thick and too much truncate. 5. Hermaphrodite floret. 6. Three of its stamens, not sufficiently tailed. 7. Style.

---

PLATE 1138.

DENEZIA CAPENSIS, Thunb.

COMPOSITE, Tribe INULOIDEA PLUCHEINEJB.

**D. capensis**, Thunb.; DC. Prod. v. 462, foliis subtus albo-tomentosis.

HAB. S. Africa, apparently common in the eastern districts of the Cape Colony, extending to the highlands of the Batoka country within the tropics.

*Caulea* e basi annua v. perenni, numerosi, decumbentes v. ascendentes, plerique infra 6 poll., v. in speciminibus vegetioribus erectiores subpedales, tenues, glabri v. tomento deciduo vestiti. *Folia* oblongo-linearia, sessilia, amplexicaulia, acuta, margine saepius undulata interdumque sinuato-dentata, 1-3 poll, rarius 4 poll, longa, supra glabra v. laxe tomentosa, subtus tomento appreso incana; inferiora v. radicalia sspe subspathulata obtusa in petiolum contracta. *Capitula* viz 2 lin. diametro, in glomendos v. cymas parvos plus minus pedunculatos terminates disposita, foliis floralibus superioribusque vulgo diminutis. *Flores* albi, foeminei in capitulo numerosi, centrales hermaphroditi sterilesque multo pauciores, acheniis vacuis seta unica apice plumosa coronatis.

**Kg. 1.** Involucre and receptacle. **2.** Female floret **3.** Summit of its style, the brandies represented much too thick. **4.** Hermaphrodite floret. **5.** Three of its stamens, the very fine tail\* to the anthers not clearly represented. **6.** Summit of its style. **7.** Seta forming the pappus.

Besides this species, the genus comprises a second one described under the name of *D. ccerulea*, with the note that the central hermaphrodite florets are fertile, and the achenes rostrate; the specimens are, however, not sufficiently advanced to verify these characters.—G. BENTHAM.

PLATE 1139.

LUINA HYPOLEUCA, Benth.

COMPOSITE, Tribe SENECONIDEA P

**Lfina**, Benth. gen. nov. *Capitula* homogama, discoidea, floribus omnibus hermaphroditis fertilibus. *Involucrum* campanulatum^ bracteis subuni-

seriatis subsqualibus carinatis, exterioribus perpaucis minimis v. nullis. *Receptaculum* subplanum, leviter foveolatum. *Corolla* regulares, tubulose, limbo elongato subcylindraco apice 5-fido. *Anthera* basi bimucronatse breviter 2-setoss v. mutics. *Styli* rami elongati, obtusi, extus papilloso. *Achcenia* (immatura) subteretia, 10-striata, glabra. *Pappi* setae copiosse, tenues, scabro, albs.—Herba, *caulibus erectia*. *Folia alterna, integerrima, aubtusnivea*. *Capitula corymbosa*. *CovoWm Jlava*.

*IM. hypoleuca*, *Benth.*, *single species*.

HAB, N. W. America; amongst rocks, Cascade mountains, Lake Chilukweynk, *D. Lyall*

*Caules* e caudice lignoso erecti, prater inflorescentiam simplicis, 1-1½-pedales, laxe niveo-tomentosi. *Folia* sessilia, ovata elliptica v. ovali-lanceolata, acutiucula v. obtusa, rigidula, 1-2-pollicaria, 3-5-nervia et eleganter venosa, supra glabra, subtus niveo-tomentosa. *Capitula* baud numerosa, confertim corymbosa, singula pedunculo 1-1½-pollicari fulta. *Involucrwn* circa 4 lin. longum, bracteis ad 12 lineari-lanceolatis rigidulis. *Flores* involucro dimidio longiores. *Corollarum* lobi recurvi. *Anthera* corolla longiores. *Achamia* glabra v. vix pilosula. *Pappus* mollis, niveus, involucro paulo longior.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Floret. 3. Three of its stamens. 4. Summit of its stipe.

The affinities of this plant are somewhat doubtful. A. Gray, on seeing the specimens in *Herb. Hook*, at once pronounced it to be a distinct genus with the style of an *Inula*; the stamens, involucre, and pappus are, however, much more those of a *Senecio*; the filaments show also the peculiar dilatation or change of consistence below the anther which is much more frequent in *Senecionideae* than in other tribes, although it does not appear to be generically constant even in *Senecio* itself.—G. BENTHAM.

---

## PLATE 1140.

### GONGBOTHAMNUS DIVABICATUS, *Steetz*.

#### COMPOSITJS, Tribe SENEGIONIDIJS.

~ *G. divaricates*, *Steetz in Peters, Mossamb. Bot. 342*.

HAB. E. tropical Africa; Lower valley of the river Shire, /i. *Kirk*, *C. J. Mellor*.

*Caules* pluripedales, lignosi, tenues, ramis laxe divaricatis v. scandentibus, novellis cano-tomentellis mox glabratis. *Folia* alterna, petiolata, ovata v. ovato-lanceolata, < acute acuminata, integra v. irregulariter dentata, basi

cuneata, 1½-3-pollicaria, triplinervia et pennivenia, supra glabra, subtus tomento minute incana. *Capitula* ad apices rarasim corymbosa. *Involucrum* circa 5 lin. Ion gum, bracteis rigidulis acutissimis glabris v. minute ciliato-puberulis, intimis paleaceis subscariosis exterioribus gradatim brevioribus viridioribusque. *Receptaculum* foveolatum, foveolorum marginibus denticulatis. *Corolla* flavae, breviter exsertae. *Pappi* setae sordid®, involucrum subaequantes. *Achania* pilosula.

Fig. 1. Involucre and receptacle, longitudinal section. 2. Floret. 8. Three of its stamens, the auricles of the anthers not quite correct. 4. Summit of its style, the papilla represented too much like hairs.

It is possible that this plant may prove to be identical with the *Vernonia tolidaginifolia*, Boj. in DC., Prod. v. 30, but it is at any rate a congener; and Steetz appears to have been perfectly correct in removing it from *Vernonia* on account of its style, habit, and yellow flowers, all of which point to a much closer affinity with the Senecionidee.—G. BENTHAM.

---

PLATE 1141.

CBEMANTHODIUM BENIFOBME, *Benth.*

COMPOSITE, Tribe SENECONIDEJE.

**Cremanthodim**, *Benth. gen. nov.* *Capitula* heterogama, radiata, Aoribus radii foemineis 1-seriatis discique hermaphroditis fertilibus. *Involucrum* hemisphaericum, bracteis sub-2-seriatis imbricatis membranaceis inaequalibus v. exterioribus paucis brevioribus. *Receptaculum* subplanum, foveolatum. *Corolla* foemineaeligulatae, lamina patente integra v. 3-dentata; hermaphrodite regulares, tubulosae, limbo cylindraceo apice 5-fido. *Anthera* basi subintegre v. auriculis minutis sagittatse. *Styli* florum hermaphroditorum rari crassiusculi, plus minus complanati, obtusi, dorso papilloso. *Achania* obtuse angulata, 5-10-striata, oblonga v. apice contracta. *Pappi* setae copiosae, tenues, scabrae v. barbellatae.—Urbae perennea, foliis plerumque v. omnibus radicalibus cordato-reniformibus dentatis v. lobatis v. angustispinnatifidisque. Scapi l-cephali, aphylli v. foliis prope basin paucis alternis. *Capitula magna, nutantia. CoioWa Jhva v. cornea.*

**C. reniforme**, *Benth.*, foliis orbiculato-cordatis reniformibusve crenatodentatis. *Lignaria? reniformis*, DC. Prod. vi. 315; *Senecio reniformis*, Wall. Cat. Herb. Ind. n. 3141.

HAB. Himalaya mountains at various elevations from 10,000 to 18,000 ft. West Tibet, *Falconer, Jacquemont*; Gossain Than, *JFallich*; Kumaon, *Strachey and J. Pinterbottom*; Sikkin, *J. D. Hooker*.

*Caudex* crassus, brevis, perennis. *Folia* glabra, radicalia petiolo 3-8-pollicari fulta, magnitudine varia et forma nunc fere ovata et profunde cordata longiora



quam lata, nunc orbicularia v. latiora quam longa et breviter lateque cordata, in speciminibus occidentalibus interdum 3-pollicaria dentibus grossis mucronulatis, in orientalibus dimidio minora obtuse crenata, specimina tamen plurima intermedia. *Scapi* foliis multo longiores, superne saepius plus minus pubescentes et sub capitulo glandulosi, nunc aphylli y. vagina laxa herbacea instructi, mine infra medium folia 1-2 gerentes radicalibus conformia nisi multo minora, petiolo tenui basi in vaginam laxam dilatata. *Capitula* magnitudine fere *Arnica montana*. *Involueri* bractee oblong® v. lanceolate, acuminate, semipollicares, 2-seriate absque bracteis exterioribus accessoriis. *Ligulce* 15-20, f-1-poll. long©, integrae. *Corolla* disci numerosa, involucrium viz superantes. *Anthera* breviter exserte. *Achamia* glaberrima, anguste oblonga, infra medium attenuata, angulis ante maturitatem prominentibus, demum minus conspicuis. *Pappus* in forma normali albus, setis tenuibus rigidulis 1-seriatis.

Fig. 1. Floret of the ray. 2. Floret of the disk. 8. Three of its stamens.

Dr. Hooker's Sikkim collection contains also specimens of a marked variety *phawpappum*, with smaller leaves and flowers, and the pappus of a brownish colour. I can detect no other difference. The genus appears to me, both in habit and style, to be nearer to *Homogyne* than to *Senecio* or *Ligularia*. The style figured in the plate is taken from an old flower, the branches having shrunk at the extremity. When the flower first expands the style branches are of equal breadth to the end, where they are rounded without any appendages, the stigmatic series turning quite to the end.—G. BENTHAM.

---

PLATE 1142.

CK3MANTHODIUM PALMATUM, *Benth.*; and

C. PINNATIPIDUM, *Benth.*

COMPOSITE, Tribe SENECONIDEJE.

*C. palmatum*, *Benth. rp, nov.*, foliis suborbiculatis profunde palmatis 6-12-fidis.

HAB. Sikkim Himalaya, at an elevation of 12,000 to 14,000 ft., / *D. Hooker*.

*Statura et Capitula* speciminum minorum *C. reniformis*. *Folia* plurima, infra medium caulis longiuscule petiolata, parce pilosula; petioli basis anguste vaginata v. equalis, lamina j-1-poll. diametro, ad medium v. profundius inaequaliter tamen lobata. *Pappus* albus, form® typicee *C. reniformis*. *Corolla* pallide carnea.

**C. pinnatifidum**, *Benth. sp. nov.*; foliis oblongis profunde pinnatifidis.

HAB. Sikkim Himalaya, at an elevation of 14,000 to 15,000 feet, /. *D. Hooker*,

*Scapi* vix semipedales. *Folia* radicalia 1-2-pollicaria, petiolo brevi vix dilatato, lamina fere ad rhachin divisa, laciniis utrinque 5-9 oblongis interdum curvis integerrimis v. uno latere 1-2-dentatis 2-4 lin longis; caulina prope basin scapi pauca v. 0, dum adsint interdum radicalibus majora, petiolo basi in vaginam latissimam dilatato, v. folium interdum ad vaginam solam reductum. *Capitula* et flores omnino *C. reniformis*.—G. BENTHAM.

---

PLATE 1143.

THESPIDIXJM BASIELOBTTM, *F. Muett.*

COMPOSITE, Tribe INULOIDIBIE ^LUCHEIKEJE.

**T. basiflorum**, *F. Muell*; *Benth. Ft. Austral.*, iii., 534.—~~*Pluchea*~~ *batiflora*, *F. Muell. Kep. Babb. Exped.* 12.

HAB. Tropical Australia; islands of the Gulf of Carpentaria, *Jt Brown*; Port Essington, *Armstrong*; Upper Gilbert River, *IP. Mueller*.

*Caules* e basi dense caespitosa numerosi, rigidi, diffusi v. ascendentes, uti folia et involucri pubescentes v. birsuti, pierique semipedales v. rariu&^ab-pedales. *Folia* alterna, subsessilia, rigida, linearia v. lineari-lanceolata, mucronato-acuta, integra v. acute paucidentata, rarius pollicem excedentia, basi longiuscule contracta. *Capitula* anguste ovoidea, 3-4 lin longa, ad axillas sessilia, superiora solitaria distantia, inferiora per 2-4 in axillis aggregate, et prope basin caulium more spederum quarumdam *Lepidagathia* densissime conferta. *Flores* feminei numerosi, hermaphroditi in disco solitarii v. pauci. *Corolla* et *pappus* involucri brevicres. *Acluenia* pilis glochidiatis hispida.

Fig. 1. Receptacle and involucre, longitudinal section. 2. Female floret. 8. Hermaphrodite floret. 4. Three of its stamens. 5. Achene and pappus. 6. One palea of the pappus.

This plant is chiefly remarkable for its habit. In essential characters it is nearly allied to *Pluchea*, from which it is technically distinguished by the pappus and inflorescence.—G. BENTHAM.

---

## PLATE 1144.

## ADELOSTIGMA SENEGALENSIS, Benth.

COMPOSITE Tribe ASTEROIDEJE CONYZBJE.

**A. senegalensis**, Benth. *ip.nov.*; foliis breviter pinnatisectis, capitulis foliis floralibus cinctis.

HAB. Senegambia; marshy places, Fouta d'Hiallon, *Heudelot*, n. 677.

*Herba* annua, erecta, rigidula, subpedalis, superne parce ramosa, glabra, caule ramisque lineis elevata v. alia angustissimis a foliis decurrentibus percursis. *Folia* linearia, acutissima, 1-2-pinnatifida, segmentis tenuibus subulatis distantibus. 1-2 lin. longis; summa breviora, segmentis paucis, sub capitulo conferta. *Capitula* ad apices ramorum solitaria, intrafolia summa sessilia, f. poll. diametro. *Involucra* bracteata a foliis floralibus gradatim diminuta, lineares, acuminatae, integerrimae, exteriores parce pubescentes. *Mores* feminei, numerosi, multiseriati, corollis tenuissimis pappo involucroque multo brevioribus, stylis longe exsertis tenuissimis, filiformibus in ramos longos divisis; flores hermaphroditi solitarii v. pauci, corollis longe angustaque tubulosis 5-dentatis. *Anthemium* basi emarginatae v. breviter obtuseque sagittatae, auriculis connatis. *Stylus* indivisus, obtusus, extus papillosus. *Achania* florum femineorum hirtella, obtusangula, pappi setis basi leviter in anulum cohaerentibus; florum disci forte sterilia.

Fig. 1. Female floret. 2. Hermaphrodite floret. 3. Three of its stamens. 4. Summit of its style.

I had long since indicated this as a new genus in Sir W. Hooker's herbarium, and alluded to it as such in the 'Niger flora,' p. 431, but when describing it for the 'Genera Plantarum' it appeared to me closely allied to the more recently published *Adelostigma* of Steetz, from Mozambique. An inspection of Feters's original specimen, lent for the purpose by the Royal Herbarium of Berlin, has shown that the two are strictly congeners, although specifically distinct.—G. BENTHAM.

## PLATE 1145.

## ASEMNANTHE PUBESCENS, Hook, f.

KUBIACEAE, Tribe CHIOCOCCEJE.

**Asemnanthe**, Hook, in Benth. and Hook. f. *Gen. Pl.* ii, 106.

HAB. Yucatau; in moist woods near Ciapas, *Linden* (n. 1264 bis).

*Frutex* tomentosus, ramulis gracilibus divaricatis teretibus. *Folia* 1-2-poll. longa, opposita, breviter petiolata, elliptica, obtusa v. acuta, membranacea, nervis obscuris. *Stipulae* interpetiolares, parvas, subulate. *Flores*

parvi, J-J-poU- longi, in fasciculospaucifloros axillares dispositi, flavi, breviter pedicellati, pedicello bracteolato, bracteola subuiata. *Calyck* tubus minutus, ovoideus; limbus tubum longe superans, 4-partitus, segmentis lanceolatis acuminatis persistentibus. *Corolla* urceolato-tubulosa, pubescens, ore subcontracto, fauce glabra; limbi parvi lobi 4, erecto-patentes, ovati, acuti valvati. *Stamina* 4, fundo tubi corolla inserts, filamentis \*erectis barbatis anther© basifixae, lineari-oblongse, utrinque obtusa, incluse. *LUcul* obscurus. *Ovarium* 2-loculare; stylus filiformis, apice paulo incrassatus, stigmate obtuso exserto; ovua in loculis solitaria, ab apice pendula, obl'onga, lateraliter compressa, funiculo brevissimo. *Frutu*\* immaturus ovoideus, pubescens, 2-locularis, loculis angustis. *Sernina* desunt.

Obviously a member of the American tribe *Ohiocoecea*, and closely allied to *Salzmannia* in its axillary inflorescence, tetramerous flowers, filaments united into a tube which is inserted at the base of the corolla-tube, and in the basifixed anthers; but differing widely in habit, in the calyx, structure of the style, and in the simple funicle of the ovule.—J. D. HOOKEB.

Fig. 1. Flower. 2. The same with the corolla laid open. 3. Vertical section of ovary. 4. Transferee section of ditto:—off magnified.

---

PLATE 1146.

SYNAPTANTHA TILL2BACEA, *Hook.f.*

RUBIACE\*!, Tribe HEDYOTIDEJ:.

*Synaptantha*, *Hook.f.*, in *Batik*, and *Eook.f. Gen. PL* ii, 61.

**S. tUlaeacea**<sub>f</sub> *Eook.f. I. o.* *Hedyotis tillseacea*, *F.MueU.*, *Frajm*,<sup>m</sup> *Fl. Austral*, iv. 39; *Benth. Fl. Austral*, iii. 405.

HAB. Sub-tropical Australia, in plains, *Sir T. Mitchell*, No. 417 (Nov. 1846); Swan River, *Drummond*, No. 108, 4th coll.; between Darling Eiver and Cooper's Creek, *ffomtf*'\* *Expedition*; • 8utton River, *Bowman*; Mac-kenzie Eiver, *F. Mueller*.

*Herba* humilis, perennis, ramosa, basi lignosa, mmutissime scaberula, ramulis erectis v. patulis teretibus siccitate sulqatis. *Folia* opposita, i-|-poll. longa, in plantis junioribus obovato-spathulatis, in senioribus linearibus rigidulis ncutis, marginibus recurvis. *Stipula* breves, interpetiolares, membranaceae utrinque cum foliorum basibus connate, persistentes, truncate v. 2-dentat©. *Floret* ex albo rubescentes, solitarii v. pauci, r<sup>2</sup>-poll. diam., pedunculati, pedunculis rigidis folio brevioribus v. paullo longioribus, 1-raris-sime 3-floris, ebmcteat. *Calyds* J-superi tubus turbinatus; limbi lobi 4, herbacei, lineares, distantes, persistentes. *Corolla* rot«ta, ad basin 4-partita, glabra; segmentavix connata, ovato-lanceolata, acuta, calycjs tubo paulo longiora, valvata, marcescentia. *Stamina* 4, inter segmenta corollse inserta,

et lateribus ovarii adnata, persistentia, filamentis filiformibus; anthers dorso affixes, parvsB, oblongse. *DUcua* inconspicuus. *Ovarium* £-superum, vertice hemispherico, 2-locularis; stylus gracilis, ramis 2 parvis linearibus divaricatis recurvis; ovula in loculis plurima, placentis septo adnatis inserta. *Capsula* f-supera, latior quam longa, sepalis petalis staminibusque persistentibus circumdata, vertice late conico v. truncate 2-lobo obtuso, coriacea, 2-locularis, loculicide 2-valvis, valvis apicedemum 2-fidis, oligosperma. *Semina* oblonga, obtuse angulata, facie ventrali planiuscula v. convexa inserta, testa l»vi, albumine carnosio; embryo teres, cotyledonibus oblongis.

At first sight this singular little plant resembles an *Oldenlandia*, but on a closer examination proves so different from that genus that I almost doubt its affinity with it, and possibly its being rightly placed in the same tribe with it. It widely differs from the prevalent characters of Rubiaceae in the completely 4-partite corolla, the lobes of which are scarcely perceptibly connate, and firmly adnate by a broad base to the ovary and are both persistent and marcescent. The filaments also are so firmly adherent both to the ovary and to the very base of the petals, that they are equally persistent, and it is difficult to pronounce them to be either epigynous or epipetalous, a point only determinate by the study of very young buds. These characters are very suggestive of a Gentianal alliance, and especially of one with *Mitrasacme*, but the style is single, the stipules are very conspicuous, and the insertion of the stamens is quite different.

The specimens from Drummond and from Howitt's Expedition are very small, evidently first year's, with a slender root, and spreading herbaceous branchlets, smaller broader leaves, shorter sepals and petals and a broader capsule; they may be taken for a different and annual species, but I suspect that they are seedling states.—J. D. HOOKER.

Ep. 1. Flower. 2. The same Uid open. 8. Fruit. 4. Vertical section of ditto. 5.

---

PLATE 1147.

**STILPNOPHYLLUM LINEATUM, Hook.f.**

EuBiACB.fi, Tribe CINCHONEJE?

Genus **StUpnophylhun**, *Hook, l. in. Benth. and Hook. l. Gen. Pl.* ff. 83.

**8. lineattun**, *HookJ. 1. c.* *Elseagia lineata*, *Spruce, n.* 4568.

HAB. Eastern Peru, on the summit of the Cerro Pelado, near Tarapoto, *Spruce*, (». 4568.)

*Arbmcula* ramosa, 10-pedalis (*Spruce*), glaberrima, 3-chotome ramoaa; ramulis lignosis t^retiusculis, cortice siccitate atro obtectis, ultimis obscure

4-gonis gemmisque yernicosis. *Folia* opposita, petiolata, coriacea, 3-4-poil. longa, elliptico-lanceolata, acuminata, superne castanea nitida costa depressa, nervis per plurimis diraricatis parallelis lineata, subtus pallida costa valida, nervis gracillimis; petiolo ƒ-j--poll, longo. *Stipules* majuscuhe, intrapetiolaes, erect®, oblongse, obtusss, coriacere, caduca. *Mores* J-J-poll. longi, in paniculas breves terminales dispositi, brevissime pedicellati, albivirides, minute bracteolati; paniculs ramis oppositis crassis compressis patentibus, basi breviter bracteatis. *Catycü* tubus turbinatus; limbi brevis dentes 5, ovati, acuti, persistentes. *Corolla* infundibulari-campanulata, coriacea, tubo glabro, fauce dense villosaj limbi lobi 5, tubo paulo breviores, oblongi, obtuai, revoluti, valvati. *Stamina* 5, fauci corollas inserta, filamentis filiformibus; anthers dorso basi affixae, erects, lineares, obtusa, exserts. *Discus* conicus. *Ovarium* 2-loculare; stylus breviusculus, ramis 2 linearibus obtusis intus papillósis; ovula in loculis numerosa, placentis septo medio adnatis affixa. *Fruclus* deest.

Until the fruit of this curious plant is known, its place in the Order cannot definitely be ascertained. That it is no *Elaagia* is evident from the valvate corolla-lobes, and absence of the appendages at the base of the filaments. If not belonging to Cinchones proper, it must be referred to Bondeleties and to the neighbourhood of *Bondeletia* itself, from which it differs altogether in habit, whilst on the other hand it has all the appearance of a member of the tribe *Cinchonea*.—J. D. HOOKER.

Fig. 1. Flowtr. 2. The same with the corolla laid open. 3. Stameni. 4. Vertical section of disk and ovary:—*all magnified*.

---

PLATE 1148.

CHALEPOPHYLLUM GUYANENSE. *Hook./.*

RUBIA.GEƒ, Tribe BOMDELETIEJE.

*Chalepophyllum*, *Rook.f.inBenth. and Hook.f. Gen. Pl. ii. 50.*

HAB. British Guiana, *Schomburgh*.

*Frutex* v. *arbor*, ramulis robustis lignosis obtuse 4-gonis, ultimis pube (exsiccata) atra brevi dense vestitis. *Folia* 1-2ƒ-poll. longa, crasse coriacea, opposita, obovata, apice rotundata, in petiolum brevem crassum angustatã, marginibus tenuiter recurvis, supenie siecitate fuseis nitidis costa furfuræea nervisque rectis parallelis divaricatis depressis; subtus brunæa, tonvnto appresso vestita, inter nervos latiusculos areolata. *Stipules* interpetiolaes, brevës, late, subacutaB, persistentes. *Flores* ƒ-poll. longi, in axillis oppositis solitarii, breviter pedicellati, pedicello 2-bracteolato, bracteolis coriaceis. *OahfcU* tubus turbinatus; limbi lobi 5, inaequales, lineari-spathulati, ovati, obtusi, rigidi, persistentes. *Corolla* infundibularis, faucer villosa; limbi i-poll. diam. lobi 5, patentes, late oblongi, obtusi, contorti. *Stamina* 5, fauci corolte inserta; filamentis filiformi-subulatis; anthers dbrso basi affixae,

lineari-subulatse, acuta?, connective) dorso incrassato, inclusae. *Discus* tumidus. *Ooarium* 2-loculare; stylus filiformis, glaber, ramis 2 brevibus linearibus; ovula in loculis uumerosa, placntis septo medio adnatis affixa. *Capsula* £-poll. longa, ellipsoidea, crasse Crustacea, vertice inter lobos calycinis conico truncato, 2-locularis, septicide 2-valvis, polysperma. *Semina* parva, subcompressa, angulata, angulis vix in alam productis, umbilico ventrali, testa coriacea reticulata.

A very distinct plant, evidently allied to *Rondeletia*, but differing in the contorted corolla-lobes and unequal calyx-segments, as also in the solitary axillary flowers. The specimens are neither copious nor very complete, but I think that the corolla-lobes are strictly contorted. The hairs within the corolla-throat are flattened and twisted.—J. D. HOOKEB.

Fig. 1. Flower. 2. Ovary and calyx. 3. Corolla laid open. 4. Stamen. 5. Seeds:—*mil magnified.*

---

PLATE 1149.

LEFTOSCELA RUELLIOIDES, *Hook.f*

EUBIACEJS, Tribe HEDYOTIDEA.

**Leptoscela**, *Hook.f. in Benti. and Hook.f. Oen. PL ii. 59.*

HAB. Brazil, in the province of Hhios, *Blanchet*, n. 2899.

*Herba* dichotome ramosa, ramis strictis gracillimis teretibus, internodiis elongatis. *Folia* lj—2-poll. louga, opposita, breviter petiolata, ovato-lanceolata, acuminata, membranacea, subtus pubescentia. *Stipules* interpetioKrēs, breves, membranace®, multisetosse. *Floret* parvnli/gracilc pedicellati, in cymas unilaterales exiles fere capillares axillares et ad dichotomias laterales dispositi, pecUcellis basi setaceo bracteolatis inferioribus v. omnibus florem sessilem iu axilla gerentibus, fructiferis £-poll. longis. *Calycis* tubus turbinatus v. obconicus; limbi lobi 5, subulato-lanceolati, tubo aequilongi, persistentes. *Corolla* ^-poll. louga, infundibuiaris, fauce glabra; limbi lobi 5, ovati, acuti, patentes, vaivati. *Stamina* 5, fauci corolla inserta, filamentis brevibus filiformibus; anthers dorso affixae, lineares, utrinque obtusae, -^exserte. *Discus* conicus. *Ovarium* 2-loculare; stylus filiformis, ramis 2 linearibus; ovula in loculis numerosa, 'placentis elongatis septo medio aftxis inserta. *Capsula* -jf-poll. longa, membranacea, ellipsoideo-oblonga, teres, costulata, vertice conico producto membranaceo septicide 2-valvi, valvis longe ultra calycem productis 2-fidis. *Semina* immature numerosa, oblonga v. obovoidea, testa ut videtur fungosa.

Of this very singular plant, I have seen but two fragments, evidently the tops of a tall very slender branching and probably annual herb, quite unlike any Rubiaceous plant known to me, whether in general habit or in inflorescence. The individual racemfe lengthen much (to 6-10 in.) in fruit, are almost filiform,

and bear the flowers in pairs on the side towards the axis, one flower being pedicelled, and the other sessile in the axil of the pedicel; towards the tip of each raceme the rachis usually forks and bears a flower in the fork.—J. D. HOOKER.

Fig. 1. Flower. 2. Calyx, ovary, and style. 3. Corolla laid open. 4. Stamen. 5. Capsule. 6. Vertical section of the same. 7. Immature seed:—*all magnified*,

---

PLATE 1150.

**SOLENANDRA IXOBOIDES, Hook. f.**

BUBIACEJB, Tribe CINCHONEJE.

**Solenandra, Hook./, in Benth. and Hook./ Gen. PL ii. 43.**

HAB. Island of Cuba, Don "Ramon de la Sagra, (communicated by Jf. Franqueville.

*Arbor* v. yfaftarglaberrimus, habitu *Ixora*, ramulis adscendentibus lignosis teretibus, cortice fusco lenticulis consperso. *Folia* 1<sup>^</sup>-1-poll. lata, opposita, late elliptica v. fere orbicularia, obtusa, coriacea, supra nitida, exsiccatione atrofusca, subtus pallida, opaca; nervis paucis patentibus arcuatis, inter nervos reticulata; petiolo -J-J-poll. longo. *Stipula* intrapetiolaris, parvae, obtusae, deciduae. *Corymbi* terminales, 3-chotome ramosi, ramulis puberulis patentibus gracilibus teretibus multifloris, primariis basi foliatis, ceteris basi bractea minuta subulata suffultis. *Floret* conferti, erecti, £-poll. longi, breviter pedicellati, bracteolis minutis v.0. *Calyci*\* tubus parvus, ovoideus; limbus 5-dentatus. *Corolla* hypocraterimorpha, tubo -J-poll. longo gracili intus glaberrimo; limbi i-poil. diam. lobi 5, oblongi, imbricati, lobis 2 exterioribus. *Stamina* 5, filamentis infra medium in tubum gracilem ima basi corolla tubi insertum (fere epigynum) connatis, superne liberis; antheras basifixae, lineares, obtusae, erectae, exserts. *Discus* inconspicuus. *Ovarium* 2-loculare; stylus filiformis, stigmatibus capitellato; ovula in loculis pauca (6-8), a dorso compressa, placentis supra medium septi affixis pendulis inserta. *Fruius* deest.

In general appearance this plant resembles an *Ixora*, but is clearly polyspermous, and in the absence of ripe seeds I refer it with little hesitation to the tribe Cinchoneae, where it ranges naturally enough near *Exostemma*, differing from it, and indeed from most of the\* Order in the filaments being connate below, as in *Capironea* and *Monadelpanthus*, and inserted so near the base of the corolla-tube as to be all but epigynous, as in *Chiococct* and other members of the tribe Chioecceae. Some fruit?, which accompanied the specimen evidently belong to another plant, being drupes with 2-celled putamens and solitary seeds.—J. D. HOOKER.

Fig. 1. Flower. 2. Ovary, style, and stigma. 3. Stamen: 4. Vertical section of ovarj. 5. Ovule:—*magnified*.

---



and bear the flowers in pairs on the side towards the axis, one flower being pedicelled, and the other sessile in the axil of the pedicel; towards the tip of each raceme the rachis usually forks and bears a flower in the fork.—J. D. HOOKER.

Fig. 1. Flower. 2. Calyx, ovary, and style. 3. Corolla laid open. 4. Stamen. 5. Capsule. 6. Vertical section of the same. 7. Immature seed: all magnified.

---

PLATE 1150.

SOLENANDBA IXOROIDES, *Hook.f.*

RUBIACEJ., Tribe GINCHONEJE.

*Solenandra*, *Hook.f. in Benth. and Hook. / Gen. Pl. ii. 43.*

HAB. Island of Cuba, *Don Ramon de la Sagra* (communicated by *M. Franquet*).

*Arbor* v. *frutex* glaberrimus, habitu *Ixora*, ramulis ascendentibus lignosis teretibus, cortice fusco lenticulis consperso. *Folia* 1<sup>1</sup>-1-poll. lata, opposita, late elliptica v. fere orbicularia, obtusa, coriacea, supra nitida, exsiccatione atro-fusca, subtus pallida, opaca; nervis paucis patentibus arcuatis, inter nervos reticulata; petiolo 1<sup>1</sup>-1-poll. longo. *Stipulae* intrapetiolares, parvae, obtusae, deciduae. *Corymbi* terminales, 3-chotome ramosi, ramulis puberulis patentibus gracilibus teretibus multifloris, primariis basi foliatis, ceteris basi bractea minuta subulata suffultis. *Flores* conferti, erecti, 1<sup>1</sup>-poll. longi, breviter pedicellati, bracteis minutis v. 0. *Calycis* tubus parvus, ovoideus; limbus 5-dentatus. *Corolla* hypocraterimorpha, tubo 1<sup>1</sup>-poll. longo gracili intus glaberrimo; limbi 1<sup>1</sup>-poll. diam. lobi 5, oblongi, imbricati, lobis 2 exterioribus. *Stamina* 5, filamentis infra medium in tubum gracilem ima basi corollae tubi insertum (fere epigynum) connatis, superne liberis; antheris basifixis, lineares, obtusae, erectae, exsertae. *Discus* inconspicuus. *Ovarium* 2-loculare; stylus filiformis, stigmate capitellato; ovula in loculis pauca (6-8), a dorso compressa, placentis supra medium septi affixis pendulis inserta. *Fructus* deest.

In general appearance this plant resembles an *Ixora*, but is clearly polyspermous, and in the absence of ripe seeds I refer it with little hesitation to the tribe Cinchoneae, where it ranges naturally enough near *Exostemma*, differing from it, and indeed from most of the Order, in the filaments being connate below, as in *Gapirona* and *Monadenophanthus*, and inserted so near the base of the corolla-tube as to be all but epigynous, as in *Ohiococca* and other members of the tribe Chio-cocceae. Some fruits, which accompanied the specimen, evidently belong to another plant, being drupes with 2-celled putamens and solitary seeds.—J. D. HOOKER.

Fig. 1. Flower.\* 2. Ovary, style, and stigma. 3. Stamen. 4. Vertical section of ovary. 6. Ovule:—*magnified*

## PLATE 1151.

**HEKISTOCARPA MINUTIFLORA**, *Hook.f.*

RUBICEAE, Tribe HEDYOTIDEAE.

**Hekistocarpa**, *Hook.f. in Benf. and Hook.f. Gm.* PL ii. 62.**H. minutiflora**, *Hook.f.*, species unica.HAB. Western tropical Africa, mouths of the Old Calabar river, *G. Mamm.* (Feb. 1863).

*Herba* 4-5-pedalis, substrigoso-pilosa, annua, caulibus gracilibus cylindraceis elongatis. *Folia* 8-4 poll, longa, opposita, tenuiter membranacea, elliptico-lanceolata, in petiolum brevem gracilem angustata, acuminate, utrinque sparse strigillosa. *Stipulae* interpetiolares, ovato-lanceolatae, herbaceae, reflexae. *Floras* minuti, 1-2 poll, longi, in ramis gracillimis cymes dichotomic axillaris secundi, approximati, sessiles v. brevissime pedicellati, pedicellis bracteolis minimis subulatis suffultis. *Calycis* tubus oblongus, dentes 5, persistentes. *Corolla* infundibularis, tubo intus glabro, fauce pilosa; limbi lobi 5, late ovati, obtusi, reduplicatim valvati. *Stamina* 5, tubo corollae inserta, inclusa; antherae sessiles, oblongae, obtuse. *Discus* cupularis. *Ovarium* 2-loculare; stylus gracilis, ramis 2 spathulatis divaricatis; ovula in loculis numerosa, 1-seriata, placentis filiformibus septo longitudinaliter adnatis inserta, ascendente. *Capsula* minuta, crustacea, lineari-oblonga, utrinque obtusa, septo contrarie compressa; septicida in coccos 2 tarde dehiscentes partibilis, oligosperma. *Semina* minuta, 1-seriata, subglobosa, obtuse angulata, testa crassiuscula foveolata, albumine parco; embryo clavatus, 2-fidus.

A Hedyotideous herb, apparently annual, differing much in habit from its congeners, though approaching in inflorescence to *Leptoscela* (tab. 1149), *Sparganium*, *Ophiorhiza*, and other genera of *Hedyotideae* with scorpioid cymes. The capsule is almost indehiscent, and the ovule and seeds seem to be regularly uniseriate in each cell.—J. D. HOOKER

fig. 1. Bud (aestivation incorrectly represented). 2. Flower, bracteole, and portion of axis of cyme. 3. Corolla laid open. 4. Stamens. 5. Vertical section of ovary. 6. Capsule. 7. Seed. 8. Embryo *in situ*—all magnified.

## PLATE 1152.

SALMEOPSIS CLAUSSENII, *Benth.*

COMPOSITE, Tribe HELIANTHOIDEJ: YERBESINEJS.

*Salmeopsis*, *Benth. in Benth. et Hook. Gen. Pl. ii. 381.**S. Clausenii*, *Benth. sp. unica.*B.A.B. Brazil, prov. Minas Geraes, *Olaussen.*

*Frutex* videtur, forte subscandens, glaber v. minute scaberulus. *Bami* adsunt pedales subteretes. *Folia* opposita, per paria distantia, breviter petiolata, ovata v. late ovato-lanceolata, acuminata, 2-3 poll longa, 1-1 1/2 poll lata, brevissime et distanter dentata interdum inter dentes leviter sinuata, utrinque viridia, 3-nervia irregulariter pennivenia et Bubreticulata, nervis venisque subtus prominulis supra impressis, supra nitidula. *Corymbus* inter foliorum par supremum aphyllus, a basi trichotome ramosus, ramis primariis 2-4-pollicaribus ultimis brevissimis. *Bracteae* sub ramulis corymbi parvae, acutae. *Opitula* 3-4 lin. diametro, apice subplana, receptaculi paleisque involucra vix superantibus. *Involucris* bractea minute puberula, margine ciliolata.

This plant has apparently the habit and several of the characters of the West Indian and Mexican genus *Salmea*, but the pappus is nearer to that of *Vignera*.—Q. BENTHAM.

Fig. 1. Flowerhead without the flower, longitudinal section, showing the receptacle and paleae. 2. Floret. 3. Palea of the receptacle. 4. One awn and the intermediate squamellae of the pappus. 5. Three of the stamens. 6. Upper portion of the style.

## PLATE 1153.

OTOPAPPUS VEBBBSINOIDES, *Benth.*

COMPOSITE, Tribe HELIANTHOIDEJB VERBESINEJB.

*Otopappus*, *Benth. in Benth. et Hook. Gen. Pl. ii. 380.**O. verbesinoides*, *Benth. sp. unica.*B.A.B. Chontales in Nicaragua, *Seemann, Tate.*

*Herba* v. *suffrutex*? ut videtur erectus, siccitate nigricans, pilis brevibus rigidis appressis conspersus. *Folia* breviter petiolata ovata v. oblongo-lanceolata, acuminata, remote dentata, 3-5-pollicaria, supra nitidula scabriuscula, pinnatim paucivenia. *Pedunculi* in axillis superioribus.

linx 3-5-cephali, teimes, foliis multo breviores. *Involucra* late campanulata v. subhemisphaerica, 4-5 lin. diametrò. *Bracteae* pauciseriatis, intimae erectae striatis) in palcas receptaculi abeuntes, exteriores breviores apice herbaceo patentes. *Flares* radii 6-8, ligulis angustis 2<sup>^</sup>-3 lin. longis; disci involucro longiores, limbo cylindraco demum recurvo. *Achcenia* angusta, nigra, ad 2 lin. longa, a latere compressa, anglis 2 acutis, superiore rarius etiam inferiore pappo decurrente anguste alato. *Pappus* latere interiore in aristam productus srope lineam lon gam dorso ala in acbepnio decurrente appendiculatam, csBterm breviter paleaceus, lacero-dentatus, rarius latere exteriori in aristam brevem productus.—G. BENIHAM.

Fig. 1. Floret of the ray. 2. Summit of its style. 3. Floret of the disk. 4. Three of its anthers. 5. Summit of its <>yle.

---

PLATE 1154.

HYMENOSTEPHIUM MEXICANTTM, *B'entli*.

COMPOSITE, Tribe BELIANTHOIDEJS VEBBESINEJI.

*Eymenostephium*, *Bedth. in Benth. et Hook. Gen. Pl. ii. 382.*

*H. mexicanum*, *Bpnth*, foliis ovatis aoutis serratis, corymbo basi folinto, pappi squameliis majoribus latitudine achaenii multo brevioribus.

HAB. Mexidb, Cordova Valley, *Bourgeav. n. 1932.*

*Herba? v. suffrutex? glaber* V. apice minute cano-puberulus, caule erecto rartioso baud crasso, apex florifer in speciminibus ultrapedalis. *Folia* opposita, per paria distantia, summa floralia alterna, petiolo <sup>^</sup>—J-pollitari fulta, ovata, acute acuminata et inaBqnaliter serrata, majora 2-3-pollitaria membranacea tri-quintupliuervia, floralia ad basin pedunculorum minora. *Pedunculi* in axillis superioribus foliis paullo longiores, singuli corymbo laxiusculo pleiocephalo terminati, inflorescentia tota laxe corymboso-paniculata basi foliata; pedunculi ultimi breves filiformes. *Involucra* haud late campannata, vix 3-lin. longa, bracteis pauciseriatis imbricatis acutis striatis, exterioribus gradatim brevioribus. *Receptaculi* palea\* bracteis involucri similes nisi gradatim tenuiores floresque amplectentes. *Flores* radii 8-10, neutri, lamina flava patente subintegra ad 2 lin. longa; disci plurimi involucro paullo longiores, tubo vero brevissimo, limbo tubuloso apice breviter 5-fido. *Achamia* a latere compressa, nigra, parce pilosula. *Pappi* sqnamellae minima\* denticulatse, 2 paullo majores, 1-2 minimis saepius utrinque interpositis.

The second species of this genus from New Grenada, *Linden, n. 1393*, mentioned in the *Genera Plautarum*, may be thus characterised:\_\_\_

**H. angustifolium**, *Benth.*, suffruticosum, foliis lineari-lanceolatis subdentatis, corymbis longe pedunculatis, pappi squamellis majoribus latitudine acboenii sublongioribus.—*Caudex* basi liguosi ramosi, ramis erectis superne foliisque novellis tenuiter canescentibus. *Folia* oninia opposite, in petiolum contracta, 1-2-pollicaria. *Pedunculi* corymbiferi foliis 2-3-plo longiores. *Involucra* et floras *MEX. mexicanum*. *Pappi* squamelliferi hyaline, latiusculo, lacero-dentate, majores fere J-lin. long».—*Q. BENTHAM.*

Fig. 1. Floret of the ray. 2. Floret of the disk. 3. Summit of its style. 4. Achene.

---

PLATE 1155.

**GYMNOPENTZIA BIFURCATA**, *Benth.*

COMPOSITE, Tribe ANTHEMIDEAE: TAXACEAE.

*Gymnopentzia*, *Benth. in Benth. et Hook. Gen. Pl. ii. 537.*

**G. bifurcata**, *Benth. l.e.*, species unica.

HAB. Damp rocks to the west of Mount Boschberg, in the Diamond district, South Africa *Macowan.*

*Frutex* habitu fere *Athanasice*, glaber v. pilis raris reflexis pubescens et partes juniores interdum subcaescentes; rami virgati, fastigiati, dense foliati. *Folia* opposita, basi subconnata, ad axillas saepe fasciculata, angustè linearia, crassiuscula, sulcata, majora 1-poll. longa, pleraque apice bifurca v. ad medium biloba, ceterum integerrima. *Gypitula* parva, ad apices ramorum confertim corymbosa. *Pedunculi* 1-2-pollicares, medio saepe bibracteati. *Involucrum* latiuscule campanulatum, 2 lin. longum; bractea 3-4-seriata, oblonga, appressa, apice scarioso-marginata v. sphacelata, obtusa, exteriores gradatim breviores. *Flores* involucrum breviter superantes. *Corolla* tubus cum ovario subcontinuus, minute papillosus, limbo parum ampliato breviter 5-fido. *Antherae* et stylus omnino *Antlium* *Ulearum*. *Achena* subteretia, 12-15-costata, leviter puberula, pappo omnino deficiente.

This plant is nearly allied to the genus *Pentzia*, but the opposite leaves, almost exceptional in the tribe, and the achenes showing at least in the unripe state twelve to fifteen prominent ribs instead of five angles, induced me to establish it as a distinct genus. The forked leaves are also peculiar.—*G. BENTHAM.*

Fig. 1. Leaf. 2. Flower-head. 3. Floret. 4. Three of its anthers. 5. Summit of its style.

## PLATE 1156.

PLTJCHEA PINNATIFIDA, *Hook. f.*

COMPOSITE, Tribe INULOIDEJ} PLUCHEINEJS.

*P.* (Oligocephalnm) *pinnatifida*, *Hook. l. sp. n.* fruticosa, glutinosa, foliis pinnatifidis lobis linearibus, capitufis paucis pedunculatis sub-corymbosis, involncri bracteis pluriseriatis angustis.

HAB. Soumali country, East tropical Africa, *Copt. Playfair.*

*Frutex* ramosissinms, glutinosus, ceterum glaber,. ramulis tenuibus foliosis. *Folia* J-1-pollicaria, fere ad costam divisa in lobos pancos breviter lineares obtusos carnosulos. *Pedunculi* ad apices ramoram pauci, monocephali, ^-1-pollicares. *Involucrum* campanulatum, ad 4-lin. longum, bracteis nnmerosis, acutiusculis, plnriseriatis rigidulis, exterioribus gradatim brevioribns. *Rec&ptaculum* nndnm. *Flows faminei* pluriseriati; corolla tenuissima, subtridentata, pappnm non excedens. *Stylus* exsertus, tfamis filiformibus. *Flores hermaphroditi* in medio capitulo plures, corolla angaste tabulosa apice breviter 5-fida. *Anthem* basi brevissime caudatse. *Styli* rami (an semper P) lineares, erecti, conniventes (v. connati?). *Aclicenia* parva, villosula. Pappi sets pane®, tennes, vix sennlateB.

The stems of this plant and of the *Ip7iio?ia rotundifolia*, Oliv. and Hiern\* nnder the common name of *Gagaboot*, are employed medicinally by the Somalia for the cirre of almost all diseases. Mr. Vanghan, who, when Port Surgeon at Aden, contributed an interesting paper on Arab drugs to the pages of the 'Pharmaceutical- Journal,' describes these stems nnder the name *Dagaboot*, and states that they are employed by the natives in nearly every ailment, but especially for pain in the bowels, anorexia, and debility after fevers. (D. *Hmbury.*) Captain Playfair's specimens are far advanced, and not in a very good state, but the species is a very well marked one, allied only to the following *P. frutesGens.*—G. BENTHAM.

Fig. 1. Female flower. 2. Summit of-its style, 3. Bristle of its pappus. 4. Hermaphrodite flower. 5. Three of its stamens. 6. Summit of its style. 7. Inner buqt of the involucrum.

PLATE 1157.

**PLUCHEA PKUTESCENS, Benth.**

COMPOSITE, Tribe INULOIDEJE PLUCHEINEÆ.

P. (Oligocephalum) **frutescens, Benth. sp. n.** fruticosa, ramosissima, glabra v. parce piloso-pubescent, foliis oblongo-lanceolatis obovatisve grosse dentatis v. subpinnatifidis, capitulis paucis pedunculatis subcorymbosis, involucri bracteis pluriseriatis angustis.

HAB. Scinde and Punjab. *Stocks, Dalzell, Aitciieson, and others.*

*Frutex* ramosissimns, prope marem carnosns, in regione interiore lignosus foliis tenuioribus (Dalzell), glaber v. pilis raris «pubescens et (ex sicco) saspe gltinosns. *Ramuli* ssBpius dense foliati. *Folia* forma valde variabilia, sessilia, 1-1<sup>1</sup>-poll. longa, nnc omnia acuta angnsta et grosse v. breviter paucidentata, nunc lateobloi<sup>1</sup>ga v.obovata irregalariter subdnplicato-deiltata, infra medium contracta et profunde dentata v. lobata. *Capitula* ad apices ramorum hand numerosa, in corymbum simplicem folia vix excedentem disposita, pednncnlis tennibus -<sup>1</sup>-poll. longis. *LivoluM-um* campannatnm, ad 4 lin. longum, bracteis acutissimis rigidnls pluriseriatis, exterioribns gradatim brevioribus. *Bocep-taculum* omnino nudum nee foveolatum. *Flores* numerosi; foeminei in ambitu pluriseriati; corolltB filiformes, tenuissimee, limbo vix dilatato, saepissime 3-dentato, stylo exserto ramis longis subulatis; hermaphro-diti in centro plurimi, ssopius numerosi; corolla tenuitor tubulosa, limbo parum latiore 5-fido. *Aatherce* basi breviter caudato-aunçulatae. *Styhw* simplex, apice obtusus pilosulusque. *Aciwevia* parva, villosula. *Pappi* setse tenues, hand numeros®, breviter •eerrulato-barbellat©.—G. BKN-THAM.

**Fig. 1. Female flower, but the corolla represented much too thick. 2. Summit of its style. 3. Hermaphrodite flower. 4. Three of its stamens. 5. Summit of its style. 6. Bristle of the pappus.**



## PLATE 1158.

CYCLOPHYLLUM DEPLANCHEI, *Hook.*/.

RUBIACEJ, Tribe VANGUEBIEJE.

Cyclophyllum, *Hook. f. in Benth. and Eoohf. Gen. Plant, ii. 535.*C. Deplanchei, *Hook.f. l.e., species unica.*HAB. New Caledonia, *Deplanche, n. 389; E. Galdwell.*

*Frutex* glaberrimns, ramis teretibus lignosis nodosis, ramulis compressis obscure tetragonis, intemodiis brevibus. *Folia* 1-1<sup>^</sup>-poll. diam., uniformia, deenssatim opposita, sessilia v. breviter et crasse petiolata, laze imbricata, cordato-orbicularia, apice rotundata v. apiculata, crasse coriacea, supra glaberrima nitida, subnervia, subtus exsiccatione undulato-rugulosa, costa lata snperne evanida, subtriplici v. quintuplinervia, nervis valde obsenris arcuatis. *Stipulce* latsB, cuspidatee, tarde decidusB, coriaces. *Floras* axillares, solitarii, sessiles v. brevissime pedicellati, pedicello apice minute 2-bracteolato. *Galyds* tubas £-poll. longus, oblongus, teres; limbos minutus, 5-dentatus, dentibus triangularibus. *Corolla* hypocraterimorpha, coriacea, tubo £-poll. lougo tereti puberulo, intns fauceque villosa; limbus ^-|-poll. diam., lobis 5 ovato-lanceolatis, acuminatis, valvatis. *Stamina* 5, fence corollae inclusa, apicibus exsertis, filamenids brevissimis; antheae basifixoe, lineari-oblongsd, acuminate<sup>^</sup> loculis basi rotundatis v. paulo divergentibus. *Discus* obscurus. *Ovariwn* 2-loculare, crassum, loculis parvis; stylus gracilis, teres, stigmatate exserto clavato turbinato vertice dilatato breviter 2-lobo; ovnla in ldculis solitaria, panlo infra apicem pendnla, brevia, funiculo basi incrassato. *Fructua* ignotus.

First communicated to the Kew Herbarium by the late M. Lenormand of Vire, and subsequently by E. Galdwell, who during a mission from Mauritius to obtain the New Caledonian varieties of sugar-cane, formed a valuable collection of plants, which he had the goodness to transmit to me. The valvate aestivation of the corolla, and solitary ovules suspended from near the apex of the cells, places it unquestionably in *Vangueriece*, but it is not closely allied to any genus of that tribe. Its resemblance to *Ixora* is manifest, but superficial.—J. D. HOOKER.

Fig. 1. Flower. 2. Upper portion of tube and limb of corolla laid open. 3. Back and front view of stamens. 4. Vertical section of ovary, with style and stigma. 6. Transverse section of ovary. :—all magnified.



## PLATE 1159.

NOTOFOBA SCHOMBURGKIANA, *Hook.f.*

Nat. Ord. EBIGEA, Tribe VAGCINIEJ.

**Notopora**, *Hook. f. gen. nov.* *Calycis* tomentosi tubus subglobosus ovario adnatus; limbus ultra ovarium productus, cylindracens; lobi 5, subsequales, ovato-triangulares, obtusi. *Corolla* brevis, tubulosa, subinflata, tomentosa, apice 5-loba, lobis triangulari-ovatis obtusis valvatis. *Stamina* 10, inclusa, tubo corolla inserta, filamentis distinctis antheris multo brevioribus complanatis glabris; antherae longe supra medium filamentum insertae, lineari-oblongae, subquadratae, cartilagineae; loculi granulosi, in tubulos breves rigidos rectos connatos dorso sub apice rimis dehiscentibus producti. *Discus* annularis, medio depressus, molliter setosus. *Ovarium* crassum, 5-loculare; stylus filiformis, insertus, stigmatibus capitulatis; ovula in loculis numerosa, placentis parvis globosis angulo interiore loculi adnatis inserta. Fructus . . . . Frutex ramis lignosis et retibus. *Folia* alterna, breviter petiolata, elliptico-ovata, longe acuminata, integerrima, crasse rigide coriacea, obscure penninervia, supra glabra, nitida, subtus appresse tomentosa rufa v. alba. Flores inter majores, axillares, solitarii v. pauci, breviter pedicellati, dense ferrugineo-tomentosi, pedicello crasso basi bracteato infra florem 2-bracteolato.

N, **Schomburgkii**, *Hook. f.*, species unica.

HAB. British Guiana, *Scliomburgh*, Nos. 566 (867), 567, 1038.

*Frutex* valde ramosus, ramulis crassitie pennae corvinae, cortice atrofusco minute pustulato. *Folia* 2-3-pollicaria, valde rigida, basi acuta, marginibus non recurvis, indumento paginae inferioris laxo v. appresso. Flores 1-2-poll. longi.

This is the only species of the whole tribe of *Vaecinieae* in which the stamens are actually inserted high up on the tube of the corolla; in all others, when there is an adhesion, this is rather a mere slight union between the base of the filament and that of the corolla-tube. I know of no genus to which this is at all allied, and Schomburgk's tickets give no information respecting it.—J. D. HOOKER.

Fig. 1. Flower and bracteoles. 2. Corolla laid open. 3. Back and front view of stamens. 4. Vertical section of ovary, with style. 5. Transverse section of ovary : all magnified.

## PLATE 1160.

EIGIOLEPIS BOBNEENSIS, *Hook.f.*

Nat. Ord. ERICEÆ, Tribe VACCINIEÆ.

*Rigiolepis*, *Hook. f. gen. nov.* *Calycis* limbus ovario adnatus, obconicus, lobis 5 ovatis acutis rigide chartaceis striato-nervosis. *Corolla* urceolata; fere globosa, 5-dentata, dentibus erectis leviter imbricatis. *Stamina* 10, corolla breviora, filamentis basi tubi leviter adnatis brevibus complanatis; antheris erectas, tubulis brevibus loculis aequaliter rimis magnis hiantibus antice dehiscentibus, connectivo dorso 2-aris-tato. *Discus* tumidus, annularis, pubescens. *Ovarium* 10-loculare, septis tenuissimis; stylus columnaris, 5-gonus, superne paullo incrassatus, stigmate truncato simplici; ovula in loculis solitaria, angulo interiori placentis inconspicuis affixa, hilo ventrali. *Fructus* . . . Frutex epiphyticus amulsi teretibus petiolis et inflorescentia subtus patentibus pubescentibus. Folia disticha, breviter petiolata, alterna, ampla, breviter petiolata, elliptica v. oblongo-lanceolata, acuminata, integerrima, valide h-plicinervis mprænitida, nervis depressis, subtus reticulatis venosa inter nervos glaberrima. Flores minuti, in racemis breves alares et extra-alares dispositi, bracteis et 2-bracteolatis; bracteae ovatae concavae, rigide chartaceae, striato-nervosae; flores saepe excedentes, demum deciduae; bracteolae consimiles sed minores, oppositae.

♁. borneensis, *Hook.f.*, species unica.

HAB. BORNEO, at Sarawak, *Lobb.*

Frutex epiphyticus, 5-10-pedalis, rigidus, fuscescens; ramulis lignosis flexuosis, cortice pustulato. Folia 5-7-poll. longa, subcaudato-aeminnata, basi subobliqua acuta, 5-tupli-costata, supra nitida nervis insigniter depressis, subtus polita nervis valde elevatis, inter nervulos arcuatos creberrime reticulatim nervulosa, petiolo ^-poll. longo, tereti, crasso, tomentello. Bacemi 1-1½-poll. longi, longe supra-axillares, erecto-patentes, sessiles, puberuli, bracteis caducis imbricati. Flores ratione tribus minimi, nutantes. Calycis lobi subacuti, ciliolati. Corolla vix 1½-poll. longa. Ovarium (difficillime scrutatum) ni fallor 10-loculare, sed forsitan 5-loculare loculis 2-ovulatis.

An exceedingly curious plant, quite unlike any other of the tribe, so much so that it was not till fully analysed that I could persuade myself of its really being Yacciniaceae. Though strictly according with this tribe, the colour and texture of the Melastomaceous-like leaf, the curious little extra-axillary racemes, chartaceous imbricating bracts, almost concealing the very minute flowers, all combine to mark its affinities, which are technically with *Gaylussacia* — J. D. HOOKER.

Fig. 1. Flower and bracteoles. 2. Back and front view of stamens. 3. Vertical section of ovary and style. 4. Transverse section of ovary: all magnified.

## PLATE 1161.

GUTHRIEA CAPENSIS, *II. Jjoltis.*

PASSIFLOBEJ., Tribe ACHARIEJE.

*Guthriea*, *Bolus*, *gen. new.* Flores regulares monoici. MAS. : *Oah/cis* tubas 0, segmenta 5 a basi vel fere a basi distincta, lincaria, ad mediam corollse adnata, tubum ejusdem superantia. *Corolla* herbacea, vennlosa, marcescentia, infiindibuli-campaniilata, 5-fida; lobis ovato-rotundatis, obtusis, reflexis. *Stamina* 5 ad faucem corollas inserta, lobis alternantia; filamenta subfiliformia complanata; anther© exsertae biloculares ad connectivum crassum adnatee, introrsro. F<EM : Calyx maris, segmenta autcm corolla dimidio breviora. *Corolla* campanulafca breviter et obtuse 5-loba, lobis erectis. Glandes in utroque sexu 5, ad basin corollas inserted. *Ovarium* sessile, 1-loculare, multiovulatum; ovula 10-15 a placentis parietalibus 5 pendentia; styli 5 coaliti erecti; stigmata 5 brevia, acuta, canaliculata. *Cajjsida* inclusa, ellipsoidea, 1-locularis, in valvulis 5 loculicide dehiscens, 8-10-sperma. *Semina* ellipsoidea, testa Crustacea brunneo-nigra fbveolata, arillo albo tecta; embryo recta in axe albuminis copiosi immersa; radícula supera ad hilum spectans; cotyledones planoconvexee.

0. capensis, **EL** *Bolus*, species unica.

HAB. High mountains with a south to east aspect, near Graaff Beinet, Cape Colony; 4500 to 7000 ft. PL April.

Herba acauli? glabra; rhizoma subhorizontalis radices crassiusculas carnosas emittens. Folia radicalia numerosa rosulafca petiolata cordato-ovata obtusa crenata, subtus albescentia et.conspicue refictdatim venosa; lamina 1^-2^-poll. longa 2-2|-poll. lata; petioli crassiusculi semiteretes 1-5-poll. longi. Flores axiLares pedunculati, pedunculie folio brevioribus.

This plant, which I have already detected in several localities on the Sneeuwberg Mts.—from 4500 ft. on the Oudeberg to 7000 ft. on the Gnadouw Mt. (and on the latter abundant)—seems to have escaped the notice of previous collectors. It comes very near to *Acharia* of Thunberg, which, however, I only know from description. It forms another member of a group of small genera having their head-quarters in South Africa, which have been placed by Mr. Bentham and Dr. Hooker (*Gen. Plant*, i. p. 814) in *Passiflore*©; but which were ranged by Lindley with *Papayacesa* between *Cucurbitacesa* and *Passiflorece*—an arrangement which Dr. Masters (*Ftor. Trop. Africa*, ii. 504) thinks should stand.<sup>1</sup>

<sup>1</sup> This plant offers some points of curious analogy with certain species of *Villareia* (*Gentianeae*).

I have dedicated the genus to my friend Francis Guthrie, Esq., LL.B., Professor of Mathematics, Graff Reinet College, my earliest teacher in botany, and companion in many botanical expeditions; and whose name may be fitly associated with the plant of a district to which he has rendered invaluable educational services.—H. BOLUS.

Fig. 1. Male flower laid open. 2. Female flower. 3. Transverse section of ovary. 4. Capsule with peribibton style and corolla, 5. Seed. 6. Same, longitudinally cut through.

---

PLATE 1162.

PLAGIOCABPTTS AXILLABIS, *Benth.*

LEGUMINO&&, Tribe *QALEQEM?*

**Plagiocarpns**, *Benth. gen. nov. Cahjcis* lobi 5, cequales, tubo longiores. *Petala* breviter unguiculaia, subaequilonga. *Vexillum* late ovatum, basi late subcordatnm. *Alee* liber®, oblong®, basi conspicue hinc auriculatne. *Carina* oblonga^ apice obtuso breviter incurvo, petalis basi vix auriculatis. *Stamina* omnia in vaginam supra fissam connata, anther© subreuales alternsB basifixso, altern© versatiles. *Ovarium* subsessile, 1- (v. 2- P) ovulatum; stylus filiformis, glaber, stigmathe minuto terminatus. *Legumen* oblique ovatum, turgidulum, valvis coriaceis. *Semen* unicum, ovoideum, strophiolatnm. *Suffrutex*. Foliola 3-foliata. *Flares* axillares solitarii.

**P. axillaris**, *Benth. sp. nov..unica*.

HAB. Tropical Australia, Regent's River, Greville Island, &c, north-west coäst, A. *Cunningham*; Port Darwin, *Schultz*, n. 639.

*Caules* e rhizomate v. basi crassa lignosa erecti, ramosi, foliosi, pedales v. longiores, tenues at duri, pilis appressis mollibus canescentes v. rufescentes. *Stipules* vix conspicuae, inter pilos occultas v. omnino mllffi. *Foliola* 3 in caule sessilia, petiolo communi nullo, oblongo-elliptica, obtusa, 6-9 lin. longa, membranacea, utrinque pallide virentia, tenuiter pubescentia, pennivenia; versus basin caulium ssepe solitaria. *Flores* in axillis subsessiles, pedicellis nempe brevissimis sericeis, bracteolas 2 minimas ferentibus. *Calyx* 2^lin. longus, sericeo-villosulus, lobis acutis tubo paullo longioribus. *Petala* ad 4-lin. longa; alee more Genistearum transverse rugulose. *Legumen* semipollicare, valde obliquum, valvis duris nitidis.

I had long known this plant in Cunningham's collections, and could not refer it to airý known genus, but was unable to characterise it for

want of the flowers, which we have now received in Schultz's rich Port Darwin collections. The place, however, in the system is uncertain. The foliage and some other characters indicate an affinity with *Argyrolobium*, but the staminal tube, open along the upper side, is at variance with all *Genista*.—Gf. BENTHAM.

Fig. 1. Flower. 2. Vexillum. 3. One of the wings. 4. Carina. 5. Stamens. 6 and 7. Anthers of the two heads. 8. Pistil. 9. Fruit.

---

PLATE 1163.

**BOLUSIA CAPENSIS**, *Benth.*

LEGUMINOS-E, Tribe GALEGEJJ.

**Bolusia**, *Benth. Gen. nov.* Calycis profunde 5-fidi lobi sublongi, 2 superioribus latioribus approximatis. *Vexillum* latissimum, emarginatum; alas falcato-obovatas, liberis; carina longe linearis, cum genitalibus spiraliter contorta. *Stamen* vexillare liberum; cetera breviter in vaginam supra fissam connata; anthera alterna filamentis abbreviatis elongatis lineares basifixas, alterno filamentis multo longiores oblongo-ellipticas dorsifixas. *Ovarium* sessile, pluriovulatum. *Stylus* glaber, stigmatibus terminalibus capitatis. *Legumen* oblongum, turgidum, polyspermum. *Herba* perennis v. suffrutex multicaulis, sericeo-pubescentis. *Folia* 1- rarius 3-foliolata. *Pedunculis* oppositifolii uniflori.

**B. Capensis**, *Benth.*, species unica.

HAB. South Africa, between Kuruman and Vaal rivers, on the borders of the Kalahari desert. *Crucifera* (communicated by J.E. Bolus).

*Caules* e basi perenni v. breviter lignosa plures, erecti v. ascendentes, parce ramosi, 1-1<sup>2</sup>-pedales, appresse sericeo-villosi. *Foliorum* petiolus 2-4-lin. longus, foliolum saepius unicum, lanceolatum v. fere lineare, 1-2-poll. longum, supra glabrum v. pilis paucis conspersum, marginibus nerviformibus ciliatis, subtus appresse sericeo-pilosum; adsunt etiam rarius foliola 2 lateralia multo minora, ad apicem (v. paullo infra apicem?) petioli affixa. *Stipulae* oblique cordato-lanceolatae, acutissimae, petiolo paullo v. dimidio breviores. *Pedunculi* saepius semipollicem breviores, primum terminates, mox gemma excrescente oppositifolii, sub calyce bibracteolati. *Calyx* ad 3 lin. longus. *Petala* breviter unguiculata. *Vexillum* calyce paullo longius, longitudine fere duplo latius, concavum, linea mediana dorsali pilosum, caeterum glaberrimum. *Alae* late falcato-obovatae, obtusae, vexillo saepe longiores.\* *Carina*

gyro triplici contorta, petalis ima basi liberis, caeterum in tubum clausum connatis. *Genitalia* inclusa (v. styli apex demum brevissime exsertump). *Legumen* in speciminibus adhuc immaturum, 10-11-lin. longum 3-4-lin. diametro, glaberrimum.

The affinities of this interesting plant appear to be the nearest with *Sylitra*. The aspect and calyx are those of an *Argyrohbiwm*, the pod that of a *Crotalaria*, and the spiral carina,\* which had induced Mr. Bolus to place it in *Phaseohis*, occurs here and there in various tribes of Papilionacett.

**Fig. 1. Flower. 2. Calyx and pistil. 3. Vexillum. 4. One of the wings. 5. Carina. 6. Stamens. 7. An anther of each description.**

---

**PLATE 1164.**

**KOOMPASSIA MALACCENSIS, Maing.**

LEOUMIXOSJ: GSSALPIXIEJE, Tribe CASSIEJJ.

**Koompassia**, *Maing. gen. nov.* *Calyeis* tubus discifer subnullus; segmenta 5, subvalvata, herbacea, crassiuscula. *Petala* 5 subasquaUa. *Stamina* 5, filamentis brevissime filiformibus, antheraB ovatae, basi-fixeB; Loculis longitudinaliter dehiscentibus. *Ovarium* sessile, 1-ovulatum. *Stylus* brevissime subulatus, stigmati terminali parvo. *Legumen* oblongum, compressum, ala cinctum, indehiscens. *Semen* 1, plano-compressum, exalbuminosum; cotyledones plana, foliacciB; radícula brevis, recta.—Arbor. Folia impari-pinnata, foliolis alternis. Flores parvi, ^ymulosi, cymulis in paniculas axillares v. terminales dispositis.

**K malaccensis**, *Maing.*, species unica.

HAB. Malacca, *Mavngay*.

•*Arbor* prsBalta. Partes novellae et inflorescentia pube tenuissima ferruginesB, rami et folia adufta glabri. *Stipulce* desunt. *Foliorum* petiolus communis 3-5-lin. longas. *Foliola* 5-7, alterna, petiolulata, ovato-lanceolata v. oblonga, acuminata, demum coriacea, nitidnla, tenuiter pennivenia et sub lente supra crebre foveolato-reticulata, subtus opaca et pallidiora, in speciminibus floridis et fimctus juniores ferentibus ad 2 poll, longa, in specimine fructu maturo duplo majora. *Paniculce* in axillis superioribus et ad apices ramorum thyrsoidae, floribundae, foliis brevioribus, rhachi pedicellis calycibusque ferrugineo-puberulis. *Bractem* minutif>HimiB rareaque. *Pedicelli* 1-2-lin. longi. *Oalyds* segmenta

crassiuscula ad f-liri. longa. *Pedala* glabra, fere lineam longa, oblonga v. obovali-oblonga, basi parum contracta, marginibus cesticatione subinvolutis, apice crispula. *Stamina*, petalis dimidio breviora, filamentis etsi filiformia vix  $\frac{1}{2}$ -lin. longis. *Antherarum* connectivum crassiusculum, loculis marginalibus. *Ovarium* petalis multo brevius, subglobosum, pubescens. *Stylus* brevissimus, tenuis, glaber. *Legumen* naturum cum ala 4-5-poll. longum, medio 1-1 $\frac{1}{2}$ -poll. latum, prope basin multo angustius et saepissime tortum, obscure reticulatum, ala coriacea ultra loculum longiuscule producta. *Semen* plano-compressum, testa coriacea, nitida. Albumen 0. Cotyledones carnosofoliaceo 5-nerves transverse reticulat© ad 15-lin. longae, 6-lin. latae, radícula supera recta brevis (Maingay). Semina ipse non vidi.

The nearest affinity of this tree is evidently with *Dialium*, from which it differs in the more valvate calyx, the stamens and petals forming normal whorls of five, instead of being reduced to two or fewer, and in the shape of the fruit.

The drawings are taken from Maingay's specimens, distributed under n. 604, in flower with young fruit, but of which he describes the ripe fruit. Another specimen of his, n. 557, has the ripe fruit he describes, but with the leaflets twice the size of those of the other specimens; yet they all probably belong to the same species.—GL BENTHAM.

Fig. 1. Flower. 2. One of the petals. 3. One of the stamens (the filament very incorrectly drawn). 4. Ovary. 5. The same, longitudinal section. 6. Young fruit.

---

PLATE 1165.

ACACIA RENIPOEMIS, *Benth.*

LEGUMINOSI., Suborder MIMOSEAS.

A. (Vulgares) reniformis, *Benth. sp. n.* glabra, aculeis sparsis, pinnis 1-2-jugis, foliolis 1-jugis oblique orbiculato-subreniformibus, tenuiter coriaceis, spicis laevibus cylindratis, floribus glabris.

BAB. Mexico, banks of the river Mosteqama, near Las Apuntas, *Wrenberg in Herb. Mus. Berol.*

*Frutex* videtur undique glaberrimus, in sicco glauco-subrubens. *Aculei parvi, recti.* *Stipula* rigidule foliaceae, oblique reniformes, 3-5-lin. lato, diu persistentes. *Folliculum* parvulus communis tenuis, 1 $\frac{1}{2}$ -pollicaris, glandulis depressis inter pinnas cujusve paris instructus. *Pinnarum* dum 2-jugis per paria distantes, rachibus rigidulis tenuibus,

i-f-pollicaribus. *Fdiola* oblique orbiculata, subdimidiata v. fere reniformia 1-1<sup>^</sup>-poll. lata, obtnsissima, tenuiter at rigide coriacea, flabelato-plurinervia et subreticulato-venulosa, utrinque glaneescentia. *Sjpicce* in axillis superioribus v. in racemo brevi terminali saepius geminae, pedunculate), 1-1<sup>^</sup>-pollicares, laxe floribund©. *Flores* glaberrimi, breviter pedicellati. *Bractea* minutiffi. *Calyx* campanulatus, | lin. longus, breviter 5-dentatus. *Corolla* late campanulata, alte 5-fida, 1£-1£ lin. longa. *Stamina* nnmerosa, Hbera, corolla duplo longiora. *Ovarium* stipitatum, glabrum. *Legumen* ignotum.

I have selected this and the following species of *Acacia* for illustration as being both of them of very limited geographical range and quite exceptional in the genus as to foliage, and may, therefore, be reckoned amongst rare races in the course of extinction. I have seen only a single specimen of each.—G. BENTHAM.

Fig. 1. Flower. 2. Thosamo, longitudinal section, showing the free stamens and pistil. 3. Ovary,

---

PLATE 1160.

ACACIA CBASSIFOLIA, A. Gray.

LEGUMINOSJ, Suborder MIMOSRX.

A. (Vulgares) *crassifolia*, A. Gray, *PI. Thnrbr. in Mem. Amer. Acnd.* v. 317, fruticoRa, glaucescens, aculeis sparsis subrecurvis, pinnis unijugis, foliolis unijugis cuneato-orbiculatis crasso-coriaceis, capitulis globosis paniculatis, floribus tomentoso-canescens.

HAB. North'America, Mexicano-Texan region, in the mountain pass of La Peña, Copahuila, *Tliwrber*.

*Frutex* 6-10-pedalis. *Bamuli* rigidi, teretes, glabri. *Aculei* validi, sparsi et hinc inde infrastipulares gemini, recurvo-patentes. *Stipulas* non vidi. *Foliorum* petiolus communis, 4-5 lin. longus, glandula infra pinnas depressa. *Pinnarum* rhaches petiolo asquilongi. *Foliola* 1-1<sup>^</sup>-pollicaria, sropius latiora quam longa, apice late rotundata, basi valde inaequalia, flabellato-5-7-nervia et subreticulato-venulosa, glabra, pallide virentia v. glauca. *Panicula* rigida, parce ramosa. *Pedunculi* 1-1<sup>^</sup>-pollicares, minute puberuli, supra medium saepe glanduliferi et obsolete 1-bracteati. *Capitula* globosa, dense multiflora. *Bractese* parveB. *Calyx* turbīnatus, late 5-dentatus, pnbescens, dimidium coroll© superans. *Petala* alte connata, apice extus pubescentia. *Ovarium* breviter stipitatum, glabrum. *Legumen* ignotum.—G. BENTHAM.

Fig. 1. Flower. 2. The same, longitudinal section, showing the free stamens and pistil.



## PLATE 11(57).

CALLIANDBA COLLETOIDES, *GrUeh.*

LEGUMINOSJJ, Suborder MIMOSEJE.

*C. colletioides*, *Qriseb. in Mem. Amer. Acad. ser. 2, viii. 180*, fruticosa, ramosissima, spinis stipularibus subalatis, foliis minimis, pinnis unijugis, foliolis 2<sup>^</sup>-3<sup>^</sup>-jugis obovatis coriaceis, pedunculis brevissimis, floribus sericeis.

HAB. Eastern Cuba, ravines near Nouvelle Sophie, etc. *Wright, n. 153.*

*Frutex* 6-8-pedalis, ramosissimus, prater inflorescentiam subglaber, *O. hcematommati* affinis. *Stypuloe* verse minutissimaa, erectae, dorso spinam rectam acicularem 2-4-lin. longam patentem ferentes. *Foliorum* petiolus communis <sup>^</sup> lin. longus, pinnarum rhaches vix longiores. *Foliola* paribas 2-3 cum unico inferiore (intimo paris infimideficiente), 5 v. 7, ultima saepius lineam longa, caetera minora, obovata, rigide coriacea, obtusissima, glabra, reticulato-pennivenia. *Pedunculi* in axillis superioribus saepius gemini, 1-1<sup>^</sup> lin. longi, sericeo-pubescentes. *Cajpitula* globosa 6-10-flora. *BractecB* minntee, late. *Flores* sessiles. *Calyx* campanulatus, striato-multinervis, breviter 5-dentatus, vix semilinea longior, fere glaber. *Corolla* 2-lin. longa, sericeo-villosa. *Stamina* punicea, corolla quadruplo longiora, basi in tubum corollam subsequantem coalita. *Legumen* 1-1<sup>^</sup>-pollicare, acutiusculum, medio 2<sup>^</sup> lin. latum, supra medium longe angustatum, minute puberulum, marginibus valde incrassatis, valvis dehiscencia elastice revoluidis.—Q-. BKNTHAM.

Fig. 1. flower. 2. Section of the same, showing the pistil. 3. Fruit

## PLATE 1168.

FITHECOLOBIUM HYS<sup>^</sup>BIX, *Benth.*

LEGUMINOSJJ, Suborder MIMOSEJJ.

*P. (Unguiculata) hystrix*, *Benth.*, glabra, aculeis Btipularibus rectis, pinnis unijugis, foliolis 1-jugis obovato-oblongis parvis nitidis.—*Inga hystrix*, *A. Rich. Fl. Cub. i. 471.* *Calliandra hystrix* et *Pithecolobium calliandraefolium*, *Qriseb. Enuin. PL Cub. 83.*

HAB. Cuba, western districts, *Wright, n. 2401*; n<sup>^</sup>ar Cabana, *La Sagra.*

*Frutex* pluripedalis, intricato-ramosissimns, glaber; stipuloe spine-scentes, tenues, recto, 2-3-lin. longse. *Folwrum* petiolus communis etc pinnarum rhaches tenues, ad lineam longi. *Foliola* 1-3 lin. longa, obtusissima, tenuiter coriacea, rigidula, supra nitida, subtus pallida, pennivenia. *Pedunculi* in axillis superioribus scBpius geznini, tenues, 4-6-lin. longa. *Gajpititla* subglobosa, 6-10-flora. *Flores* sessiles, glabri. *Bracteae* minut©. *Galyx* -J-J-lin. longus, breviter 5-dentatus. *Corolla* rubra, tennis, 3-3<sup>^</sup>-lin. longa, apice breviter 5-fida. *Stamina* pallide pnrpurea, corolla plus duplo longiora, in tubum corollam breviter excedentem coalita. *Anther*© glabrra. *Ovarivm* stipitatum. *Legumen* arcuatum v. in annulum pollicem diametro curvatum, glabrum, valvis 3-4-lin. latis ante dehiscenciam planis, demunrvario contortis. *Semina* arilla carnosae semi-involuta.—G. BENTHAM.

Fig. 1. Flower. 2. Section of the same, shewing the pistil. 3. Fruit. 4. Seed.

---

PLATES 1169 and 1170.

BEBNOULLIA FLAMMEA, *Oliv.*

STERCULIACEJS.

*Bernoullia*, *Oliv. gen. nov.* *Calyx* campanulatus breviter 5-lobatus; lobis deltoideis, ©stivatione valvatis. *Petala* 5, columns stamine© adnata, oblonga, calycom superantia, apice revoluta, longitudinaliter venosa. *Columna* staminea exserta, fere ad mediam lateraliter fissa, apice complanata, antherifera; anther© 15-20, sessiles, ut videtur 2-loculares et arete biseriatim disposit©, loculis linearibus, longitudinaliter debiscentibus. *Ovarium* ovoideum glabrum 5-loculare; loculis oo-ovulatis; stylus teretiuculus elongatus glaber e fissura col. stamine© exsertus. *Feuctus* (fide cl. Bernoulli) oblongus 5-gonus subindehiscens, 5-ocularis. *Semina* indefinite\* superiora inferne inferiora superne alata; albumen parcum.

*B. flammea*, *Oliv.*, species unica.

HAB. Not uncommon in Jhe Costa Grande of Guatemala, from about 500 to 2,000 ft.—*Dr. O. Bernoulli* (Hb. Guatem. 553).

*Arbor* procera, glabra v. ultimis obsolete puberulis. *Folia* alternã, trifoliolata; foliolis petiolulatis ovali-oblongis utrinque acutatis v. apice breviter obtusiuscule acuminatis, integris, glabris, tenuiter coriaceis, nervo medio subtus prominulo, 3-5-poll. longis, 1<sup>^</sup>-lf-poll. latis, petiolulus J-J-poll, petiolus 2<sup>^</sup>-3-poll. longus. *Flores* in cymis unilateralibus mltifloris racemiformibus paniculatis dispositi; paniculifib subtexminales; ppdunculi complanati glaucescentes faciebus lateralibus

cam cicatricibus bractearum delapsarum oblique notatis; pedicellis J-^-poll. longis. *Calyx* puberulus v. glabratus, lobis intus tomentosopubescentibus; £-£-poll. longis. *Petala* intus pins minus papilloso-pubescentia, glandulis immersis inter venulas ut videtur notata.

Of this remarkable Sterculiaceae we possess a specimen in flower only, kindly communicated by Dr. G. Bernoulli, who writes that it is a very conspicuous tree in the Costa Grande of Guatemala during the months of November and December, when its 'whole crown is covered with inflorescences of the most splendid scarlet.' From our dried specimen I cannot satisfactorily describe the head of anthers. The fruit is figured from a careful drawing kindly sent by Dr. G. Bernoulli. —

D. OLIVER.

PLATE 1169.—Fig. 1. Bud. 2. Staminal column from a bud. 3. Flower. 4. Staminal column of same, with adnate petals. 6. Same cut through, exposing the ovary. 6. Transverse section of ovary.

PLATE 1170. Fruit—Fig. 1. Seed. 2. Section of same.—Figures on this plate natural size.

---

PLATE 1171.

MORINA BETONICOIDES, *Berth.*

DIPSACEJ.

*M. betonicoides*, *Benth. sp. n.*, foliis integerrimis lineari-lanceolatis ciliato-subspinoso, capitulo terminali, involucellis truncatis ore longe setoso, corolla) limbo parum inaequali, antheris 4 perfectis subaequalibus.

HAB. Woods of the Sikkim Himalaya, at an elevation of 11,000 to 12,000 feet, / *D. Hooker.*

*Caules* e basi perenni suberecti, simplices, vix pedales, praeter lineam longitudinalem villosam glabri. *Folia* radicalia 2-4-poll. longa, medio 3-4 lin. lata, acuta, margine setis longis rigidis subspinoso ciliata, supra viridia infra glabra subavenia, subtus pallida v. albida costa prominula et nervo utrinque uno tenuiore percursa; caulium opposita sessilia pauca radicalibus similia nisi breviora, floralia breviter lanceolata. *Flores* in capitulum terminalem subglobosum aggregati, additis interdum paucis ad axillas foliorum parvis a capitulo parum distantis. *Folia* floralia (seu bractee) intra capitulum ovata, spinosociliata, concava v. complicata, corolla breviora. *Involucella* sessilia, campanulata, ad 3-lin. longa, membranacea, villosa, ad orationem pilis

breviter tenuibus et setis 12-20 rigidulis inaequalibus majoribus linea longioribus ciliata. *Ovarium* infra involuclum breve, glabrum. *Calyx* superus, involuclum superans, limbo latiusculo valde obliquo acuto subspinoso-dentato. *Corolla* pallide purpurea tubas semipollicaris v. paullo longior, incurvata, apice parum dilatata, extus cano-pubescentis; limbus patens, valde obliquus, lobis tamen 5 parum inaequalibus latis emarginatis. *Stamina* didynamia, filamentis brevibus prope apicem tubi, superioribus altius quam inferioribus affixis; antherae ovatae, vix exsertae, omnes consimiles. *Ovarium* et fructus (adhuc immaturo) omnino generis.—G. BENTHAM.

Fig. 1. Flower enclosed in the involuclum. 2. Ovary, calyx, and style. 3. Corolla. 4. Section of the young fruit.

---

PLATE 1172.

OMPHACOMERIA ACERBA, A. DC.

SANTALACEAE.

*O. acerba*, A. DC. *Prod.* xiv. 681, ramulis teretibus viz striatis, *Benth. It. Austral.* vi. 225.

*leptomeria acerba*, B. Br. *Prod.* 354.

HAB. Eastern extratropical Australia.

*Frutex* 2-4-pedalis, dioica, spartoides, in specimenibus visis omnino aphyllus, ne squamulis loco foliorum instructus. *Bamula* stricti, elongata, rigiduli, tenuissime striati, nodis glanduliformibus. *Flores* adnatas sessiles, masculi per 3-5 fasciculati, ebracteati. *Perianthii* segmenta ovata, semilineam longa et lata; antherae filamentis brevissimis segmentis paullo breviores. *Discus* centralis (sub ovario rudimentum) latus, depressus. *Flores* feminei solitarii. *Ovarium* ovoideum, crassum, 1-lin. longum. *Perianthii* superi segmenta maris. *Antherarum* rudimenta sessilia. *Stylus* brevis, grassus, lobis 2 aequalibus patentibus brevibus consistens. *Drupa* ovoidea, 3-4-lin. longa, epicarpio caroso.—G. BENTHAM.

Fig. 1. Cluster of male flowers. 2. Male flower expanded. 3. Female flower. 4. Fruit.

PLATE 1173.

ANTHOBOLUS FOVEOLATUS, *F. Muell.*

SANTALACEAE, Tribe ANTHOBOLKE.

**A. foveolatus**, *F. Muell. Fragm. Phytogr. Austral.* i. 212. — Foliis lineari-teretibus crassiusculis, floribus 4-meris, fructus endocarpio extus foveolato. — *Benth. Fl. Austral.* vi. 226.

HAB. South-west Australia.

Frutex 6-8-pedalis, dioicus, glaber. Bami virgati, ramulis tenuibus patentibus v. peudulis, teretibus v. novellis leviter angulatis. Folia lineari-teretia, acuta, f-1j poll, longa, acutiuscula v. mucronulata. Flores masculi per 2-3 ad apicem pedunculi 3-4-lineari breviter pedicellati. *Perimthii* segmenta in Speciminibus nostris semper 4 videntur (nee ut in *A. filifolia* seepius 3) | lin. longa, late ovata. Discus centralis depressus, obscure 4-lobus. Plantae femine flores non vidi. Fructus in pedunculo fere pollicari superne inerassato infra medium subarticulato solitarii. Drupa ovoidea, 3-4 lin. longa, epicarpio tenuiter carnosio, endocarpio osseo, extus foveolis minimis irregulariter longitudinaliter seriatis notata. — O. BENTHAM.

**Fig. 1.** Male flower. **2.** The same expanded. **3.** Section of the fruit and seed showing the embryo.

---

PLATE 1174.

APHANANTHE PHILIPPINENSIS, *Planch.*

UETICKE, Tribe CELTIDEJ.

*A. philippinensis*, *Planch, in Ann. Be. Nat. ser. 3.* x. 337, foliis remote denticulatis v. grosse spinoso-dentatis sublobatis, floribus masculis dense fasciculatis. *Benth. Fl. Austral.* vi. 160. — Taxotrophis rectinervis, *F. Muell. Fragm. Phytogr. Austral.* vi. 192. — *Sponia ilicifolia*, 8. *Kurz in Flora* 1872, 448. — *Aphananthe philippinensis* et *Aphananthe rectinervis*, *Planch, in DO. Prod.* xvii. 208.

HAB. Eastern tropical and subtropical Australia, the Philippine islands and probably other islands of the Indian Archipelago.

*Frutex* elatior v. arbor, glaber v. scabro-pubescent. Folia breviter petiolata, late ovata v. elliptica, acuta v. obtusiuscula, rigide mem-

branacea v. coriacea, scabrapennivenia et snbtransverse venulosa, venis primariis snbtus prominentibus intra marginem anastomosantibus, ultra xmarginem tamen' saepius in denticulos rigidos mncronatos productis. *Folia* ramomm floralinm ssepius 1-2-pollicaria denticulis parvis distantibus, ramorum sterilium nunc multo majora ovato-lanceolata basi trnncata acuti-dentata at vix sinuata, nunc breviora proportione latiora et profunde sinuata, dentibus more *Ilicis* pungenti-acuminatis. *Florum masculorum* cymce parvce, subsessiles, laxsB. Periantbii segmenta concava, ciliolata. *Antherce* demum senii-exsertro. *Floris fceminei* perianthii segmenta acgusta. *Fructus* ovoideus, acuminatus v. obtusiusculus, ad 3 lin. longus. *Semen* fere globosum, testa membranacea. *Albumen* parcum v. 0. *Embryo* involutus, cotyledone exteriore majore interiorem obtegente.

The differences in foliage by which the Australian and the Philippine Island plant were distinguished by Planchon may all be observed in Australian specimens, sometimes on different branches of the same shrub. The two other species described by Planchon are very distinct, *A. aspera* with its regularly serrate membranous leaves and loose male cymes, besides other characters, and *A. cuspidata* with large perfectly entire leaves, &c.—G. BEXTHAM.

Fig. 1. Male flower. 2. Female flower. 3. Ovary, longitudinal section: *all enlarged*. 4. Fruit: *natural sizes* 5. The same, longitudinal section. 6. Seed. 7. Embryo.

---

PLATE 1175.

FHLEBOCABYA CILIATA, *B. Be.*

AMARYLLIDEJE, Tribe HAMODOREJE.

*P. ciliata*, *R. Br. Prod. Fl. Nw. Eoll* 301, foliis planis margine ciliatis, antheris muticis.—*Benth. Fl. Austral*, vi. 424.

HAD. South-west Australia, *B. Brown* and many others.

*Rhizonm* breve, crassnm. *Folia* radicalia e basi lata rigida nigra vaginante anguste linearia, j-l<sup>^</sup>-pedalia, 1-2 lin. lata, rigida v. subflaccida, prominne striata, ciliis rigidulis saepius distantibus et inter''-dnm vix nisi in foliis junioribns obviis marginata. *Iflores* ad 2 KB. longi (flavo-virescentesp), ad axillas bractearum lineariam 1-2 lin. longarm breviter pedicellati, in cymnlas primum densas 6—12-floras dispositi, cymulis ad apicem scapi foliis breviores plurimis pedunculatis, ramulis demum elongatis inflorescentia tota paniculam laxam format. *Periafdhii* segmenta lanceolata, in vivo patentia, in speciminibus siccis

omnia erecta conniventia. *Filameuta* brevissima; anther<sup>®</sup> anguste oblong<sup>®</sup>, apice obtuse, connective ultra loculos haud producto. *Ovarium* per anthesin nniloculare, azi tamen centrali filiformi ssepe usque ad apicem loculi continuo persistente. *Fructus* paryus, ovoideus, indehiscens, perianthii segmentis coronatus. *Semen* saepius nnicum, erectum, globosum, testa membranacea, albujnine carnosum.

In this, as in the following species, the ovary is probably in its earliest stage 3-celled with one erect ovule in each cell; but at the time of flowering the dissepiments have wholly disappeared, or have left only a very slender central axis and faint remains in the shape of slightly-raised longitudinal lines in the inside of the cavity. I have ntl seen quite perfect seeds, but in the apparently ripe fruits I have always found only a single obtuse seed, not the three acuminate ones represented on the plate.—G. BENTHAM.

Fig. 1. Flower-bud ready to open. 2. Flower expanded. 3. Ovary, vertical section. 4. Fruit. 5. The same, vertical section, showing, however, all the ovules enlarged instead of only one.

---

PLATE 1176.

PHLEBOCARYA FILIFOLIA, *F. Mnell.*

AMARYLLIDEJ.; Tribe HJEMODOREIS.

*F. filifolia*, *F. Muell.*, foliis filiformi-teretibus glabris, antheris connectivo loculos excedente apiculatis.—*Benth. Fl. Austral.*, vi. 425.

HAB. South-west Australia, *Drummond.*

Undique glaberrima, ciliis nullis, c&terum habitu et inflorescentia *P. ciliata* subsimilis. *Foliola* angustissime teretia, majora ultrapedalia. *Panicula* quam in *P. ciliata* sffipius Inxior, floribus paullo minoribus. *Perianthii* segmenta anguste actiminai;a. *Antherarum* connectivum in appendiculam loculis longtorem conspicue productum. *Ovarium* plus minus perfecte 3-loculare.

In the few flowers I could examine of this species, I generally found the remains of the dissepiments much more perfect than in *P. ciliata*, although on one occasion they had almost entirely disappeared.—O. BENTHAM.

Fig. 1. End of a leaf. 2. Flower. 3. The same expanded. 4. Stamen. 5. Ovary and style. 6. Section of the ovary.

## PLATE 1177.

HETEBOTOMA MACROCENTRON, *Benth.*

CAMPANULACEÆ, Tribe LOBELIEJ.

*H. macrocentron*, *Benth.*, herbacea, procumbens, ramis breviter ascendentibus, foliis orbiculato-cordatis, corollæ calcar adnato longe cylindræo.

HAB. Sierra Madre, north-west of Mexico, *Seemann.*

*Herba* videtur perennis, laxè pilosula. *Gaulæ* tenues, ramosi, procumbentes, apicibus floriferis breviter ascendentibus. *Folia* profè basin ramorum floralium pauca, petiolata, latissime ovata v. pleraque suborbicularia, margine irregulariter denticulata, -J-l poll, diametro, utrinque breviter pilosula, ad basin pedunculi pauca parva subsessilia. *Pedunculus* terminalis, cum racemo 3-5-pollicaris, tennis. *Flares* supra medium pedunculum pauci, casrulei, pedicellis filiformibus erectis ^—1-J-pollicaribus f nlti, bracteis sub pedicellis parvis minutisve. *Calycis* tubus adnatus obovoideus, fere 1^u lin. longus, limbus postice erectus 2£ lin. longus, alte 3-fidus, antice in appendicem linearem corollas calcari adnatam productus, lobis 2 ab extremitate calcaris inflexo-erectis. *Corolla* lata, ad pollicem longa, calcar cylindræo, tubo postice ad basin fisso, limboque patente 5-fido inter se subaequilongis. *Stamina* e tubo breviter exserta, filamentis in columnam antice calcari adnatam caeteram liberam connatis; anther© 2 apice pilis brevibus hirtell®, cæteræ nudaæ.

This species, with a peculiar habit, has neither the large, broad orange-red flowers of *H. lobelioides*, nor the small very short-spurred flowers of *H. tenella* and *R. aralridioides*, all natives of Mexico.—  
G. BENTHAM.

Fig. 1. Flower, enlarged. 2. Stamens. 3. Summit of the style.

## PLATE 1178.

DIALYPETALUM FLORIBUNDUM, *Benth.*

CAMPANULACEÆ, Tribe LOBELIEJ.

*Dialypetalum*, *Benth. in Benth. et Hook. Gen. Pl. ii. 553.*

*D. floribundum*, *Benth.*, species unica.

HAB. Madagascar, province Emirna, *Bojer?*, *Lyall*, between Tamatave and Antananarivo, at an elevation of 4,000 feet, in moist places, *Metier.*



*Herba* videtur pubes minuta scabriuscula, caule erecto valido pluripedali praeter inflorescentiam simplici; pars inferior tamen nobis deest. *Folia* alterna, anguste lanceolata, acuminata, basi in petiolum breviter contracta, 3-6-pollicaria, dentibus parvis interdum fere obsolete instructa, penninervis et reticulato-venulosa, venis subtus prominulis; superiora minora gradatim in bracteas abeuntia. *Bacemi* v. rami florigeri axillares, simplices v. 2-3-fidi, jam infra medium v. a basi floribundi, inferiores folio subaequilongi, basi foliis brevibus instructi, superiores foliis parvis longiores, praeter bracteas aphylli, paniculam thyrsoidem foliatam 1-2-pedalem formantes. *Pedicelli* filiformes, 2-3 lin. longi, ad axillam bracteae parve lineares. *Flores* viz 2 lin. longi, flavo-virescentes. *Calycis* tubus adnatus turbinatus, vix \ lineam longus; lobi 5, subfiquales, lineari-lanceolati, petalis breviores. *Petala* 5, a basi distincta, anguste oblonga, acutiuscula, 1½ lin. longa, inter se subaequalia. *Stamina* petalis paullo breviora, filamenta latiuscula, basi distincta, apice contracta conniventia connataque; antherae filamentis aequilongae, 2 vertice minute 1-setae, caeterum glabrae. *Gapsula* fere omnino infera, ovoidea, 1½ lin. longa, vertice breviter conico v. convexo inter lobos calycinos petalaeque emarcida 2-valvis.—G. BENTHAM.

Fig. 1. Flower. 2. The same, with the calyx-lobes and petals removed, showing the stamens. 3. Single stamen. 4. Pistil. 5. Capsule.

PLATE 1179.

AMBLYOCALYX BECCARII, *Benth.*

APOCTNAGEA, Tribe PLUMERIEAS.

*Amblyocalyx*, *Benth. in Benth. et Hook. Gen. PL ii. 698.*

*A. Beccarii*, *Benth., species unica.*

HAR. Sarawak, Borneo, *Beccari, n. 1628.*

*Frutex* praeter inflorescentiam glaber. *Folia* ternatim verticillata, oblonga v. obovali-oblonga, acuminata, basi in petiolum longiusculam contracta, 2-6-pollicaria, integerrima, coriacea, supra nitidula, subtus in sicco badia, penninervis. *Pedunculi* ad apices ramorum 5-7, in umbellam breviter pedunculatam conferti, 1-2-pollicares, cymas terminales tripartitas floribundas cano-tomentellas ferentes. *Flores* parvi, subsessiles, ebracteati. *Calyx* turbinato-campanulatus, lineam longus, lobis rotundatis tubo brevioribus. *Corolla* ad 2 lin. longa, lobis orbiculatis tubo duplo brevioribus aestivatione contortis (convolutis) dextrorsum obtegentibus. *Antherae* obtusae, supra medium tubum

filamentis brevissimis inclusis. *Ovarii* carpella 2, basi subconnata et tubo calycino brevissime adnata, casterum libera. *Stylus* ad altitudinem antherarum attingens, stigmatibus ovoideo-capitato extus papilloso, apiculo lobis brevissimo 2-lobato. *Ovula* in quoque carpello 2, sub apice collateraliter affixa. *Fructus* ignotus.—G. BENTHAM.

Fig. 1. Flower. 2. The same, the corolla cut open, showing the stamens and style. 3. Pistil. 4. Ovary, longitudinal section. 5. The same, transverse section.

---

PLATE 1180.

NOTONEBIUM GOSSEI, *Benth.*

APOCYNACEE, Tribe PLUMERIEJE.

*Notoneium*, *Benth. in Benth. et Hook. Gen. Pl. ii. 698.*

*N. Gossei*, *Benth., species unica.*

HAB. Interior of South Australia, *Osse's Expedition*, communicated by Dr. Schomburgk, 1874.

*Caules* in specimenibus plures, erecti, ramosi, tenues, basi duri, vix semipedales, uti tota planta glabri. *Folia* alterna, anguste linearia, acuta, integerrima, longiora infra pollicaria, ramealia multo breviora. *Flores* parvi, ad apices ramorum pauci, subcymosi, conferti, pedicellis brevissimis. *Calyx* 5-partitus, segmentis angustis aenatis linea paullo longioribus. *Corollas* tubus 2 lin. longus, intus sperne lineis 5 pilosis instructis; limbus patens, lobis 5 in alabastro induplicato-valvatis acutiusculis lineam longis. *Stamina* prope basin corollae affixa, medio tubo inclusa, filamentis filiformibus basi leviter incrassatis; antherae lanceolatae, acuminatae, circa stigma conniventes at liberae, loculis basi obtusis inappendiculatis. *Ovarii* carpella 4 (v. 2 bipartita P). *Stylus* filiformis; stigma clavatum et crasse capitatum. *Ovula* in quoque carpello v. loculo solitaria, lateraliter affixa.

It is to be regretted that the few specimens of this very interesting plant were not in a more advanced state, so as to have afforded more certain carpological characters. The ovary in the flower examined appeared to be divided into 4 distinct carpels, but they may possibly have been the moieties of 2 carpels with deep dorsal furrows between the ovules. At any rate, it shows no close affinity to any other known genus, either in character, habit, or station.—G. BENTHAM.

Fig. 1. Flower. 2. The same, the corolla cut open, showing the stamens and pistil. 3. Single stamen.

## PLATE 1181.

FLEIOCABFA MUTICA, *Benth.*

APOCYNACEJ, Tribe PLUMERIEA;

**Pleiocarpa, *Benth.*, in *BetM. et Rook. Gen. PL ii. 699.***

*P. mutica*, *Benth.*, *sp. n.*, corollæ lobis tubo duplo brevioribus, fructus carpellis parvis ovoideo-globosis muticis.

HAB. West tropical Africa, on the Old Calabar River, *Mann.*, *n.* 2277.

*Frutex* ĩ-pedalis, glaber. *Folia* opposita, breviter petiolata, elliptico-oblonga, breviter acuminata, coriacea, nitida, integerrima, 4-6-pollinaria. *Flores* ad axillas sat numerosi (10-20) nodoso-glomerati, arete sessiles, ebracteati. *Calyx* late campanulatus, lineam latus, 5-partitus, segmentis latis obtusis. *Corolla* tubus 6-7 lin. longus, tenuiter cylindraceus, sperne parum ampliatus; lobi 6, stellato-patentes, vix 8 lin. longi, ovati, obtusi, aestivatione contorti, dextrorsum obtegentes leviter sinistrorsum torti. Antherse supra medium subsessiles, oblongo-lanceolatis, liberae. *Ovarii* carpella 5, distincta, 1-2-ovulata. *Stylus* longiusculus, stigmatibus oblongo. • *Fructus* carpella libera, ovoideo-globosa, erostria, viz apice brevissime acuminata v. obtusa, ad 4 lin. longa et vix angustiora, extens undique rugosa, siccitate nigricantia.

The only other genera of *Apocynaceae* -with normally more than two distinct carpels are *Lepinia*, *Dene.*, from Taiti, and apparently the *Notonerium* figured in the last plate from Australia, both of them very different from *Pleiocarpa* in other characters. —G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens and pistil. 3. Pistil. 4. Ovary, transverse section. 5. Fruit (unripe).

## PLATE 1182.

PLEIOCARPA ROSTRATA, *Benth.*

APOCYNACEJE, Tribe PLUMERIEJS.

*P. rostrata*, *Benth.*, *sp. n.*, corolla lobis tubo roquilongis, fructus carpellis ovoideo-oblongis longe rostratis.

HAB. West tropical Africa, on the Cameroon River, *Mann.*

*Frntex* 15-pedalis, glaber. *Folia* opposita, breviter pctiolata, ovali-elliptica, brevissime acuminata, integerrima, coriacea, nitida, 6-8-pollicaria. *Flares* ad axillas panci, arete sessiles, ebracteati. *Calyx* campanulatus, lineam longus, alte 5-fidns, lobis acutiusculis. *Corolla* tnbns cylindraceus, tennis, pollicem lon gas; limbns patens, lobis oblongis, panim obliqnis, pollicaribns. *AnthercB* supra medium tnbm subsessiles, lanceolate, acntiusculce, liberse. *Ovarii* carpella 3, distincta, singula 4-ovulata. *Stylus* longiusculus, stigmatе anguste oblongo. *Fructus* carpella (adlmc immatnra) libera, subpatentia, ovoid eo-oblonga, pollicaria, in rostrum semipollicare attenuata, carnosnla, nigra, grosse tuberculoso-rugosa.

We are as jet unacquainted with the ripe fruits or seeds either of this or the preceding species, which alone at present constitute the genus.—Q-. BENTHAM.

Fig. 1. Corolla cut open, shoving the stamens and pistil. 2. Single stamen. 3. Fruit (uuripe).

---

PLATE 1183.

PYCNOBOTBYA NITIDA, *Bmth.*

APOCYNACEJ., Tribe ECHITJDEJE.

*Pycnobotrya*, *Benth. in Benth. et Hook. Gen. PL ii. 715.*

*P. nitida*, *Benth., species tcnica.*

HAB. West tropical Africa, Mount John River, *Mann.*

*Frutex* super arbores alte scandens, glaber. *Folia* opposita v. ternatim verticillata, breviter petiolata, oblongo-lanceolata, obtuse acuminata, 2<sup>^</sup>-3<sup>^</sup>-pollicaria, coriacea, nitida, integerrima, costa subtus prominula, venis transversis tenuibus crebris parallelis, subtus punctis nigris conspersa. *Flores* parvi, in cymis den sis in capitula contractis numerosi, subsessiles, capitulis breviter pcdunculatis ad apices ramorum corymbo&is v. breviter denseque paniculatis, bracteis minutis v. obsoletis. *Calyx* parvus, 5-fidus, lobis obtusis. *Corollce* tubus hrevis subcampanulatus; limbus patens, vix 3 lin. diametro, lobis 5 oblongis aestivatione contortis sinistrorsum obtegentibus. *Stamina* 5, basi corollas affixa, filament is brevissimis latis; antheraa lanceolato-sagittatae, acuminatae, circa stigma conniventes eique medio adhoerentes, loculis basi in appendiculas vacuas tenues aduatas extremitate brevis-Rime recurvas product is. *Ovarii* carpella 2, distincta, pluri-ovulata. *Stylus* brevissimus, stigmatе majusculo subgloboso. *Fnictus* ignotus.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut opeii, showing the stamens. 3. Single stamen. 4. Pistil.

PLATE 1184.

ZYGODIA AXILLABIS, *Benth.*

APOGYNACEAE, Tribe ECHITIDEAE.

*Zygodia*, *Benth. in Benth. et Hook. Gen. Pl. ii. 716.*

*Z. axillaris*, *Benth.*, #*p. n.*, ramulis rufo-villosis, foliis ovali-oblongis obtusis y. acutiusculis basi late cordatis.

HAB. West tropical Africa, Old Calabar River, *Mann.*

*Frutex* 8-10-pedalis, subscandens, divaricato-ramosus, ramulis pilis rufescentibus dense villosis. *Folia* opposita, ovali-oblonga, 1-1<sup>1</sup>-pollicaria, a basi fere ad apicem 6-9 lin. lata, glabra v. subtus ad costas birtella, integerrima, pennivenia, petiolo vix linea longiore fulta\* *Cyvide* axillares, pauciflorae, pedunculo petiolam vix sequante, bracteis minimis ovatis. *Flares* subsessiles, ad 2 lin. longi. *Calyx* 5-partitus, linea brevior, lobis rotundatis obtusis. *Corolla* campanulata, alte 5-fida, intus glabra, lobis oblongis obtusis leviter dextrorsum obtegentibus. *Stamina* prope basin corollae affixa, filamentis brevissimis latis; antherae lanceolato-sagittatae, brevissime acuminatae, circa stigma conniventes eique medio adhaerentes, loculis basi in appendicula vacuas breves subrecurvas productis. *Ovuli* carpellata 2, villosa, pluri-ovulata. *Stylus* brevis, stigmatibus ovoideo, apiculo acuto vix 2-lobato. *Fructus* ignotus.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens and pistil. 3. Single stamen. 4. Pistil. 5. Ovary, transverse section.

The genus comprises the two following nearly allied but apparently distinct species:—

*Z. myrtifolia*, *Benth.*, glabra, foliis elliptico-oblongis breviter acutiusculis basi acutiusculis distincte petiolatis, cymis pedunculo petiolo aequilongis, bracteis corollaeque lobis acutiusculis — *Folia* plerumque sesquipollicaria, tenuiora quam in *Z. axillari*. *Pedunculi* et *pedunculi* 1-1<sup>1</sup> lin. longi.

HAB. Bagamoyo in Zanzibar, *KM.*

*Z. subsessilis*, *Benth.*, glabra, foliis obovali- v. oblongo-ellipticis acutiusculis, basi obtusis brevissime petiolatis, cymis pedunculo petiolo subduplo longiore fultis, bracteis corollaeque lobis obtusiusculis. — *Folia* 2-3-pollicaria. *Flores* fere *Z. nriaris*, pedunculo communi 1-2 lin. longo.

HAB. Congo, *Chr. Smith.*—*G. BENTHAM.*

## PLATE 1185.

## MOTANDRA GUINEENSIS, A. DC.

APOCYNACE-E, Tribe ECHITIDEAS.

**Motandra**, A. DO.; *Benth. et Hook. Gen. Pl.* ii. 715.**M. guineensis**, A. DO. *Prod.* viii. 423, *species unica*.HAB. West tropical Africa, Guinea, *Thonning (DO.)*; Niger River, *Barter*.

*Frutex* ramis tenuibus subscaudentibus nti pctioli et inflorescentia tomento mtescente pubescentibus demum glabratis. *Folia* opposita, breviter petiolata, ovalia v. oblonga, obtuse acuminata, basi rotundata y. subcordata, pleraque 2-3-pollicaria, integerrima, pennivenia, venis primariis costaque subtns prominulis tomentoso-pubescentibus, casteram glabrata. *Flyres* parvniK, trichotome cymosi, cymis in paniculam thyrsoidem terminalem floribundam dispositis. Bractee minntce. *Pedicelli* breves. *Calyx* semilinea paullo longior, obtuse 5-lobus. *OorollcB* tnbus 2 lin. longus, rectus, snperne paullo latior, lobi tnbo subdimidio breviores, oblongi, sinistrorsnm obtegentes. *Stamina* basi corollae affixa, inclnsa, filamentis brevissimis latis; antherce lanceolato-sagittatae, vix acuminatae, appendice penicillato-piiosa coronatae, circa stigma conniventes et ei medio adhaerentes, loculis basi in appendiculas vacuas extremitate recnrvas productis. *Ovarii* carpella 2, multi-ovulata. *Stylus* brevis, stigmatel longe oblongo, apicnlo 2-fido. *Fruchcs* ignotns.—G. BENTHAM.

Fig. 1. Bud. 2. Flower. 3. Corolla cut open, showing the stamens and pistil. 4. Stamens. 5. "Single stamen. 6. Pistil.

## PLATE 1186.

## GYMNOLIBMA NEWII, Benth.

AscLEPUDEIE, Tribe PERIPLOCEJ:.

**Gymnolisma**, Benth. in *Benth. et Hook. Gen. Pl.* ii. 740.**G. Newii**, Benth., *species unica*.HAB. East tropical Africa, on Kilimanjaro mountain, *C. New*.

*Fnitex* videtur, an erectus an volubilis e specimine unico hand patet, pube tenuissima ad ramum costamque foliorum conspersus, cseterum glaber. *Folia* opposita, subsessilia, lineari-lanceolata, acute acnminata, integerrima, basi rotundata, ad 3 poll, longa, snpra laeviuscula, subtus pallida, cosla prominula, venis transversis reticulatisque crebris tenuibus. *Flores* parvi, in cymulas densas in una axilla pedunculatas conferti, pedicellis brevibus, bracteis ovatis acutis pedicello vix brevioribus. *Calyx* vis semilinea longior, campanulatus, sub-5-partitus, segmentis ovatis acutis. *Corolla* tubus latus, calyci subequalis; lobi duplo longiores, patentes, in alabastro angustissime dextrorsum obtegentes fere valvati. *Corona* 0. *Stamina* basi corollce affixa, filamentis brevibus latis basi in anulum connatis caeterum liberis; anther© ovate, corolla parum breviores, imberbes, acutse, apice supra stigma conni. ventes cohaerentesque. *Pollen* granulosum, corpusculis superne oblongis concavis acuminatis applicitum. *Stigma* depresso-conicum, muticum, medio leviter umbonatum. *Pedicelli* fructiferi parum accreti, ad 2 lin. longi. *Folliculi* subteretes, lasves, acuminati, 1<sup>^</sup>-pollicares. *Semina* oblonga, compressa, apice angnstiora, coma tenui haud longa coronata.

This plant is known only from the small but very complete specimen gathered by the late Rev. G. New on his expedition up the Kili-manjaro mountain, and forming part of his small (chiefly fragmentary) collection transmitted to the Kew herbarium through Dr. Kirk. As a genus it is readily distinguished amongst *Periplocece* by the absence of all corona, without the large appendages to the anthers which distinguish the Javanese and Sumatran genera *Phyllanthera* and *Pentanura*.—G. BENTHAM.

Fig. 1. Flower. 2. Gynostegiuxn. 3. Corpuscle.

---

PLATE 1187.

ECTADIOFSIS NIGRITANA, *Benth.*

ASCL&PIADE&, Tribe PERIPLOCEA:

*Ectadiopsis*, *Benth. in Benth. et Hook. Gen. PL ii. 741.*

*E. nigritana*, *Benth.*, \*p. wov.,fbUis anguste lanceoJatis, cymis laxiusculis multifloris.

HAB. Wept tropical Africa, Nupe on the Niger River, *Barter*.

*Caules* (e basi lignosa P ) herbacei, erecti, 4-pedales, ramis virgatis glabris. *Folia* opposita, subsessilia, anguste lanceolata, acutiuscula, integerrima, basi contracta, 2-3-pollicaria, supra flBVia, subtus pallida,

costa pararu prominente, venis tunuissime rcticalatis, floralia tnnlto minora, in bracteas abenntia. *Cymce* laxiusculee, inmia axilla folioram floraliara sessiles, nodis floriferis ad apices ramorum distantibns. *Fiores* parvi, breviter pedicellati, bracteis angnstis acntis pedicel to brevioribus. *Galijx* vix lineam longns, segmentis ovatis basi intus glandulis 5 segmentis alternis instructns. *Corollce* tubua calyceni vix reqnans ; lobi diiplo saltern, longiores, anguste oblongi, angnsfce destroisum obtegentes. *Corona* sqnamas 5, medio tnbo corolltB affixee, brevissime clavatse. *Stamina* basi corollDB affixa, filamentia basi in aunulum connatis supeme brevissime discretia; anther© ovatce> breviter acuminat«, imberbes, in connm stigma obtegentem couiata<sup>1</sup>. *Pollen* granulosum, corpusculis parvie liaearibns vix apice latioribua applicitnm. *i'riictus* ignotas.

The genns comprises also the *Ecladium oblongifolivm*<sup>^</sup> Meissn., from Natal land, with much shorter and broader leaves and usually much fewer flowers in closer cymes, and apparently a third species, nearly allied to the Niger one, gathered in Zambesi land by Dr. Kirk.—  
Q. BENTHAM.

Fig. 1- **Bad.** 2. Corolla cat open, showing the **earona]** scales anil gynostegiiinu 3. Ambers, secu from the back. 4. Pistil. The rutilation of the leaves too strongty represented.

PLATE 1188.

AMBLTSTJG-MA HYFOLEUCUM, *Benth.*

ASCLEPIADEJ., Tribe CrxANcnEj;.

Amblystigma, *Booth*, in *Bentk. et Hook. Gen. Pl.* ii. 748.

A, hypoleucum, *Benth., sp.* Min?., foliiscordato-lanceolatis snbtns lana densa Candida tomentosis, pedunculis petiolo subeeqnilongis.

HAB. Bolivia, *Bridges*.

(*aides* voltibilea, novelli tomentosi, demnm glabrati. *Fulia* opposita, latinscnle lanceolato-cordata, acutiascnla, integemma, anricnlis baseos rotundatis, 2-3 poll, longa, ^-1 poll, lata, crassinscnla, snpra glabra, subtus lana brevi sed densa alba vestita, petiolo ^-1 poll, longo. *Cymce* in nna axilla pednnculo ^-1-pollicari fultce, laxinscnlae, bracteia minimis angnstis, pedicllis caiyci subteqnilongis. *Calycis* segmenta linearia, 3 lin. longR, tomentosa. *Corolla* calyctui p;irnm excedens, latinscnle campannlata, lobis patentibns latis **fcobo** duplo brevioribus. *Corona* 0. *Stamina* prope basin tubi affixa, filamentis in tnbnm brevi58irnu.m connatis; antheae basi Bnbanriclatse, medio dorso le **riter** inerassaia-. membrana iiflexa tciTninata?. *PoHima* in quoque



loculo solitaria, longiuscula, ab apice attenuato candidula longa pendula. *Stigma* late umbonatum, eroste. *Fructus* ignotus.

A second species, which, however, may possibly prove to be a luxuriant large-flowered variety, is in Mandon's Bolivian collection, and may be thus distinguished:—

**A. pedunculare**, *Benth.*, foliis late cordato-lanceolatis rubris tenuiter tomentoso-pubescentibus, pedunculis petiolo duplo longioribus.— Folia quam in *A. hypoleuco* tenuiora majoraque. Flores majores. Calycis segmenta linearia, 4-4½ lin. longa. Corolla semipollicaris, lobis tubo quadruplo brevioribus.

HAB. Bolivia, prov. Larecaja, in the Gerro Iminapi, near Sorata, *Mandon, n. 353.*—Q. BENTHAM.

Fig. 1. Flower. 2. The same, the corolla removed, showing the gynoecium. 3. Pollen-masses. 4. Stigma.

---

PLATE 1189,

**RHYNCHOSTIGMA RACEMOSUM**, *Benth.*

ASOLEPIADEJJ, Tribe\* MARSDENIEA.

**Rhynchostigma**, *Benth in Benth. et Hook. Gen. Pl. ii. 771.*

**A. racemosum**, *Benth., sp. nov.*, glaberrimum, foliis oblongis acuminatis, cymis 2-4-floris plerisque in racemo axillari elongato aphylo v. vix basi foliato dissitis, corone squamis lineari-clavatis crassiusculis.

HAB. West tropical Africa, Cameroons Mountain, at an elevation of 4,500 feet, *Mann.*

*Frutex*? volubilis, alte scandens, glaberrimum. *Folia* oblonga v. oblongo-elliptica, longiuscule acuminata, integerrima, basi rotundata v. cuneata, 3-4-pollicaria, coriacea, nitida, petiolo 5-9 lin. longo. *Cymae* saepe 2-florae rarius 3-4-florae, nunc in una axilla solitarie breviter pedunculatas, nunc secus ramulum aphyllum (sicut) racemum formantes axillarem folio brevioris v. rarius longioris basi squamatae. *Florae* nudaes, pedicellis raris 2-3 lin. longis; bractae minutissimae. *Calycis* segmenta vix lineam longa. *Corollae* tubus turbinatus, 2 lin. longis; lobi lineari-oblongi, patentes, tubo aequilongi. *Coronae squamulae* 5, basi tubo stamineo adnatae, apice liberae, erectae, lineari-clavatae, obtusae, crassiusculae, anthera subduplo longiores. *Stamina* basi corollae affixa, filamentis basi in anulum connatis superne breviter discretis; antherae breves, membrana infixa stigmati arete appressa terminali. *Pollenia* in quoque loculo solitaria, parva, ovata, erecta,

cantiicnlis bx\*eviBsiinis corpuseulo parvo ailixu. *Slit/ma* crassum, inter antheraa obovoideum, in rostrum obtnsum contortum squamis coronai dnplo longius productnm. *Fructts* ignotus.

Fig. 1. Flower. 2. Corulla cut open, showing the coronal scales and gynostegiiiu. 3. Pollen-massL-s. 4. Pistil.

We have two other species of the same genus, both from West tropical Africa.

*R. brevipes*, *Bcnih.*, minute tomentellam v. glahratnm, foliis ovaii-ellijiiis breviter et acute acuminatis, cymis plurifloris ad axillns sestjilibus, coronas squamis alte aduatis apice liberis rotundato-spatlm-latis. Folia 2-3-polliearia, coriacea at vix nitida. CjnuB breviter 2-fidw, ramis 5-7-floris. Corollfe ad 3 lin. longjc, albse.

HAB. Banks of the Nun River, *M"nn*.

*E. parviflormn*, *Bmtk.*, glabrnrm, foliis oblongo-ellipticis obtusius-culis, cymis plnrifloris ad ax ill as sessilibog, coronse equamis basi tantum adnatis lignlatis acuminatis.

HAB. Gaboon River, *Mann*.—(x, BEKTHAM.

PLATE 1190.

SPH^BOCODON OBTITSIFOLIUM, *Benth.*

ASCXEPIADEJE, Tribe MABSDENIEJE.

*Sphcerocudon*, *Benth. in Benth. et Hook. Gen. PL ii. 772.*

*S. obtU3ifolium*, *Benth.*, »p. », foliis ovatis v. ovali-oblongis obtusis v. vix mucronatis, corollae lobis conniventibus.

HAB. South-east tropical Africa, Shire River, near Miramballa, *Kirk*

*Caules* c iici'i sublignosa procumbentea ascendentes \. flcxuosi, in speciminibus 1-2-pedales, duri, tomento minuto pubescentes. *Folia* opposita, breviter petiuhtta, inferiora late ovalia obtuaissima, stperiora anguetiora brevissime mucronnlata lg--^ pollicuria, integerrima, flffr cida submembrauacea, supra glabrinscula, Kubtus pnbe minuta pallida. *Cymce* pluriflowe, in nna axilla pedunculo 3-6 lin. longo fultro, bracteis miimtis. *Calycis* segmenta linearia, vis 1^ lin. longa. *Corolla* g"lobosa, 3 lin. diatnetro, semi-5-fida, lobis latis dexfcorsum obtegentibus. *Corona*\* sqaain\* 5, tnbo Btamineo ftdnatfe. prominent IT glanduliformes.

*Stamina* basi corollas affixa, filamentis in tubam antheris angustiore connatis; anther<sup>o</sup> erect<sup>o</sup>, obtusre, subtruncatiffi, lateraliter utrinque peltato-auriculatra. *Pollinia* in quoque loculo solitaria, erecta, eaudiculis minimis. *Stigma* vertice planum, 5-angulatum.

Although in many respects allied to *Marsdenia*, this genus appears quite distinct from the peculiar shape of the corolla, the absence of the terminal membrane of the anther, and from the apparent absence of the pollen-bearing corpuscles, at least in the flowers I examined, although the artist has figured one of at least an ordinary size. The artist has also by mistake figured the corolla-lobes as overlapping to the left instead of to the right.

Fig. 1. Bud (the twist reversed). 2. Flower. 3. (gynostegium. 4. Pollen-masses (the corpuscle connecting them perhaps incorrect). 5. Calyx and pistil.

An apparently distinct second species has been received from W. G. Gerrard from Natal, which may be thus characterised :—

*S. natalense*, *Benth.*, foliis ovali-oblongis acutiusculis, corolla lobis per anthesin apertis late campanulata. Pubes quam in *S. obtusifolio* evidentior, coronas squamis magis prominentes, a latere compressas.—  
G. BENTHAM.

---

PLATE 1191.

OIANTHUS URCEOLATUS, *Benth.*

ASCLEPIADE\*, Tribe MARSDENIEJ.

*Oianthus*, *Benth.* in *Benth. et Hook. Gen. PL* ii. 775.

*O. urceolatus*, *Benth.*, species imica (*Heterostemma urceolatum*, *Dalz.* in *Hook. Kew Journ.* iv. 295).

HAB. East Indian Peninsula, Belgaum and hills to the north, rare, *Dalzell.*

*Suffrutex* volubilis, glaber v. ramulis minute puberulis. *Folia* opposita, breviter petiolata, ovata v. ovato-lanceolata, acuta, integerrima, basi late subcordata, 3-5-nerviis, 3-4-pollicaria. *Cymos* pauciflor<sup>o</sup>, confert<sup>o</sup>, in uva axilla sessiles v. brevissime pedunculatæ. *Corolla* ovoideo-urceolata, purpureo-rubescens, 9-10 lin. longa, basi ventricosa, apice contracta, 5-fida, lobis brevibus latis anguste dextrorsum obtegentibus. *Corona* tubo stamineo affixa, late cyathiformis, gynostegium superans, carnosula, apice patuntissima, late 5-loba et irregulariter dentata, dente terminali cujusque lobi intro<sup>o</sup>exo. *Stamina* basi corollæ affixa, filamentis in tubum brevissimum connatis; an-

theræ b'cimi apioe milcxie, tnt'tiibrHia piirvn terminalæ. Pollinia in quoque loonlo <nlitaria. dænovoidet, ascendentia. Stigma rertle depraam n. *Fmetua Ugnotus*.

Mr. Dalzell referred tail plant to *Beterostemma*, (M iliflVrinjj from tlint geaiM in no respect except us to ilic form of the corolla. That, bowetvr, n rwy romarkalili-; and tin- ooron\* ap]ears to ta» alao modi ne nvr tJmt of /1^/eroslemma tintn of //eterostemma. It is a quation, however, whether the thnæ genem might not be fntted, if a forther general consolidation of Aftclepiarieouit genera bo thought desirable.—  
O. BENTLICK

Fig. 1. luruHn. 2. Oynr>\*t"(rimn. 3. Th« sumo, \*vin from kbove. 4. P'ollonmasses. 6. Urtiriim itiglilly MIUgtd fttartlu full of the istigma.

## PLATE LI92.

### LYSIDICE RHODOSTEOIA, *Ea*lce.

LEGI;»ISOH\*, \ CjHtAi.risfzæ.

*L. rhodotegia*, *lit.*, m *Seem. Journ. Bot.* 18(J7, p. 299, *species unica*.

11.\n. Boai hern China, on the \Vp<t Hiv:æ, T. Sampson (No. 12155, H<rb. Ifance).

*Frutex glaber. Folia alte raft, abrupt\*pinnata, foUotis 8-1(-6)-jugia tenniter co CJæcu broTiter petiololatii oblongo>eUiptiou bn viter ion\* minatis basi rotndatifi, infrnura 2^4J, SDperiora 4-6 poll, longa. Stipu111 pærvæ isbnflitæ. Flores racemosi, racemis in p>Tiici[liH terminaltbai ^-I )æd. longis dispositi; pedi oolli pnbenili, bant bncteis soloratti BBqnilongii orato-elliptiis suffulti. Calyx basi 2-bracteo iatos, bracteolæ parvæ oblonga v. lanceolate; tno eyiindræico sursum ampliato. linilio 4-jMirni(i la^iniin imhriciii IH Kiib anliesi reflexis oblongo-elliptic]• obi on % lobo postico latiore. Petala 3, æstatioie convolutiva (1 posticum, 2 lateralia), subæquilonga longe unguiculat> Ijuiiina c.Iif)vaio.niiniil;ii; petalaSantusa rndimentaria tminutiwima. *Stamina* antherifera 2 lateralia, filamentifl elongatis plahrin, ai theris ellipticis dorsifixis; itamina 'J pistica filiformia antheris cass la, antic\* rodimentaria subolata ii...jiuiliu. Ovarium breviter -npit.Lt urn eomp n ssum pilotttl. 9-12-ornlatun; itylus lasos in alabastro circi iins; R4igma •srminale. Legumen obanceolato-oblong am plaimm apice apiculatum, 6-7 poll. Jongam I', poll, latnm, i valvis coriac eo-Ugnoaisiævibus. Semina compressa, radicul a recta.*

H<'fem'tl 1)' Dr. Haii''> to thfl tribe *Amherstieae*, ne ir to the tropical Amerirtin gonns *Heterotenum*. Th< petali aro remarknlilr in their cori volute wativaHon.—D, OLIVSB.

Fig. J. Floirer. 2. Ovary, 3. Longitudinal Melton gf wmo. 4. L<gum<. 5. Seed.

TI-AIK I 198,

HIBTELLA ZANZIBARICA, (>liv.

ROEACBJR, § CURTSOIULA.NEJ.,

*H. zanzibarica*, O/V., foliin tdentibiti <hlongo- v. ovmto^Uiptuni bnmterobtnM aoaminati• btwi Totaodatii siepo emargtaal is subcor- datisve, Minieulbi terndnaUbiu denae mmosiB birii\* tnutiflorii >rac- tentis, bracteis parvis margine glandulosis, calycis lo'iis tnbo sn'æqui- lonjris, HtJiiniiiib<sup>1</sup>as 8-9 antheriferis iilii-ris.

HAH, Mafia Island, Kust tropical Afririi,'7'r. Kirk

*Ramnh U'vets* riabrati /'• // alicerna brq^itti petiofla coriacea mbtiu praK'ipuo in narro medio obBoluto pnbesoantda, -J. -'>| poll. longa, J-1^ poll. lata. /'anacula·densa folia mpenuu; In-actæ MBpcgeiiiiinat.il- rotondati margine glandulia pedicellatis [nnquilogii onus:r j pedioolli breve\*. *Oatyx* pnbescens, lolris oexteribrui plus minus glantliiloso-raiir^iiiiHi i. r<<>i calycem :i'(ii:inii;i <oncava late ellipttoa. *Stamina* unJateralia n bail liocra glabra; antbemplai e v. qtuulmto-elli pticæ dorwo allixip, *Ovariwn* <|> tis< pfloran LJocnlare, 2-ovutatnm. /'ructus ovoide u ohtoKutt Imsi abrapts aafftutatria L- spermus, pericarjiicoriacuoiutsmollitertoinantoco, j- / poU.Kmgna.— I). On:EE.

Ffl, 1. FJower. 2. Sam, CJILVX-lulw UiJ open, n Petal. 4. Sbimeni. /i. Sec- tion of ovary. 6. Pratt. 7. Swtioa of mm\*. 8 au> 9. Embryo.

PLATI HIM.

SYNAPTOLEPI8 ALTEBNIPOLIA, O/V.

Tn:MELACE\*, § Oman .E.

*S. alternifolia*, oliv., gkbra, fbfiis alternis ova libu oitutis v. ob- tusi nsonlia >asi pins minus cuneatis vix rotundatw, Soribna in iypnulis pecinnulatIH pattoiftoru wpini tenshuUibn<sup>s</sup> dispositis.

HAB. Kilwa, East tropical Africa, *Dr. Kirh*

*Jiamuli* graciles ascendentes teretes glabri. *Folia* subcoriacea mucronulata, subtus nervo marginali notata, §-1£ poll, longa, 4-7 lin. lata; petiolus 1 lin. longus. *Pedicelli* apice articulati -rV"i P<sup>0</sup>^- longi. *Flares* ^-§ poll, longi. *Perianthium* lobis ovatis v. ovato-ellipticis obtusis late imbiicatis, squamulisfaucis facile in lobos segregatis, margine setuloso-hispidis.—D. OLIVER.

Fig. 1. Flower. 2. Perianth laid open. 3. Stamens. 4. Pistil, with vertical section of ovary.

---

PLATE 1195.

PLOCOSPERMA BUXIFOLIUM, *Benth.*

LOGANIACEJE, Tribe GELSEMIJEJE.

*Plocosperma*, *Benth. in Benth. et Hook. Qen. PL ii. 789.*

*P. buxifolium*, *Benth., ipecies unica.*

HAB. Guatemala, *SJemner.*

*Frutex* glabcr, ramis rispdis elongatis. *Folia* opposita, brevissime petiolata, ovata v. oblonga, utrinque obtnsa, integerrima, coriaoea, supra nitida, subtus opaca, costa prominente, ^-1-pollicaria, iis *Buxi sempervirentis* subsimilia. *Flores* in nodis axillaribus ramorum annotinorum v. vetustiorum 2-4-ni in pedunculo brevissimo subracemosi v. interdum solitarii, pedicellis 1-2 lin. longis filiformibus ebracteatis. *Calyx* lineam longus, 5-partitus. *Corolla* tubo brevi subinfundibulari-campanulata^expansa fere pollicem diametro, lobis 5 latis imbricatis. *Stamina* 5, inaBqualia, corolla breviora; antberarum loculi paralleli. *Ovarinn* 1-loculare, basi in stipitem brevem crassum subcontractum, apice desinens in stylum filiformem apice bis 2-fidum, ramulis ultimis intus stigmatosis; ovula 4, per paria parietibus affixa, 2 inferiora erecta, 2 superiora pendula. *Capsula* linearis, subteres, 3-pollicaris, coriacea, tenuiter co-costata sulcataque, ab apice 2-valvis, valva quaque ovulum unum cujusque paris ferente. *Semen* tamen in rapsula unicum perfectum, lineare, 2-pollicare, subteres v. compressum, apice coma densa brevique pilorum appendiculatum; testa subcoriacea; albumen tenuiter carnosum; embryo linearis, perfectus tamen ignotus.

The fruit and seed of this plant are exceptional in the order, but the corolla, stamens, and style are very nearly those of *Grfseminm*, only shorter.—G. BENTHAM.

Fig. 1. Flower. c2. Corolla cut open, showing the stamens and pistil. 3. Pistil. 4 Ovary, longitudinal section. 5. Capsule and send

PLATE 1196.

**MOSTUEA SUBINAMENSIS**, *Benth.*

LOGANIACEJE, Tribe GELSEMIÆ.

**Mostnea**, *Didr.*; *Benth. et Rook. Gen. PL* ii. 789.

**ff. surinamensis**, *Benth.*, *sp. nov.*, foliis brevissime petiolatis oblongo\* ellipticis acuminatis, cymis laxis pedunculatis, corollas parviro limbo tubo subtriplo brevior.

HAB. Surinam, *Hostmann*, n. 1128.

*Frutex* glaberrimus, ramis tenuibus. *Folia* opposita, breviter et acute acuminata, basi cuneata, integerrima, membranacea, 2-4-pollicaria, venis paucis tennibus. *Oymce* ad apices ramornm v. in una axilla folio parum breviores, longiuscule pedunculate, dichotomeD, ramis filifonnibus, bracteis minutis. *Flores* in dichotomiis sessiles v. ramnlos nltimos pedicelliformes terminantes, albi. *C&lyx* viz £ lin. longns, alte 5-fidus. *Corolla* 2£ lin. longa, tubo superne arapliato, limbi lobi 5, patentee, equales, imbricati. *Stamina* infra medium tubum affixa, inclusa, filaraentis brevibus; antflerea ovatae, loculis subparallelis. *Ovarium* 2-loculare, ovulis in quoque loculo 2 collateralibus; stylus apice breviiier 2-fidus, ramis late cuneatis 2-fidis superne stigmatosis. *Capsula* compressa, divaricato-2-loba, lobis oblongo-quadratis fere semi, pollicem longis, ad margines in valvas 2 debiscentibus. *Semina* in quoque loculo solitaria, compressa, late ovata fere lenticularia, exalata, basifixa. Embryo rectus, in axi albuminis copiosi carnoai eo dimidio brevior; cotyledones angustflB, radícula brevis, infera.

The two, or perhaps three, species of this genus from West tropical Africa include the *Mostuea (Leptocladw) Thomsoni*, Oliv. in Journ. Linn. Soc. viii. 160, 1.12, which in its lax inflorescence comes nearer to the Surinam species than Didrichsen's original type. It has, however, much smaller leaves and larger flowers\*.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut open, showing the stameng. 3. Calyx and pistil. 4. Ovary, longitudinal section. A. Fruit. 6. The same, one lobe open, showing the seeds.



## PtATI 1197.

## BEOOKEA DABYANTHA, Benth.

SCROPHUL. Kuisr. M., Tritx. CHELONE! c

Brookea, *Bmtk. in Bmlk.* < Book. Gen. Pl. ii. 939.

*B. dwyantha*, *Itenth.*, *sp. nov.*, ramulis inflorescentiaque pilis longis  
iiiollilni: dense villosissimis, corollæ tubo calyce fere duplo longiore.

HAB. Sa-nwak, Bonwo, /obb, Beccari, n. 11 i 5 and 3203.

*Frutex* videtur, ramulis validis pilis longis m. HtttIM rilfcM'i'iti-se il-  
ceis densissime vestitis. *Folia* opposita, ovata v. superior Pi HTU'ustiora,  
acuminata, denticulata, basi contracta et in petiolum brevem decur-  
rentia, semipedalia et longiora, crassiuscula, supra viridia scabriuscula  
et venulis reticulatis impressis rugosa, subtus dense cano-tomentosa  
costa venisque primariis pinnatis villosis. *Spicæ* in dichotomiis < T.  
int>r folia ultima sTK-DCJ> v, hn viter pedunculata, 3-5-pollicares,  
rhachi calycibusque de DM VJ! losissimis. *Flores* oppositi v. sparsi,  
subsessiles, 111 HXIII am bractææ reflexæ persistentis 3-5 lin. longæ.  
*Calyx* sub anthesi 7-8 lin. longus, oblongo-tubulosus, 4-5-dentatus,  
fructifer pollicaris, ampliatus ore contracto. *Corollæ* tubus cylin-  
draceus, superne ampliatus, leviter incurvus, pollicari •>y. p'all<> longior,  
limbus oblique expansus, ad 9 lin. diametro, lobis 5 rotundatis 2 posticis  
exterioribus. *Stamina* 4, didynama, prope basin corollæ affixa,  
tubo paullo breviora; antherarum loculi divergentes demum divaricati,  
apice subconfluentes, staminis posici rudimentum 0. *Ovarium* 2-  
loculare, ovulis in placentis prominulis numerosissimis. *Stylus* apice  
brevis lateque 2-lamellatus. *Capsula* ovoidea, calyce subclauso in-  
rliiHii, :plabra, septicide dehiscens. *Semina* minuta, subglobosa, pla-  
centas dens< >btgentia.

The genus h ut nume gvnend rvr emblance to the Central American  
*Uroskinnera*, but readily distinguished by the absence of the upper  
staminodiink and UH< Mpi icidal not loculicidal dehiscence of tli<>  
capsule. A second: species (*B. tomentosa*, Benth.) was gathered also  
in Sarawak. Uy 1^bb, very nearly allied to *B. dasyantha*, but with the  
iiiumentum of the branches and inflorescence shortly tomentose, the  
HMADE VELVET DEE HIE HEPER sidd and sMairily whiS> utikankntli, kose  
decurrent on the longer petiole, the calyx smaller, and the corolla-  
tube less exerted. Said • \* be » ahro b of 10 feet, with white flowon.-  
G. BENTH.

Fig. 1. Bud. 2. Flower. 3. Corolla cut open, showing the "Urniu. 4. Aathivv.  
5. Pistil. 6. Ov section.



J'LATK 1198,

MONOPYLE MACBOCAKPA, *Beuth. var.*

GMIXKIUCK.C, Tribe QUNKRKJE.

*Monopyle* *Yook. Gen. Pl. ii. 997.*

*M. macroearpa*, *Bmi h., sp. nov.*, folio majore cujusque p>ru mrius utro•quo loii^iiiM\*ule j\*tiolato oblongo-elliptico acuminato basi valde iiuf.ji::ili, floribus longe pedicellatis ad axillas v. in pedunculo terminali fasciculatis, calycis lobis longiuscule linearibus, tubo basi vix obtii «o frnclifro ol longo-lineiri.

Var. *isophy*7\*i, foliIK cojm que paril jmnim ïiaMjnu'ibus.

HAB. The typical form in Eastern Peru on rocky utreiirai ticur Tnrnpoto, *Spruce*, n. 4151, and the variety here figui-wl, at tin<sup>1</sup> foot of Mount Chimborazo, *Spruce*, a single specimen.

*Herba* a mtlici repen o asoundotu v, UKO croota, param raa<sup>1</sup>osa, 1-3-pedalis, p t b own. *Folia* in forma typica pleraque valde disparia, maximum oblongo-ellipticum, acuminatum, obtuse serratum, basi v<sup>1</sup> inaequale, subsemipedale, supra virens scabriusculum, subtus subrub'••OQM ntdilitvr |tn bescens, petiolo semipollicari v. longiore fultum, "Ii posito minimo lanceolato stipuliformi; adsunt tamen hinc inde jNtria nitruk itaequalia et in forma delineata pleraque (nec omnia) sub•qnalifl. *Flora* in specimine delineato in una axilla 2-4-ni, pedunculo comuoni bn>vigaii in forma typica pedunculo communi terminali fulti, pedicellis per anthesin vix semipollicaribus, post anthesin elongatis. Bractea ad basin pedicellorn in jwii vae. *Calycis* tubus omnino adnatus, sub anthesi obovoideus, basi acutus v. vix obtusus, vix 2 lin. longus, cano-pubescent, post anthesin valde elongatus; lobi 5, lineares, 3-4 lin. longi. *Corolla* albida In perne pallide htm HuhpolU. caris, latus, superne ampliatus fere campanulatus; limbus oblique patens, pollicem diametro, lobis 5 latis, 3 posticis paullo altius connatis antico caeteris majore. *Stamina* 4, didynama, ima basi corollae affixa, inclusa, cum rudimento minimo staminis quinti postici; filamenta (ili-formia, arenata; antherae conniventes non tamen coherentes, loculis subglobosis divergentibus. *Ovarium* inferum, vertice brevissime conicum; stylus brevis, apice stigmatoso vix dilatato. *Capsula* infera, oblongo-linearis, curvula, subpollicaris, calycis lobis haud accretis coronata, vertice inter lobes parvo indiviso, do<sup>1</sup>•••> iiifm lobes rima longitudinali dehiscens. *Semina* ut in tota tribu numerosa minima.

I do not feel certain that the two p<sup>1</sup>WH - ft<sup>1</sup>om rather distant stations which I have united under the above name are strictly conspecific,

though I believe them to be BO. In the typical form from Tarapoto the larger leaf of each pair is about 6 inches long, the smaller opposite one sessile, or nearly so, and  $\frac{1}{2}$  to  $\frac{3}{4}$  inch; but one of these specimens bears also two pairs of leaves more like those represented in the plate. The specimens from which the artist made his general outline have most of the leaves 3 to 4 inches long, and nearly equal in each pair, but these also have two or three of their pairs almost as unequal as in the typical form.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens. 3. Stamens. 4. Anther. 6. Fruit.

The genus evidently comprises several species, of which the following, as far as can be judged from herbarium specimens, appear to be perfectly distinct:—

2. *Jf. viacrophylia*, Benth., folio majoro cujusque paris longiusculo petiolato ovali v. oblongo-elliptico longo acuminate basi valde inloquali, floribus longe pedicellatis, fasciculis oppositis 2-floris per paria secus pedunculum longum dimittis, calycis tubo post anthesin breviter oblongo basi postice gibbo, lobis longiuscule linearibus.—Folia majora 8-10-pollicaria, opposita 1-2-pollicari. Corollas (violaceo?) ventricoso-campanulata, ad 1 lin. longas.

HAB. Columbia, *Lobb*.

8. *M. subsessilis*, Benth., folio majoro cujusque paris subsessili oblongo-elliptico acuminato basi inaequaliter contracto, opposita natis, floribus breviter pedicellatis, fasciculis oppositis 2-3-floris in pedunculo terminali geminis v. per paria dimittis, calycis tubo fructifero oblongo lobis longiusculis lineari-lanceolatis.—Folia majora 6-10-pollicaria. Calycis tubo per anthesin 1 lin. fructifer 3-4 lin. longus, lobis quum in costis speciebus latioribus, 3-4 lin. longi, in calyce fructifero immixti. Corolla campanulata, 1½ poll. longa, violacea basi sola pallens.

HAB. Tarapoto, with the *M. macrocarpa*, *Spruce*, n. 4151\*. Besides the above-mentioned characters, the stamens appear to be shorter, and the stigmatic apex of the style shortly 2-lobed.

A specimen from Costa Rica, *Endres*, evidently allied to the three preceding species, does not precisely agree with either, but is insufficient for accurate determination.

4. *M. paniculata*, Benth., folio majoro cujusque paris petiolato ovato-oblongo acuminato basi valde inaequali, opposito parvo v. nano, cymis laxis pedunculatis in panicula laxa terminali divaricatis, calycis tubo brevi postice gibbo, fructifero . . . . lobis breviter linearibus.—Herba 4-podulis. Folia majora 6-8-pollicaria. Paniculae rami oppositi teretibus divaricati, cymis dichotomis plurifloris, pedicellis 2-3 lin. longis. Corolla subcampanulata, ad 9 lin. longa, extus carnea, intus violaceo-maculata.

HAB. Ecuador, Mount Abitagua, *Spruce*, n. 5071.

5. *M. leucantha*, Moritz, *Pl. Exs.*, folio majore cajnscque paris petiolato ovato y. ovali-oblongo acnminato bnsi incuqualiter rarius tequaliter cordato v. obtnso, opposite) subasqnali v. minore, flornm fasciculis v. cymis abbreviates in pedunculo terminali per paria dissitiN, calycis frnc-tiferi tubo oblongo basi obliqno obtuso, lobis brevilms.—Folia valde vnriabilia, nunc omnia parum inoequalia 3-4-pollicaria latiuscula, nunc majora 6-8-pollicaria opposite dimidio minore. Floras semipollice paullo longiores. Corolla alba, late at oblique campanulata.

HAB. Caraccas, *Moritz*, n. 868; *Birschell*, *Linden*, n. 2-54; *FenJler*, n. 794; *Ocaña*, *Schlim*, n. 22.

6. *M. racemosa*, Benth., foliis cnjnsqno paris snbau|ualibns petioiatis ovato-oblongis acuminatis basi contractiH, pedicelliH 1-floria oppositis in racemum turminalem simplicem dispositis.

HAB. New Grenada, from whence it has been introduced into Veitch's nursery.

This species, about to be figured in the *Botanical Magazine*, differs from all the othors in the leaves apparently always equal in each pair and the simple inflorescence. The calyx-lobes arc also rather broader, and the corolla rather longer for its breadth, than in the several species from which I drew up the generic character.—G. BENTUAM.

PLATE 1199.

ANODISCUS PERUVIANUS, *Bvnth.*

GESNEKACEJE, Tribe GESNEREJR.

*Anodiscuj*, *Benth. in Benth. et Hook. Oen. PL ii.* 99K.

*A. peruvianus*, *lUmth.*, *species unica.*

HAB. Peru, *Ruiz and Pavon*, along streams and in cultivated places about Tarapoto, rare. *Spruce*, n. 4400.

*Herba* erecta, valida, 8-pedalis, pubebrevi püDHcrtim in inflnrriencia viscosa villosa. *Folia* opposita, in quoque Jniri subnoqnalía, ovali-obj?longa'v. lanceolata, aenminata, crtiiulata, basi in petiolum contract a, G-10-pollicaria, crassiuscula, supra scabro-pnbescencia, subtns molliter tomentoso-pnbcscentia, sumina multo minora. *Flown* parvi, albi, secus rhaehin racemi altorni v. sparsi rarius oppositi, raemo termiuali semi-pedali et longiore, additis nonnullis brevioribiiH ad axillas foliorum superiorim; pedicolli 2-3 lin. longi v. frnctilbri dnnlo longioi-os, patentes, ad axillain bractorc Jarvoo soliUrii. *Culyeu* tubus adnatus

obovoideo-turbinatus, sub anthesi 2 lin. longns, lobi 5, tubo breviores, patentes. *Corolla* 3 lin. longa, breviter tubuloso-campanulata, limbo subpatente parum obliquo, lobis 5 brevibus latis parum inaequalibus. *Stamina* 4, didynama, basi corollas affixa, filamentis brevibus; antheras liberae, ovatas, loculis parallelis distinctis, connectivo latiusculo apice breviter appendiculato. *Discus* obsoletus. *Ovarium* semi-inferum, stylus brevis, stigmatibus breviter 2-fido. *Capsula* ultra medium infera, cum rostro supero incurvo-conico 2-valvi semipollicaris. *Semina* normalia, minima, numerosa.

This plant has at first sight much of the aspect and inflorescence of the *Gesnera allagophylla*, but the flowers are much smaller, and differ widely in their structure as well as in colour, showing rather an affinity with *Monopyle* and *Phincea*.—Gr. BBNTHAM.

Fig. 1. Flower (the throat represented too narrow, and the limb too large and spreading). 2. Corolla cut open, showing the stamens. 3. Two stamens (the tip of the connective omitted). 4. Calyx and pistil. 5. Fruit.

---

PLATE 1200.

NEKIACANTHUS PTTBDIEANUS, *Benth.*

ACANTHACEÆ, Tribe JUSTICIE-E.

*Neriacanthus*, *Benth. in Benth, et Hook. Gen. Pl. ii. 1096.*

H'. *Purdieanus*, *Benth., species unica.*

HAD. Jamaica, on rocks near Christiana, Manchester, rare, *Purdie.*

*Frutex* pulcherrimus, 8-pedalis, partibus novellis pube minuta canescentibus ceterum glaber. *Folia* opposita, petiolata, obovata v. oblonga, 1-j-2-pollicaria, obtusissima, basi contracta, coriacea, marginibus recurvis, pennivenia, venis paucis subtus prominulis. *Flares* lilacini, ad axillas bractearum oppositarum solitarii, sessiles, in spicam brevem terminalem dispositi. *Bractes* herbaceae, ellipticae, obtusissimae, 6-9 lin. longae, 3-5-nerves; bracteolae 0. *Calyx* 5-partitus, ad 2 lin. longns, segmentis lineari-lanceolatis subaequalibus. *Corollae* tubus 8-9 lin. longus, cylindraceus, ad faucem parum ampliatus, limbus patens subplanus; lobi 5 obovati, postici semipollicares, antico paulo majore, aestivatione imbricati, posticis interioribus antico extimo. *Stamina* 4, didynama, tubo inclusa; anthero lineares, 1-loculares, muticad; staminodium posticum breviter filiforme. *Stylus* filiformis, apice integer. *Ovula* in quoque loculo ovarii 2. *Gapsuia* ignota.

Fig. 1. Flower. 2. Corolla cut open, showing the stamens and pistil. 3. Stamen. 4. Pistil. 5. Ovary, longitudinal section.

## INDEX OF SPECIES AND SYNONYMS.

|   | Page | Plate |   | Page | Plate |
|---|------|-------|---|------|-------|
| <i>Acacia crassifolia</i> , A. Gray . . .             | 60   | 1166  | <i>Clappia aurantiaca</i> , Benth. . . .              | 3    | 1104  |
| — <i>reniformis</i> , Benth. . . .                    | 69   | 1165  | — <i>suaedaefolia</i> , Torr. . . .                   | 4    | 1105  |
| <i>Adelostigma senegalense</i> , Benth. . . .         | 48   | 1144  | <i>Coleocoma centaurea</i> , F. Muell. . . .          | 33   | 1136  |
| <i>Aganippea bellidiflora</i> , DC. . . .             | 16   | 1117  | <i>Conyea altaica</i> , DC. . . .                     | 6    |       |
| <i>Amblyocalyx Beccarii</i> , Benth. . . .            | 69   | 1179  | — <i>umbro8a</i> , Kar. et Kir. . . .                 | 6    |       |
| <i>Amblystigma hypoleucum</i> , Zf. . . .             | 76   | 1188  | <i>Corynula pilosa</i> , Hook.f. . . .                | 22   | 1123  |
| — <i>pedunculare</i> , Benth. . . .                   | 77   |       | <i>Corysanthes Ckeesemani</i> , ffoofc./ . . .        | 19   | 1120  |
| <i>Anaglypha acicularis</i> , JSenth. . . .           | 9    | 1109  | <i>Gremanthodium palmatum</i> ,<br>Benth. . . . .     | 38   | 1142  |
| <i>Anodiscus peril vianus</i> , Benth. . . .          |      | 1199  | — <i>pinnatifidum</i> , Benth. . . .                  | 39   | 1142  |
| <i>Anthobolus foveolatus</i> , F. Mucll. . . .        | 65   | 1173  | — <i>reniforme</i> , Benth. . . .                     | 37   | 1141  |
| <i>Aphananthe philippinensis</i> ,<br>Planch. . . . . | 65   | 1174  | <i>Crinitari</i> (& <i>humilis</i> , Hook. . . .      | 6    |       |
| — <i>rectinervis</i> , Planch. . . . .                | 65   |       | <i>Cyclophyllum Deplanchei</i> ,<br>Hook.f. . . . .   | 52   | 1158  |
| <i>Asemoantho pubescens</i> , Hook.f. . . .           | 40   | 1145  | <i>Denekia capensis</i> , Thunb. . . .                | 35   | 1138  |
| <i>Aster angustus</i> , Torr. et Gr. . . .            | 6    |       | <i>Desmanthodium ovatum</i> , Benth. . . .            | 15   |       |
| — <i>retortus</i> , Harv. . . . .                     | 13   |       | — <i>perfoliatum</i> , Benth. . . .                   | 14   | 1116  |
| <i>Aulicocalyx jasminiflora</i> , ^ . . .             | 25   | 1126  | <i>Dialypetalum floribundum</i> ,<br>Benth. . . . .   | 68   | 1178  |
| <i>Axiniphyllum corymbosum</i> ,<br>Benth. . . . .    | 16   | 1118  | <b><i>Didymochlamys Whitei</i>, Hook.f. . . .</b>     | 21   | 1122  |
| — <i>tomentosum</i> , Benth. . . .                    | 17   |       | <i>Ectadiopsis nigritana</i> , Benth. . . .           | 75   | 1187  |
| <i>Belonophora coffeoides</i> , Hook.f. . . .         | 26   | 1127  | <i>Ectadium oblongifolium</i> , Meissn. . . .         | 76   |       |
| <i>Bernouillia flammea</i> , Oliv. . . .              | 62   | 1169  | <i>Epallage salvifolia</i> , DC. . . .                | 33   |       |
| — (fr.) . . . . .                                     |      | 1170  | <i>Erigeron ciliatus</i> , Ledeb. . . .               | 6    |       |
| <i>Italasia capensis</i> , Benth. . . .               | 57   | 1163  | <i>Faramca colorata</i> , Benth. . . .                | 27   |       |
| <i>Borreria tetracocca</i> , Thw. . . .               | 23   |       | <i>Felicia retorta</i> , DC. . . . .                  | 13   |       |
| <i>Bothriocline Schimperii</i> , Oliv. . . .          | 30   | 1133  | <i>Feigusonia Thwaitesii</i> , Hook.f. . . .          | 23   | 1124  |
| <i>Brachyactis ciliata</i> , Ledeb. . . .             | 6    |       | <i>Fresenia fasciculata</i> , Boiss. . . .            | 8    | 1108  |
| • — <i>menthodes</i> , Benth. . . . .                 | 5    | 1106  | <i>GonRothamnium divaricatum</i> ,<br>Steetz. . . . . | 36   | 1140  |
| • — <i>obovata</i> , Benth. . . . .                   | 7    |       | <i>Guthriea capensis</i> , Bolus . . . .              | 55   | 1161  |
| — <i>robusta</i> , Benth. . . . .                     | 6    |       | <i>Gymnolaema Newii</i> , Benth. . . .                | 74   | 1186  |
| — <i>umbrosa</i> , Benth. . . . .                     | 6    |       | <i>Gymnopentzia bifurcata</i> , Benth. . . .          | 49   | 1155  |
| <i>Brookea dayantha</i> , Benth. . . .                | 84   | 1197  | <i>Hedyotia tillacea</i> , F. Muell . . . .           | 41   |       |
| — <i>tomentosa</i> , Benth. . . .                     | 84   |       | <i>Hekistocarpa minutiaora</i> , Hook.f. . . .        | 46   | 1151  |
| <i>Calliandra colletioides</i> , Griseb. . . .        | 61   | 1167  | <i>Heligenes longifolia</i> , Benth. . . .            | 16   |       |
| <i>Calostephane divaricata</i> , Benth. . . .         | 10   | 1111  | <i>Heterophyllis Bapu8tulata</i> , flbo*/ . . .       | 31   | 1134  |
| <i>Camptostemon Schultzei</i> , Mart. . . .           | 18   | 1119  |   |      |       |
| <i>Ceratopyxis verbenacea</i> , Hook.f. . . .         | 24   | 1125  |   |      |       |
| <i>Chalepophyllum guyanense</i> ,<br>Hook.f. . . . .  | 43   | 1148  |   |      |       |
| <i>Chiliocephalum Schimperii</i> , Ben . . .          | 34   | 1137  |   |      |       |

i

|  | Pi 28  | PLATE | Plate |
|--|--------|-------|-------|
| <i>Ittrottrmmu urerotaum</i> , Dnlz. 7*                          |        |       |       |
| <i>lattTotoma.mhCTitriuimn, Il'ti't/.</i> <iH                    | 1177   |       |       |
| <i>HrttlU xnnzHmncA, tlilii.</i> HI                              | 1193   |       |       |
| <i>Honmlocldoi colwatu</i> , Woo*./                              | 27     | 1128  |       |
| <i>Hombchaete conferta</i> , I.; nth. . 0                        | U) i i |       |       |
| <i>Hualtrim colletioides</i> , P., l. . . 29                     | 1 ISO  |       |       |
| <i>Hymtaoeardl a ulmoiclea</i> , Oliv. . . 20                    | 1131   |       |       |
| <i>lymonophyllum Cht-ewjmaiii.</i>                               |        |       |       |
| <i>Ba.&gt;:*.</i> . . . . .                                      | 30     | 1182  |       |
| <i>Hymenostephium iiiiguitifilium</i> ,                          |        |       |       |
| <i>Benth.</i> . . . . .  | 40     |       |       |
| — <i>moxiwium</i> , <i>Bnth.</i> . . . .                         | 48     | 1161  |       |
| <i>LloopitiMia malaeoenaia</i> , Maing. ,>8                      |        | 1164  |       |
| <i>Lachnopyllum gwiypinum.</i>                                   |        |       |       |
| <i>Bunge.</i> . . . . .  | 8      |       |       |
| — <i>Na&gt;ium</i> , <i>Bous</i> . . . . .                       | 7      | M07   |       |
| <i>Leptocladus ?atomtowt</i> , Olir. . . 83                      |        |       |       |
| <i>Leptomeria acerba</i> , K, Itr. . . . 64                      |        |       |       |
| <i>LpptoHceU raelllotdMook. f'</i>                               | 44     | 1149  |       |
| <i>J. UCOPIH1JM hit iful iii, I tenth.</i> . 14                  |        |       |       |
| <i>^,^ pttyljeoidott, Gardn.</i> . . . . 13                      | 1116   |       |       |
| <i>Ligularia rrniforvtu</i> , DC. . . . . 37                     |        |       |       |
| <i>Unho]. . . . ii i'lutjptvlin, i/rH/A.</i> 12                  | i11s   |       |       |
| <i>Lullna hypoleuca, jie&gt;lh.</i> . . . . 3fi                  | 1)30   |       |       |
| <i>Lyiidicu rliod&lt;Mtt&lt;gia, y/&lt;niY.</i> . . A)           | 1102   |       |       |
| <i>Mitchrlh pifom</i> , <i>Benth.</i> . . . . 23                 |        |       |       |
| <i>Monofyilt&lt; loiiCJiiilli.i, Murix.</i> . . 87               |        |       |       |
| — <i>mnckKvirjin</i> , <i>Benth.</i> . . . . 86                  | 1108   |       |       |
| — <i>ianacrophylla</i> , <i>Bent. I i</i> . . . . 86             |        |       |       |
| — <i>JaniculataK/f/ / . . . . .</i> 8 6                          |        |       |       |
| — <i>racciiitwa</i> , <i>Mittth.</i> . . . . 87                  |        |       |       |
| — <i>subcasiliK</i> , <i>Bnth.</i> . . . . 86                    |        |       |       |
| <i>Morina bet&gt;nicoides</i> , <i>Benth.</i> . . . 63           | 1171   |       |       |
| <i>MoitUM durin&amp;itiL'nMB, Bnth.</i> . . 83                   | i196   |       |       |
| — <i>Thomsoni</i> , <i>Olig.</i> . . . . . 83                    |        |       |       |
| <i>Motandra Ruinucimie</i> , W, /JC . . . 74                     | 118A   |       |       |
| <i>Neriacanthu i Pnrftwrwt gartl.</i> 88                         | 1200   |       |       |
| <i>Nyrmntffiu iwoatledonicit,</i>                                |        |       |       |
| <i>Hook. f.</i> . . . . .  | 20     | 1121  |       |
| <i>Notone rium G01&lt;oi, Benth.</i> . . . 70                    | 1180   |       |       |
| <i>Notopcin .Si-tumi Djii r&lt;ki&lt; mi,</i>                    |        |       |       |
| <i>Hoo*.. I.</i> . . . . .                                       | 63     | 1160  |       |
| <i>Oinntitfi in &lt;colatus</i> , <i>Bar tth.</i> . . 70         | 1101   |       |       |
| <i>Oll'n m tri.UFpid</i> , <i>Sch. Bip.</i> . . . 2              | 1103   |       |       |
| <i>Ornpli'i&lt;itm&lt; riri in'clrm. A, DC.</i> . 64             | 1172   |       |       |
| <i>Ondcimlinojirin</i> , <i>Bnth.</i> . . . . , M                |        |       |       |
| <i>Otopappnn varbwinoitdM, Bnth.</i> 47                          | 1153   |       |       |
| <i>Pentachæta gracilis</i> , <i>Benth.</i> . . . 1               | 11'i!  |       |       |
| — <i>nutmt</i> , <i>Nutt.</i> . . . . . 1                        |        |       |       |
| <i>I'hutldnthu* spicatus</i> , <i>Sstti</i> . . . 24             |        |       |       |
| <i>I'hi't&gt;&gt;rnry&gt;&gt; ciliita</i> , <i>JJr.</i> . . . 66 | 1175   |       |       |
| — <i>flifiliiia</i> , <i>F. Muril.</i> . . . . 67                | 1176   |       |       |
| <i>Rthdcoltftbiotn hTBhrix</i> , <i>Bnth.</i> . . 61             | 1168   |       |       |
| <i>Plafpocarpui axiilarii</i> , <i>lmth.</i> . . . 6ft           | 1162   |       |       |
| <i>Pleiocarpa mutica</i> , . . . . . 71                          | 1181   |       |       |
| — <i>rott.'sta</i> , <i>Benth.</i> . . . . . 71                  | 1182   |       |       |
| <i>Plocosperma buxifolium TL IUMI</i> . . 82                     | 1195   |       |       |
| <i>Pluch' Abarifl ora, F. Muell.</i> . . . 39                    |        |       |       |
| — <i>frutescens</i> , <i>Benth.</i> . . . . . 51                 | 1157   |       |       |
| — <i>innatifida</i> , <i>Hook. f.</i> . . . . 50                 | 1156   |       |       |
| <i>Psilanthus Mannii</i> , <i>Hook. f.</i> . . . 28              | 1129   |       |       |
| <i>Pycnobotrya nitida</i> , <i>Benth.</i> . . . 72               | 1183   |       |       |
| <i>Ilhy&gt;&gt;cho stigma brevij 'm.Bthti.</i> 78                |        |       |       |
| — <i>parvislorum</i> , <i>Benth.</i> . . . . 78                  |        |       |       |
| — <i>m^motram</i> , <i>iA, th.</i> . . . . 77                    | 1189   |       |       |
| — <i>olepis borneensis</i> , <i>Hook: f.</i> . . 54              | 1160   |       |       |
| <i>Rondeletia verbenacea</i> , <i>Grisob.</i> . . 24             |        |       |       |
| <i>Salmeopsis Claussoni', Benth.</i> . . . 47                    | 1152   |       |       |
| <i>Sou.ocio retortus</i> , <i>Ben f*</i> . . . . . 1 3           | 1114   |       |       |
| — <i>reniformis</i> , <i>Wall.</i> . . . . . 37                  |        |       |       |
| <i>Solen:iriilri,i [xoroidwL Hook. /.</i> />                     | 1150   |       |       |
| <i>Sphacophjllum Bq&lt;ri, A&gt;O, , fli</i>                     | 1135   |       |       |
| <i>Sjhr:TOL-ud&lt;D Hill: lense, Benth.</i> 79                   |        |       |       |
| — <i>obtnitifolimn. Brn/h.</i> . . . . 78                        | 1190   |       |       |
| <i>Sponia ilicifolia</i> , <i>S an.</i> . . . . fl')             |        |       |       |
| <i>Stachye. jiiiaJum niuxioanum, Sch.</i>                        |        |       |       |
| <i>Bip.</i> . . . . .  | fl     | 11M   |       |
| <i>Slitpuoph&gt;lhim lineuim,</i>                                |        |       |       |
| <i>Hooi . . . . .</i> . . . . . 42                               | 1147   |       |       |
| <i>SjfiJii)i:ititliu lillMtimi, U&lt;i&gt;k. /.</i> 41           | 1146   |       |       |
| <i>Syniptolopii uJterni folia</i> , <i>Ohv.</i> 81               | 1194   |       |       |
| <i>Taxotrophis rectinervis</i> , <i>F. Muell.</i> 65             |        |       |       |
| <i>Thespidium basiflorum, F. Muell.</i> 39                       | 1143   |       |       |
| <i>Tripilium angutumn, Liii'll.</i> . . . fl                     |        |       |       |
| <i>Zypodia axiMnrin</i> , <i>Bnth.</i> . . . . 73                | 1184   |       |       |
| — <i>myrtifolia</i> , <i>Benth.</i> . . . . 73                   |        |       |       |
| — <i>subMulin</i> , <i>lttth.</i> . . . . . 73                   |        |       |       |



W.H. Fitch del. &amp; lith.

J.N. Fitch. sculp.

*Pentachaeta gracilis* Benth.



W. H. Fitch del. et lith.

J. N. Fitch imp.

*Stachycephalum mexicanum*, ScAB p.





W.H. Fitch del et lith.

J.N. Fitch imp

*Olivaba tricuspis*, *Soh. Bu.*



W.H. Fitch del et lith.

J.N. Fitch imp.

C Lajp-piau axzr ajn ti a-c a . Bmbh.



W.H. Fitch. del. et. lith.

J.N. Fitch. imp.

*Clappia suaedaefolia*, A. Gr.



W.H. Fitch del. et lith.

J.N. Fitch imp.

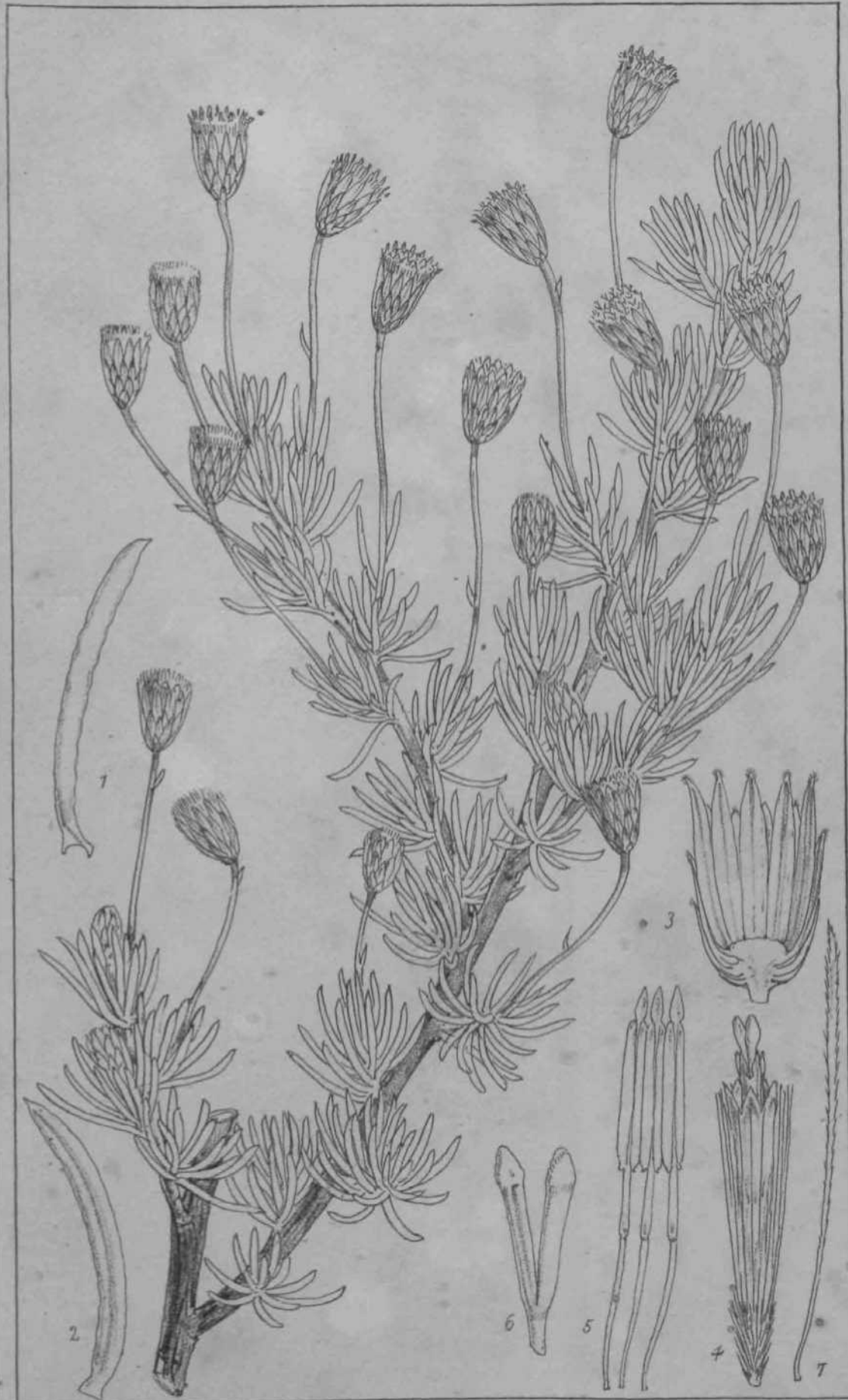
*Brachyactis menthadora* Benth



W.H. Fitch del et lith

J.N. Fitch imp

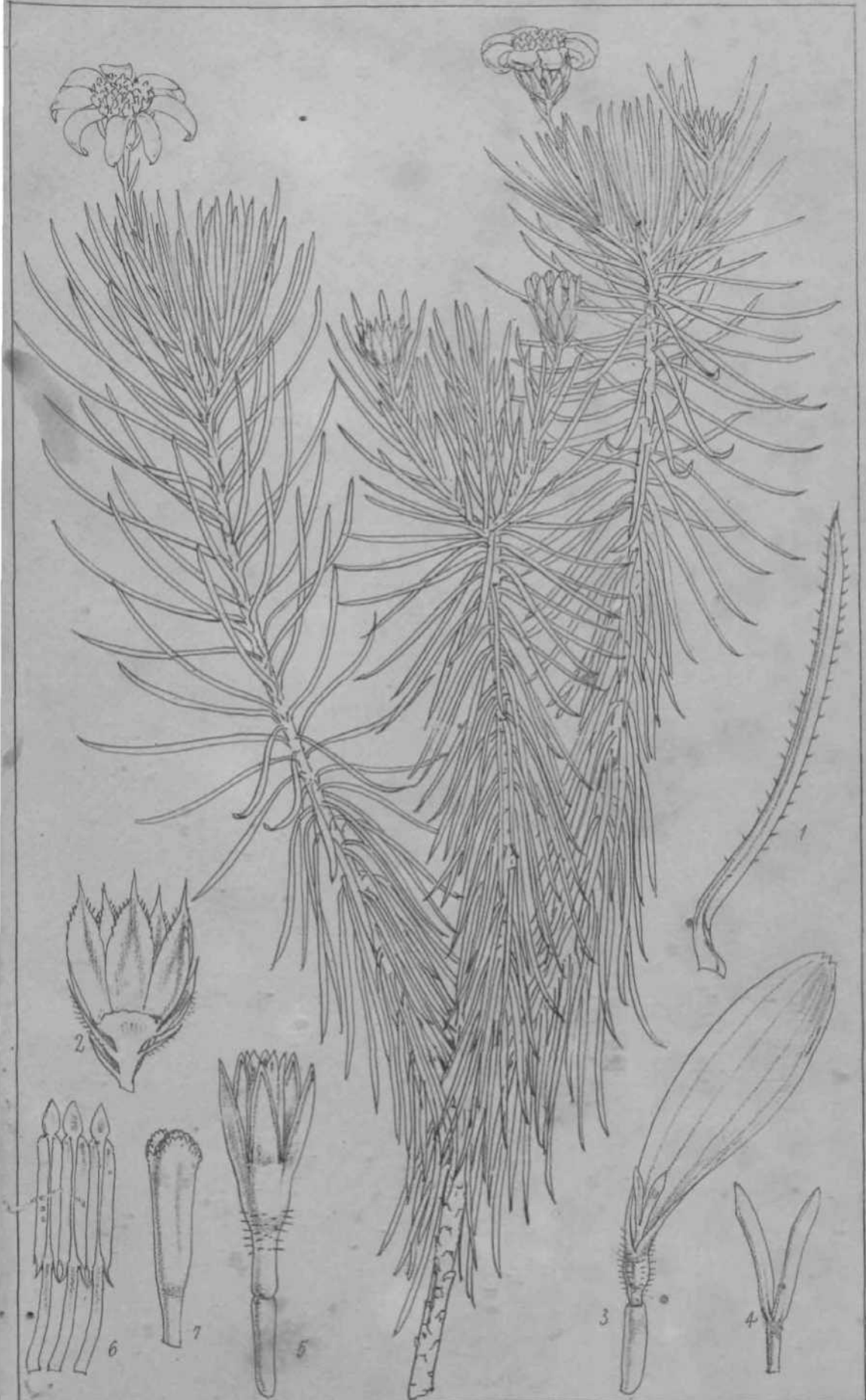
*Lachnophyllum Noëanum* Boiss.



W.H. Fitch del. et lith.

J.N. Fitch imp.

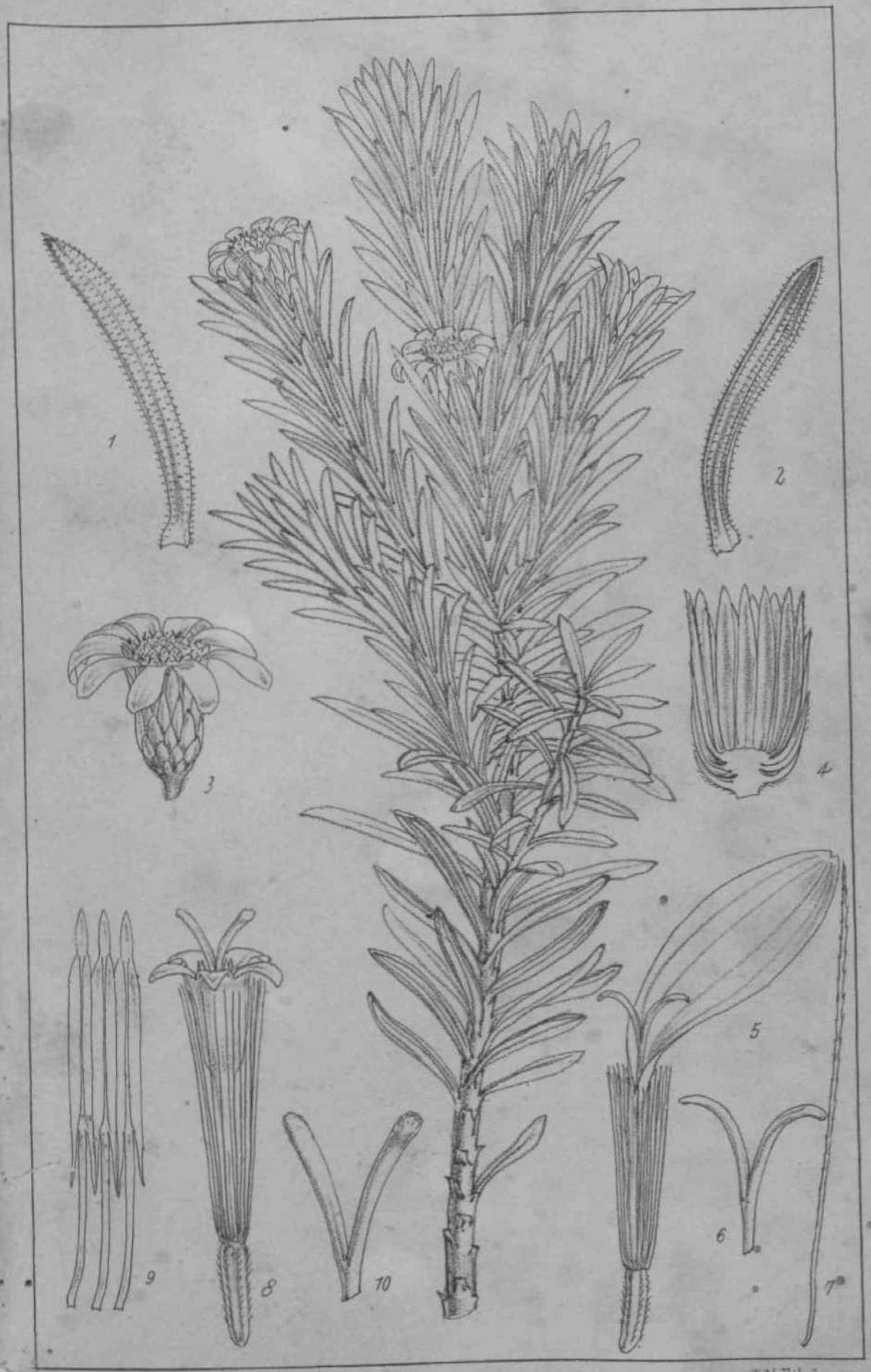
*Fresena fasciculata*. Bolus.



W.H. Fitch del. et lith.

J.N. Fitch imp.

*Oxylæna acicularis* Benth.

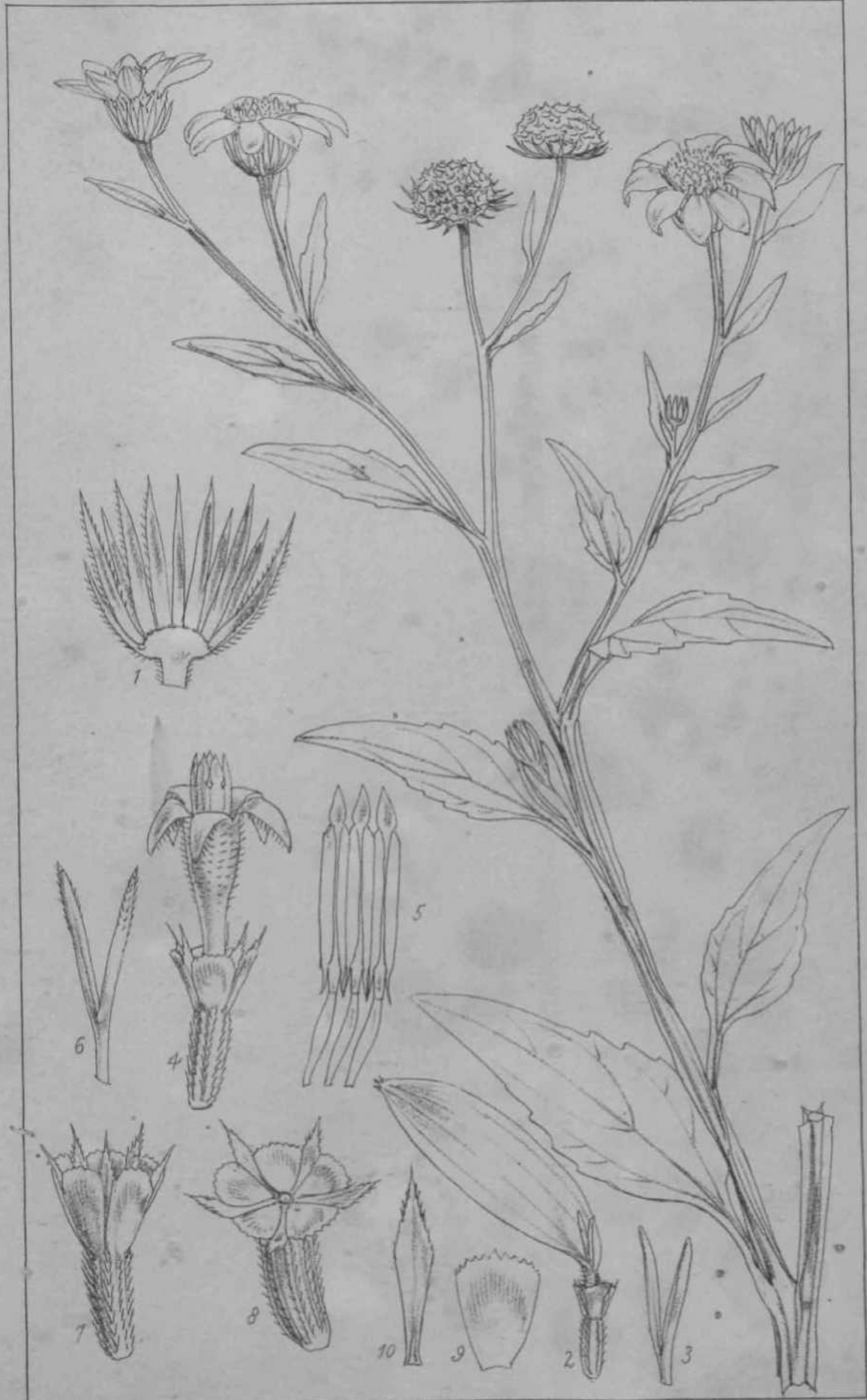


W.H. Fitch del et. inf.

J.N. Fitch imp.

*Homochaete conferta*, Benth.





W.H.Fitch del. et. lith

J.I.T.Fitch mo

*Oalostephane di varica* X *a.* Btsi



W.H. Fitch del. et lith.

J. N. Fitch imp

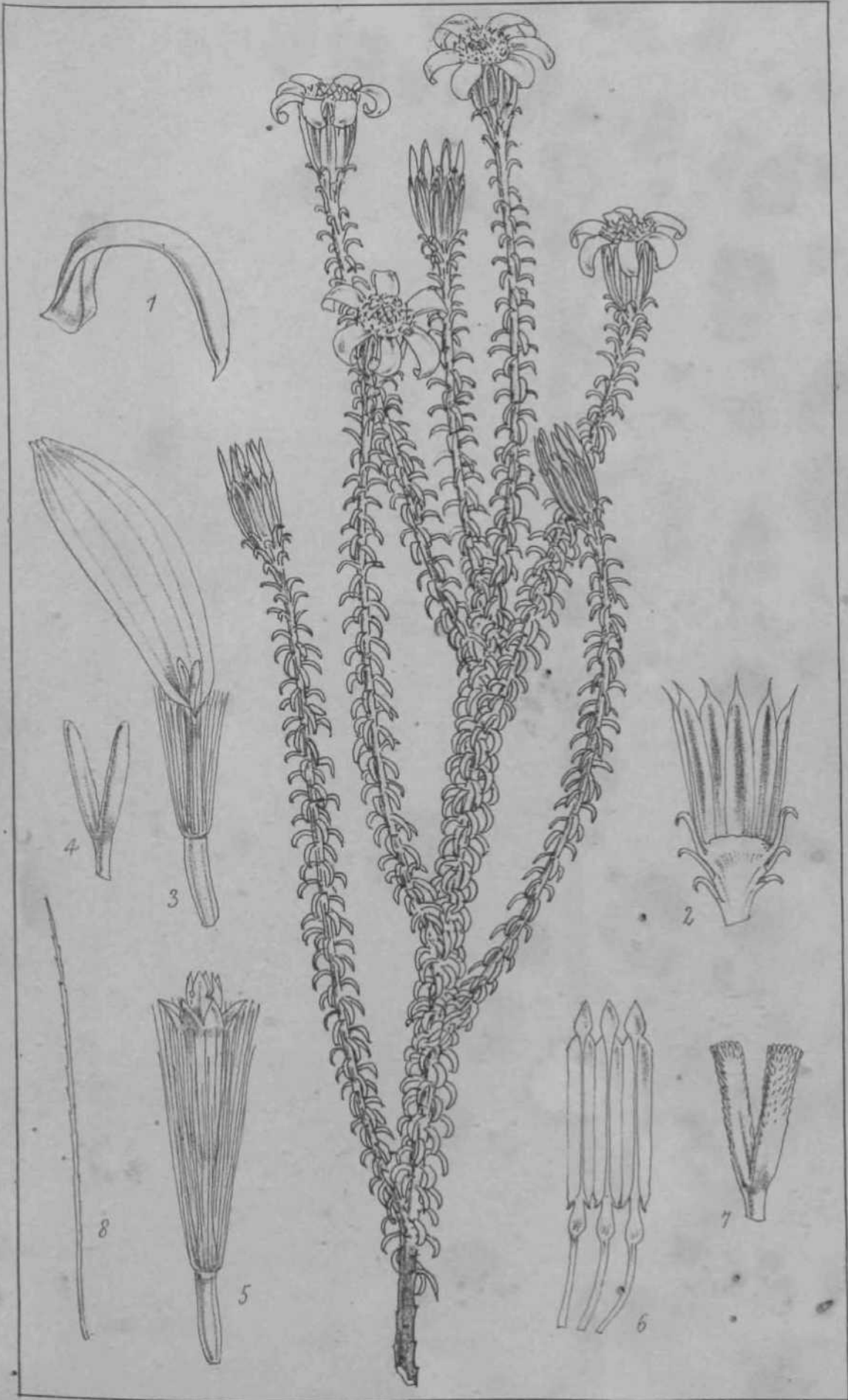
*Ondetia linearis*, *Buvth*/



WHPitch del. et lith.

J K<sup>c</sup> Titch imp

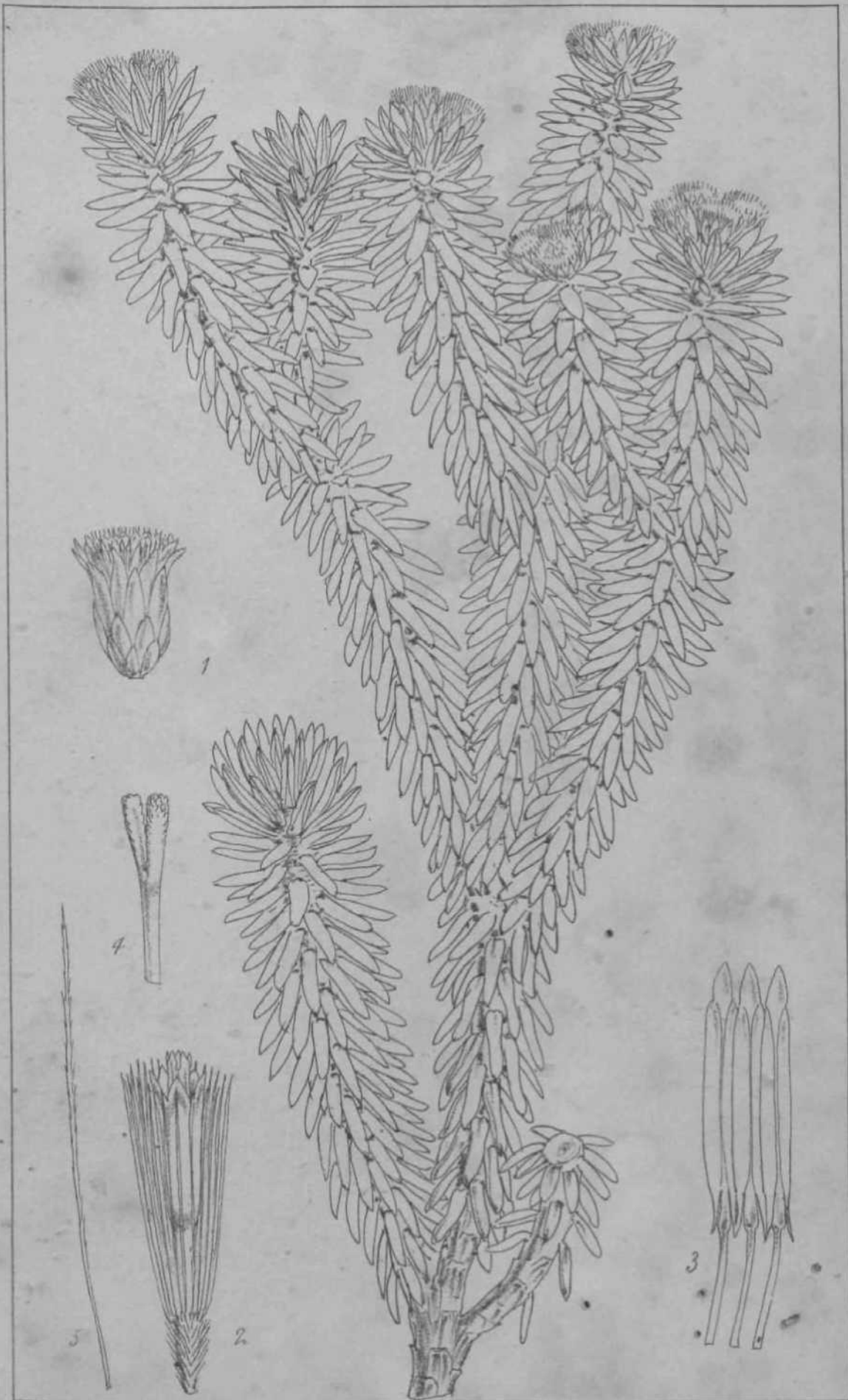
Lojtiol aena, plaiypliylia. *Benth.*



W.H. Fitch, del. et. lith.

J.N. Fitch, imp.

*Senecio retortus*, Benth.



W.H. Fitch id B lith.

J.H. Fitch imp

*Leucoptolis phyllicoides*, & *var.*



W.H. Fitch del et lith.

J.N. Fitch imp.

*Desmanthodium perfoliatum*, Benth.



W.H. Fitch del. et lith.

J.N. Fitch imp.

*Acanthopappus bellidiflora\** D, G



W.H. Fitch del et lith.

J. N. Fitch imp.

*Axiniphyllum corymbosum*, Benth.

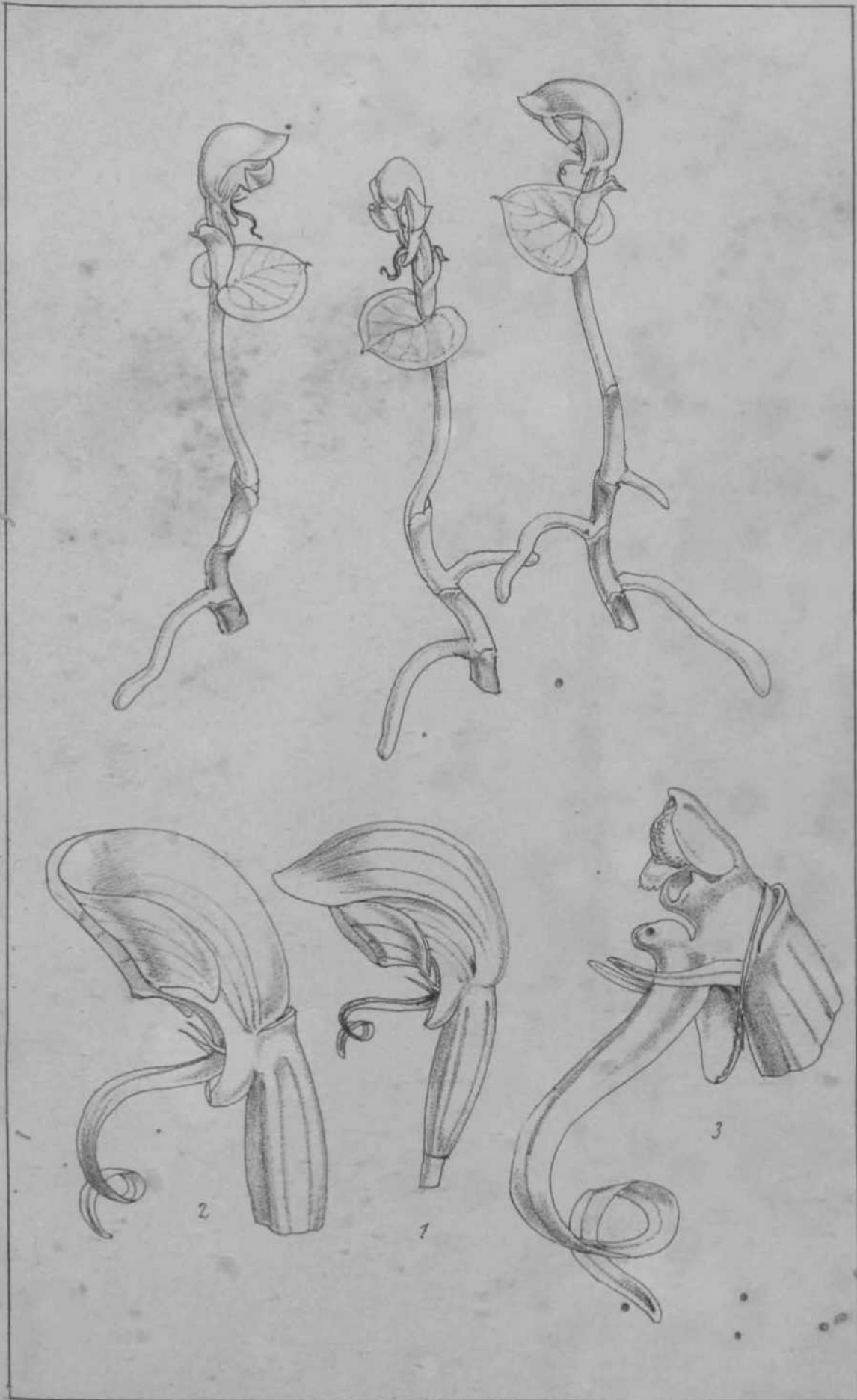




W.H. Fitch del et lith.

J.N. Petch imp.

CamptosLemon Schultzii, Mast.



W.H.Fitch del. et lith.

J.N.Fitch imp

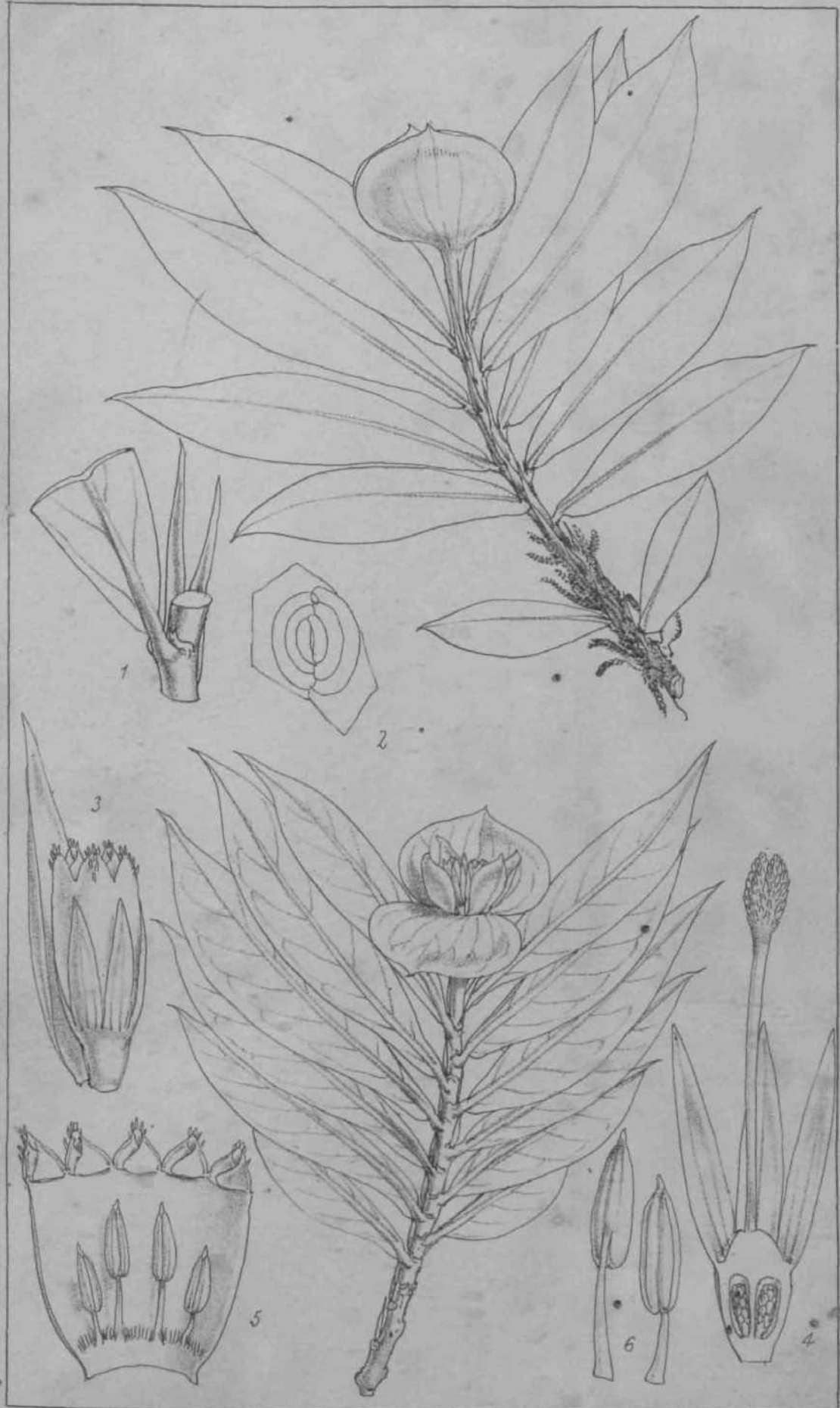
Corysanthus Cheesem & m. ffi > ./.



W. H. Fitch, del. et lith.

W. H. Fitch, imp.

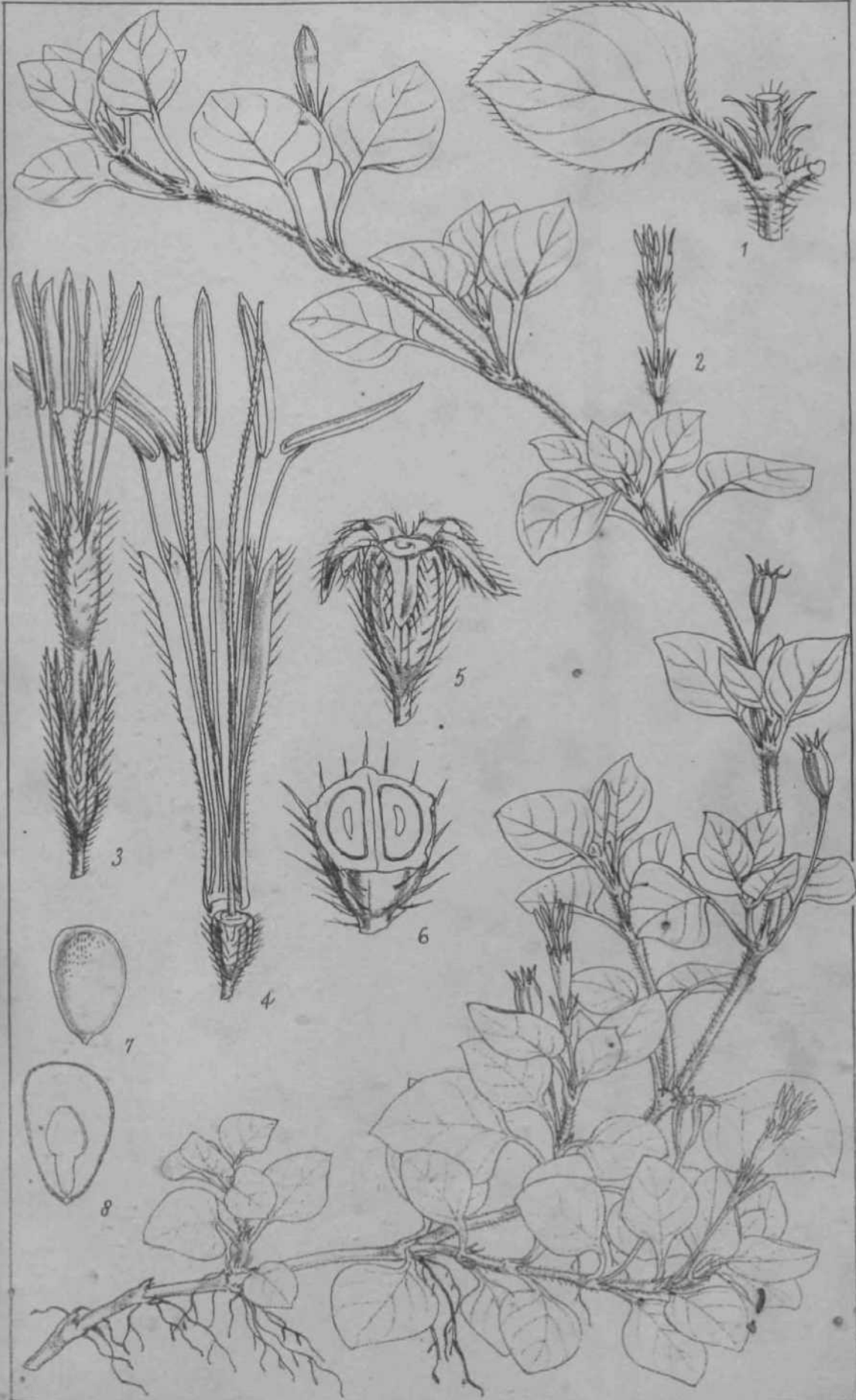
*Normandia neocaledonia* H. & A.



W.H. Fitch del. et lith.

J.N. Fitch imp.

*Didymocklamys Whitei*, Hk.f.



W.H. Fitch del. et lit.

J.N. Fitch imp.

*Corynula pilosa* L., *Booh. f.*



W. H. Fitch del. et lith.

J. N. Fitch imp.

*Fergusonia zeylanica*. Hook. f.



W.H. Fitch del. et lith.

J.N. Fitch imp.

*Ceratio pyxis verbenacea*. Hook. f.



W.H. Fitch del. et lith.

J.N. Fitch imp.

*Aulacocalyx jasminiflora*, Hook. f.





W.H. Fitch del. et lith.

J.N. Fitch imp.

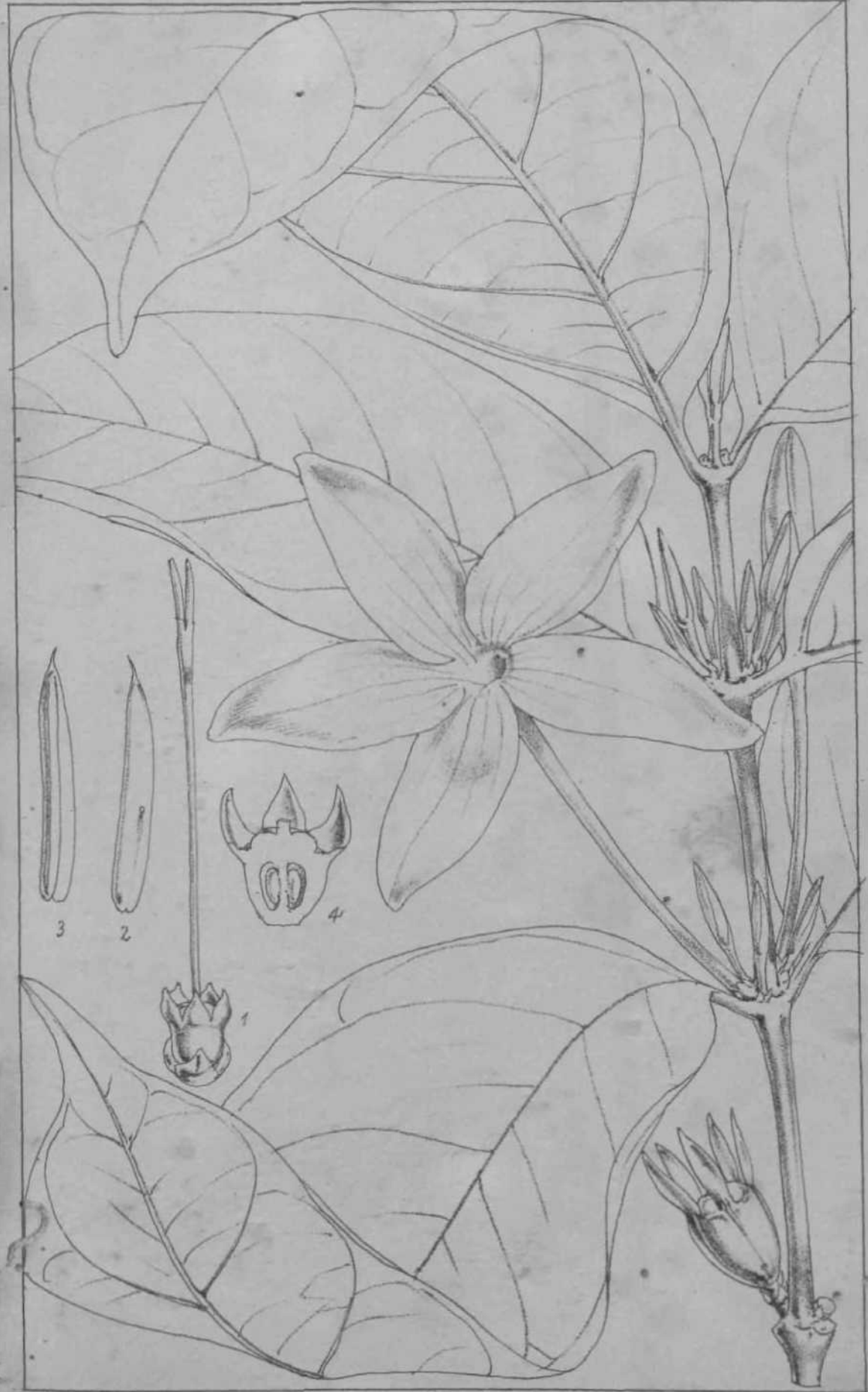
*Belonophora coffeoides* Hook. f.



W.H. Fitch. del. et lith.

J.N. Fitch imp.

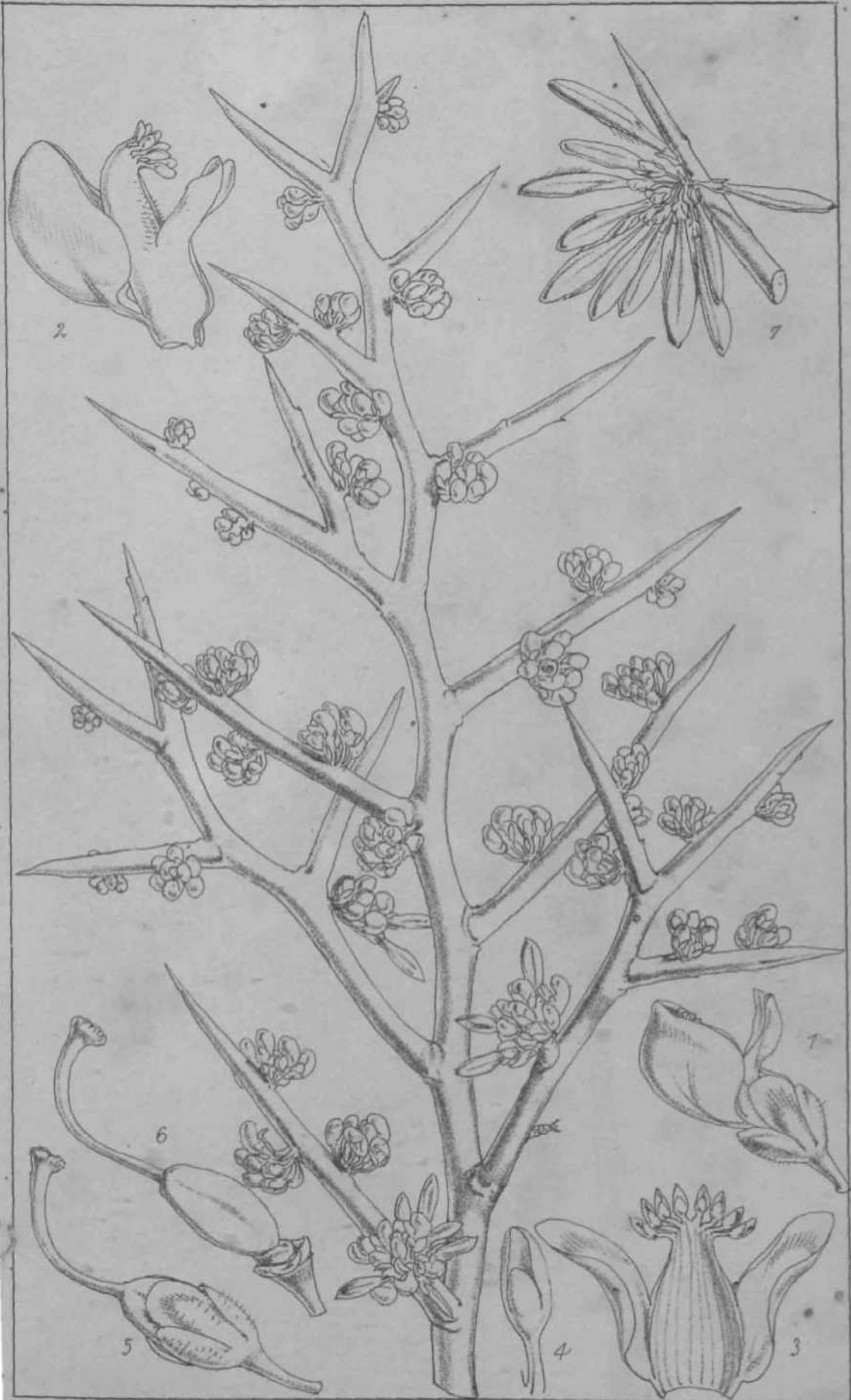
*Omaloceados colorata, Hook. f.*



W.H. Fitch del et lith

J.N. Fitch imp

*Psilanthus Mannii*, Hook. f.



W.H. Fitch, del. et lith.

J.N. Fitch imp.

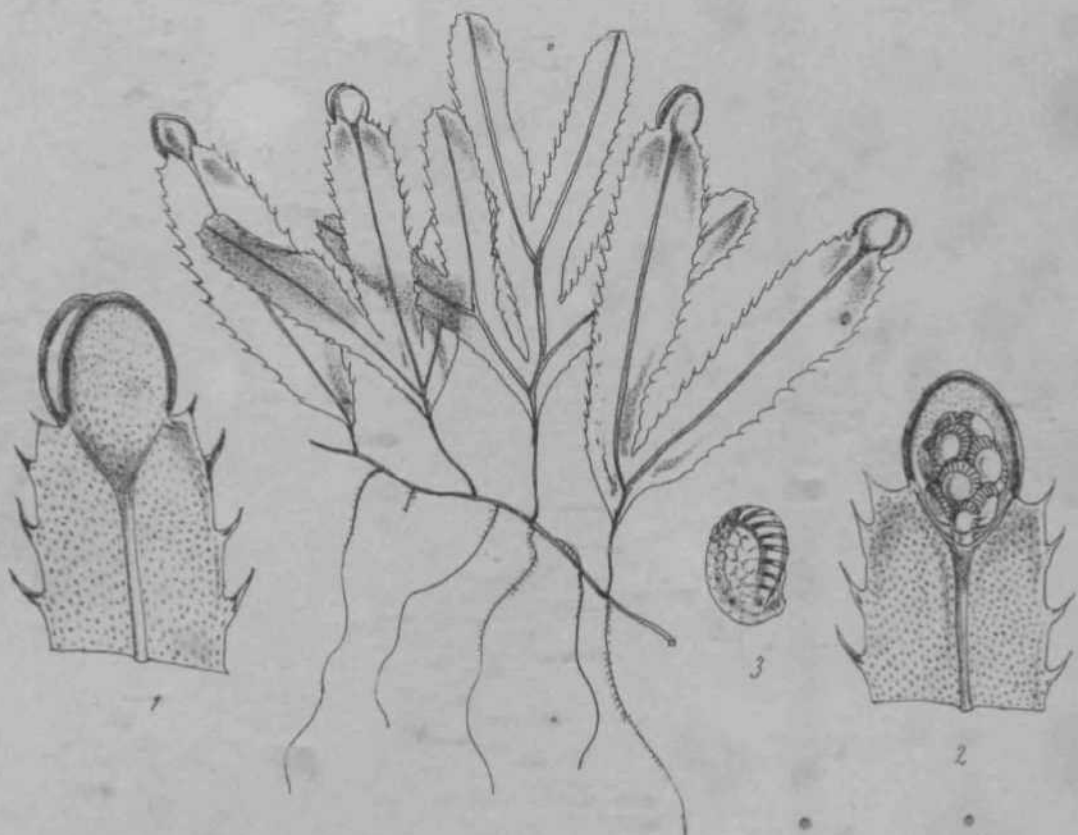
*Hualania colleioides* Ph.



W. H. Fitch, del. et lith.

J. H. Fitch, imp.

*Hymenocardia ulmoides*, Oliv.



W.H. Fitch del et lith

J.N. Fitch imp

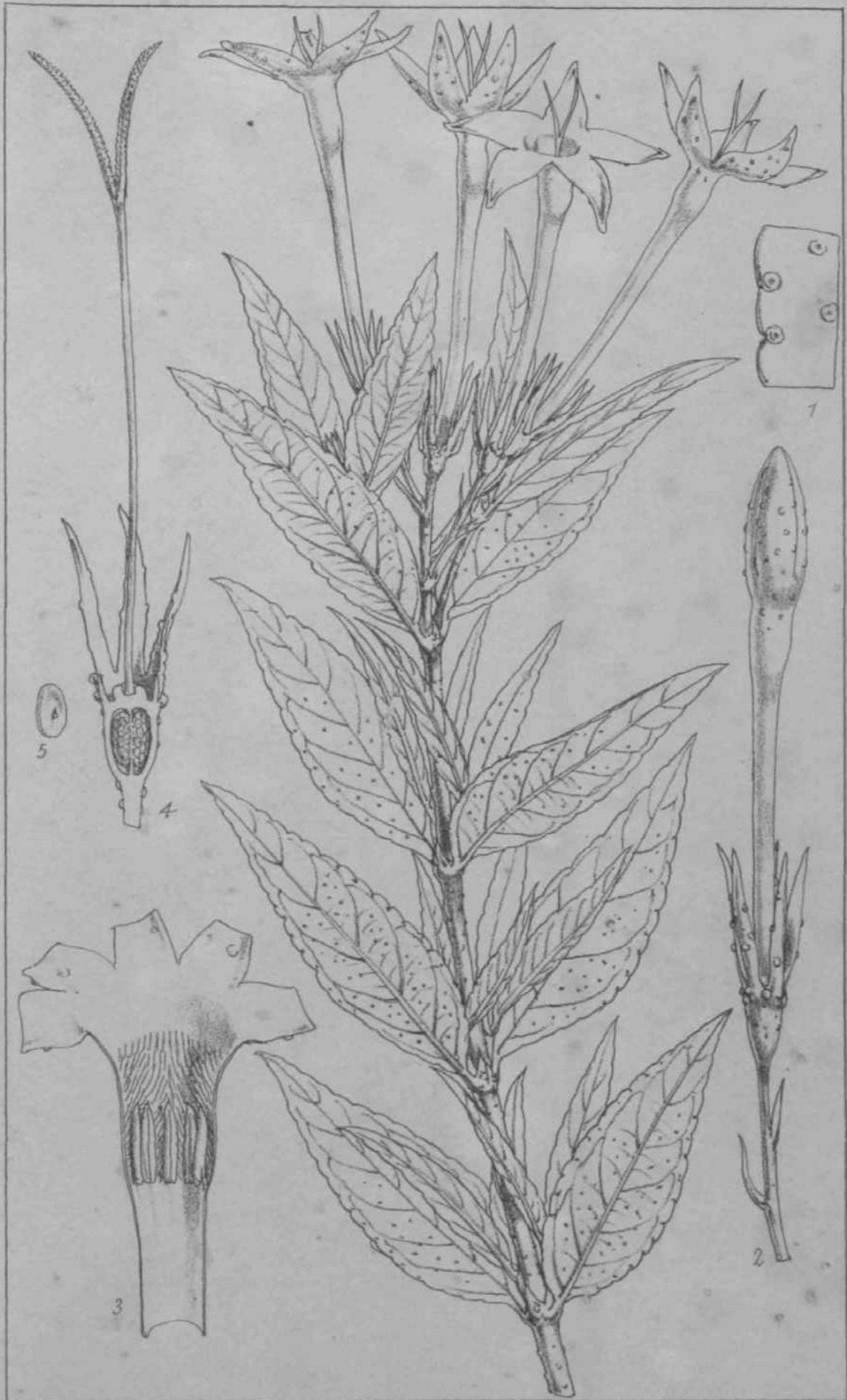
*Hymenophyllum Cheesemani*, Baker



W.H. Fitch del. et lith.

J.N. Fitch imp.

*Oenothera hriocline* Schlimperi, O. & H.



W.H. Fitch del et lith.

J.N. Fitch imp

Heterophyllia pusilla & a., Eh

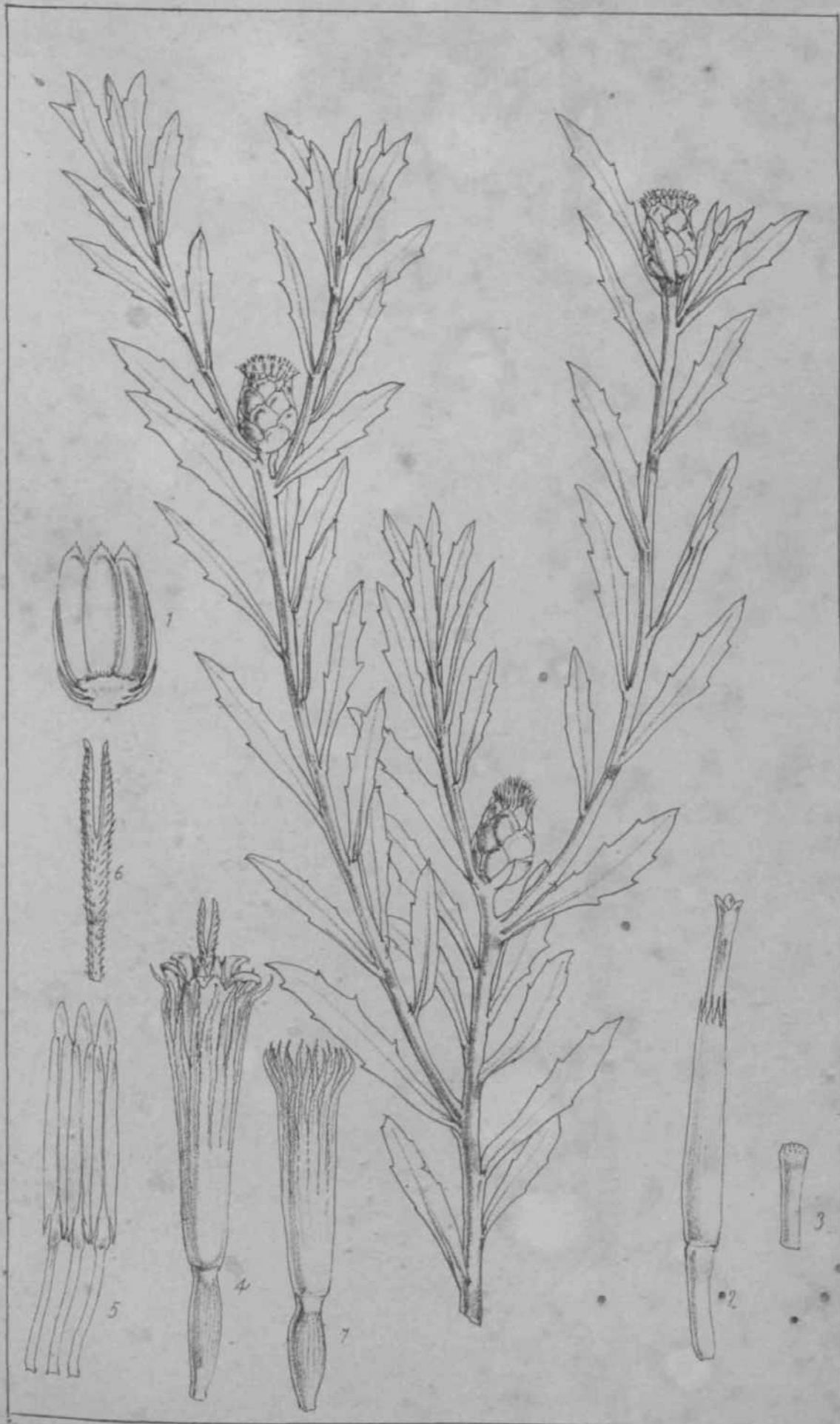




W.H. Fitch: del. et. lith.

J.N. Fitch imp.

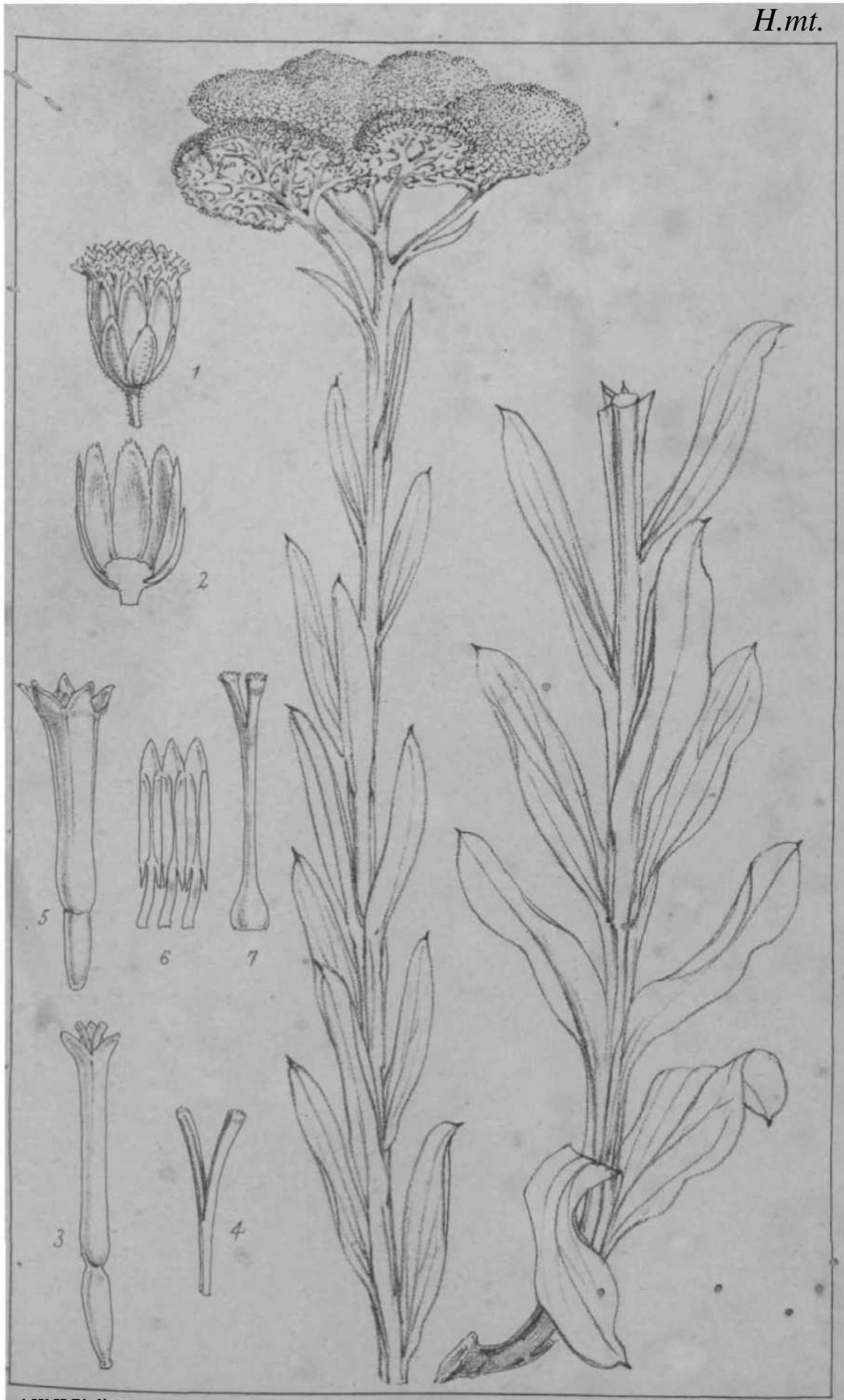
*Sphacophyllum* Bojen, *Badfa*.



W.H. Fitch, del. et lith.

J.N. Fitch, imp.

*Coleocoma centawrea*, F. Muell.



i W.H.Pitidi del et lith.

J N.Fitch imp

Chiliocephalitin Schimper, Benth.

r-



W.H. Pritch del. et lith.

J.N. Pritch nip

*Denekia, cajensis, Thunb*



H. Fitch del. et lith.

J. N. Fitch imp.

*Luin & Tiypoleuca, Benth.*



W.H. Fitch del. et lith.

J. Fitch, inf.

*Gingro thammis d\3ur\cahis, Stef &.*



W.H. Fitch del et lit

W.H. Fitch iav

CreTQa.nlKod.iuTi i reniform & B&u



• W H Fitch del et lith.

J N Fitch imp.

1. *Cremanthodium palmatum*, Benth.
2. *Cremanthodium pinnatifidum*, Benth.

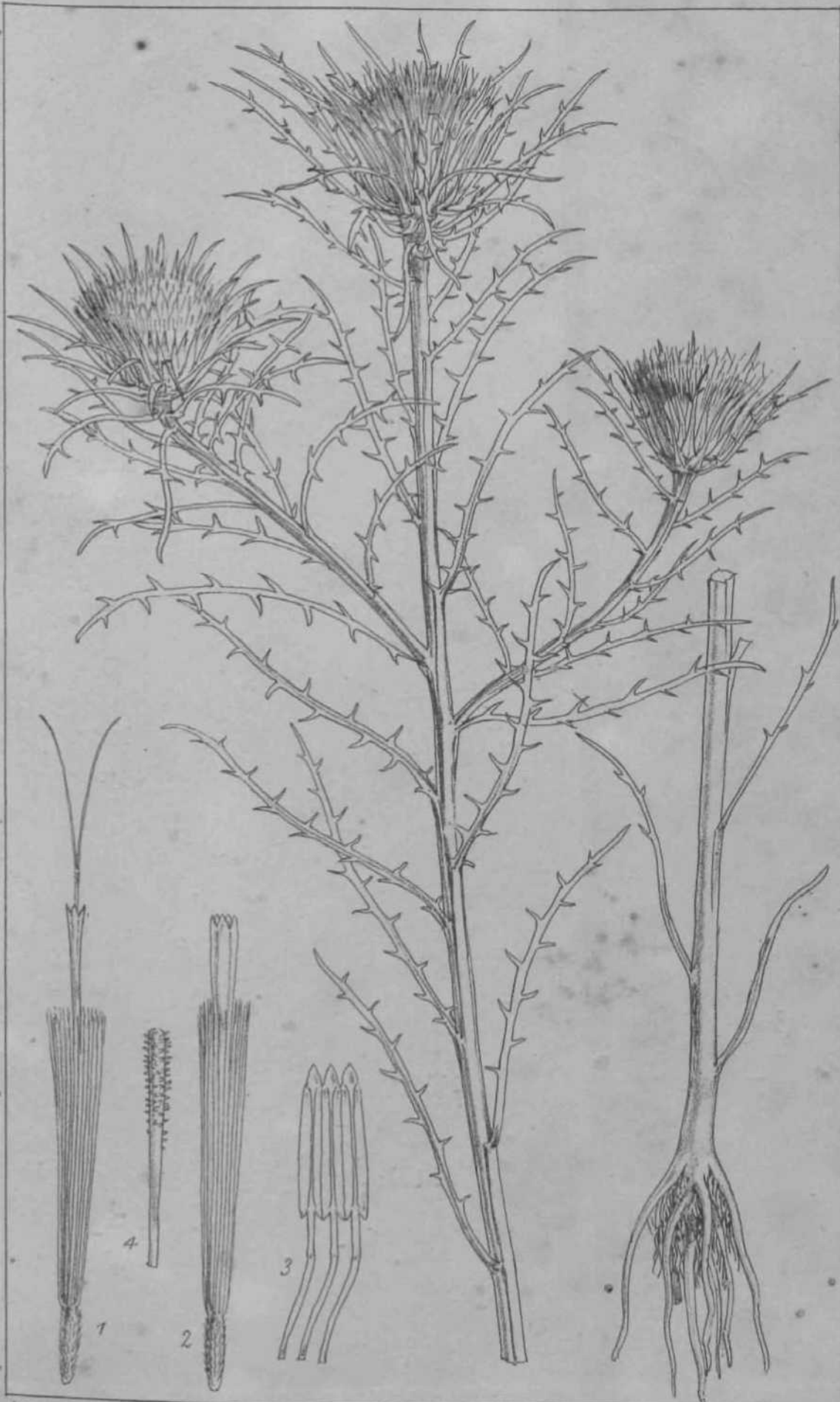




W.H. Fitch del. et lith.

© J.N. Fitch imp.

*Thespisidrum tasiflornm*, F. Mueil.



W.H. Fitch del. et lith.

J.H. Fitch imp.

*Adelostigma senegalensis*, Benth.



W.H. Fitch del. et lith.

J.N. Fitch imp.

*AsemnfiUnthe pubescens*, Kooh. flL.



W.H. Fitch del. ob. lith.

J.N. Fitch imp.

*Synaptanthus tillaeaceus*, Hook. fil.

rum,



W H Fitch del et lith

J N Pritch amp

*Sitilpnop]hyllum iinea,tum.i&ob.f.*



W.H. Fitch. del. et lith.

J N Fitch imp

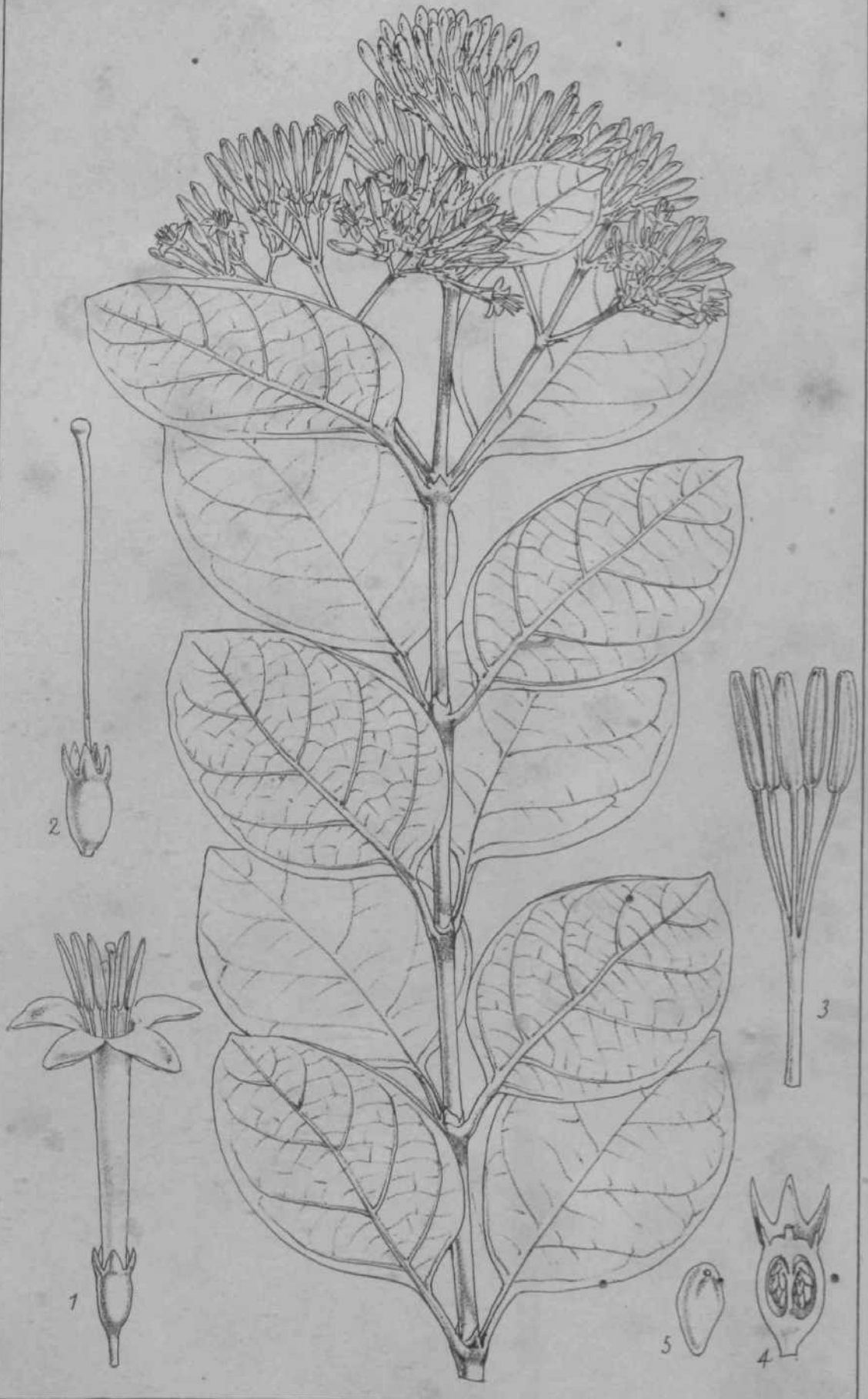
*Ghalepoplyllum guyanense* Hook. fil.



W.H. Fitch del. et lith.

J.N. Fitch imp.

*Leptoskela, ruellioides, Hoohfil.*



W.H. Fitch del. et lith.

J.N. Fitch imp.

*Solenandra ixorioides* Flooh. M

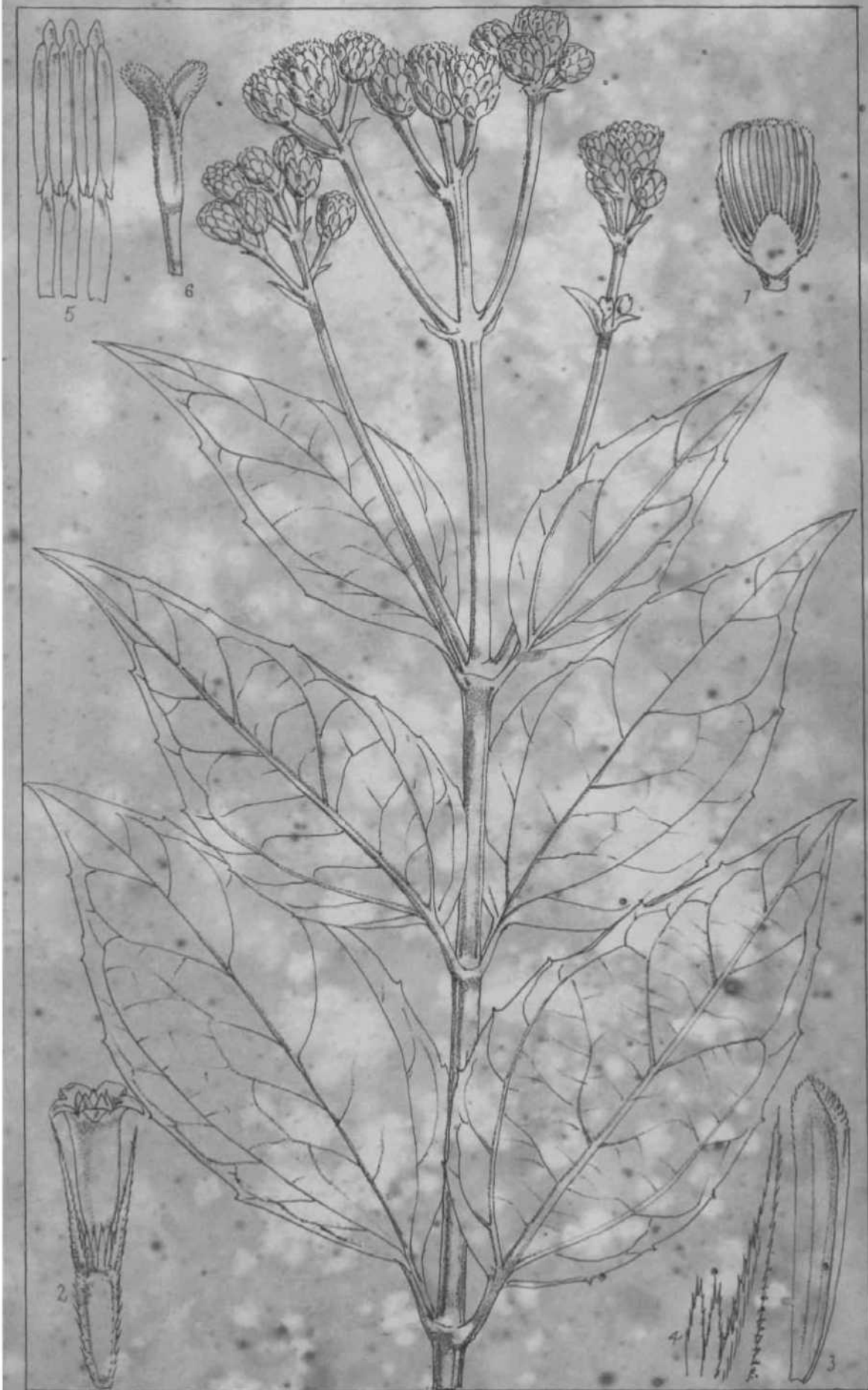




W.H. Fitch del et lith

J.N. Fitch imp

Rekis to carp a, mi nu tifi or a. *Hook fil*



W.H. Fitch del. ex lib.

J.N. Fitch imp.

*Salmeopsis Clausenii* Benth.  
*Carpappus verticillatus* Beauv.



W.H. Fitch del et lith

J.N. Fitch imp

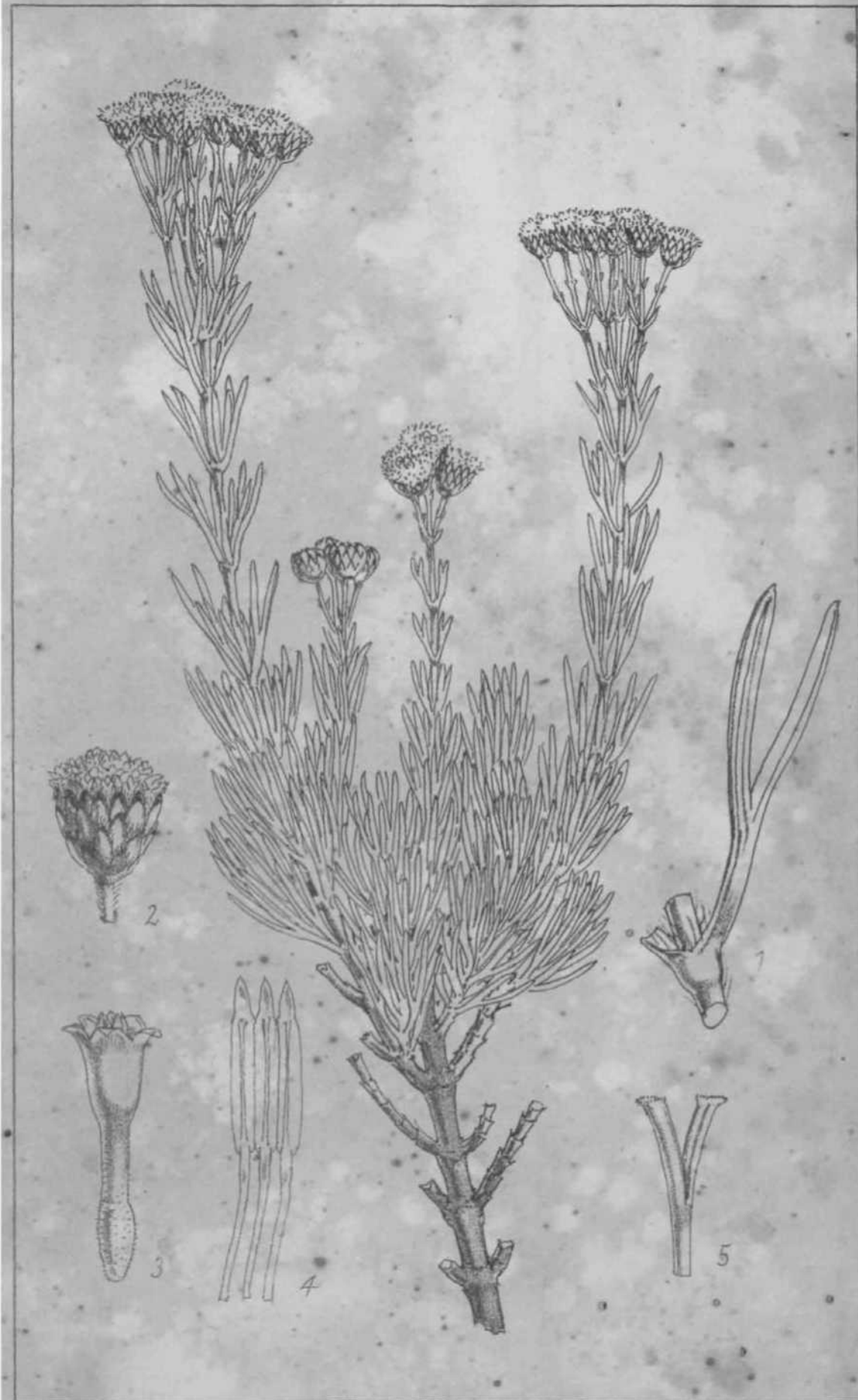
*Otopappus verbesinoides* Benth.



W.H. Fitch del eLuth •

J.N. Fitch imp

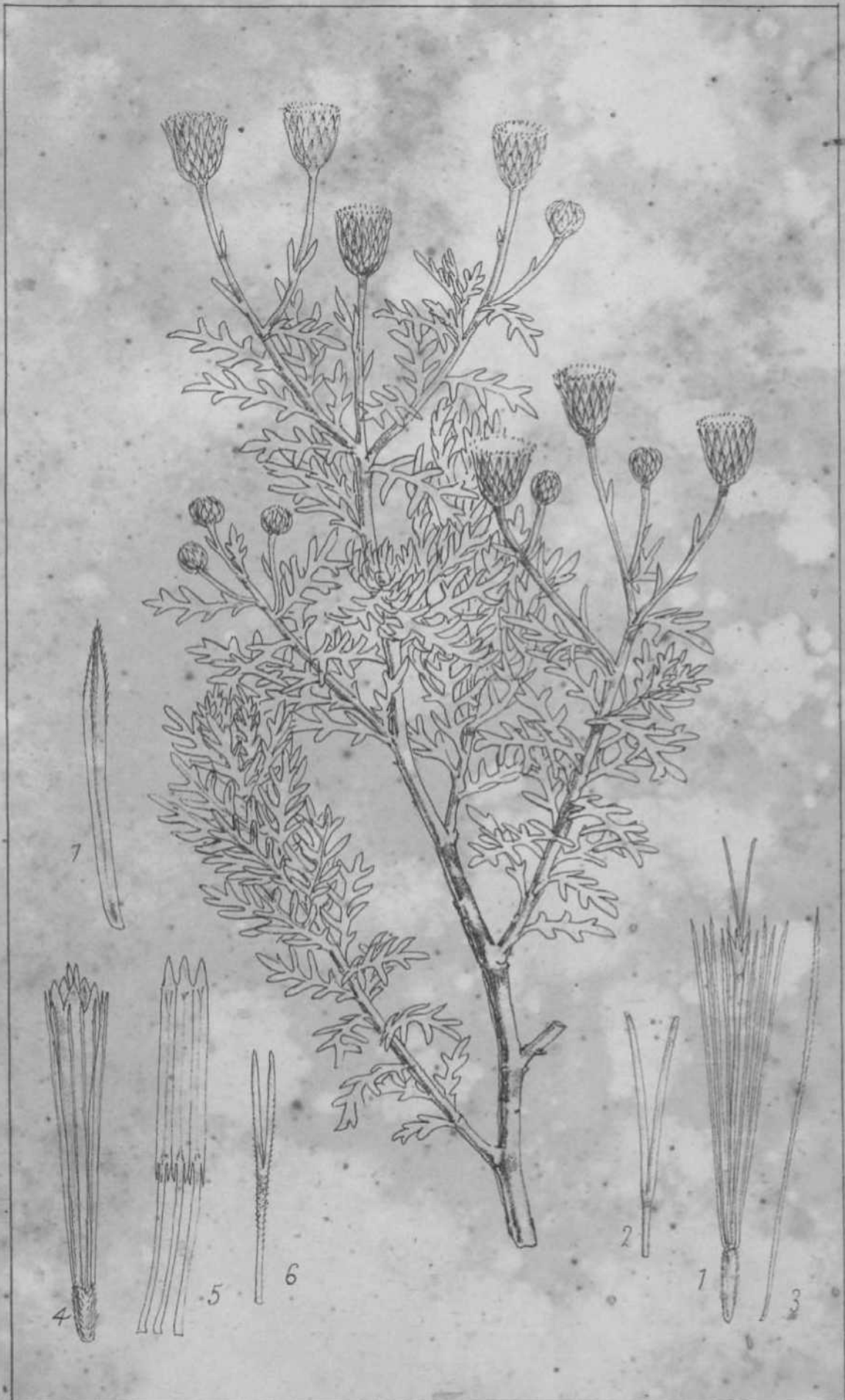
Hym • *Lenostephium mexicanum* Lum, *Benth.*



W.H. Pritch. del. et lith.

J.N. Pritch. •unp

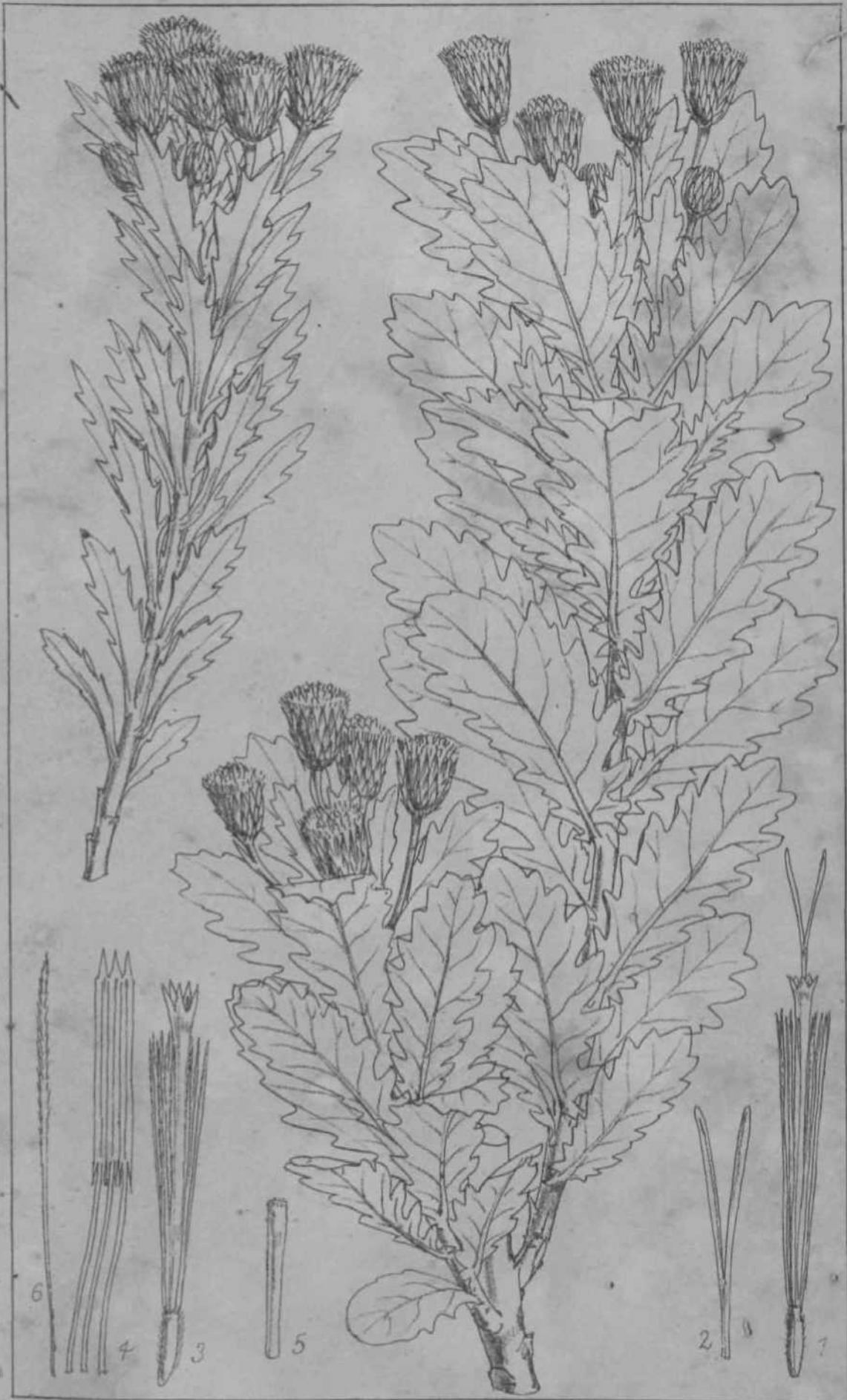
*Gymnopentzia Lifuca* La. *Benth.*



W. H. Fitch del. et hth.

J. N. Fitch imp

*Pluchea pinnatifida*, -Hoot f.



V. H. Fitch del et lith.

J. N. Fitch imp

*Pluchea frutescens*, Benth.



W. H. Fitch del. et lith.

J. N. Fitch imp.

*Cyclophyllum Depl&nchei, Jhi f.*





W. H. Fitch del. ex. lith.

J. N. Fitch imp.

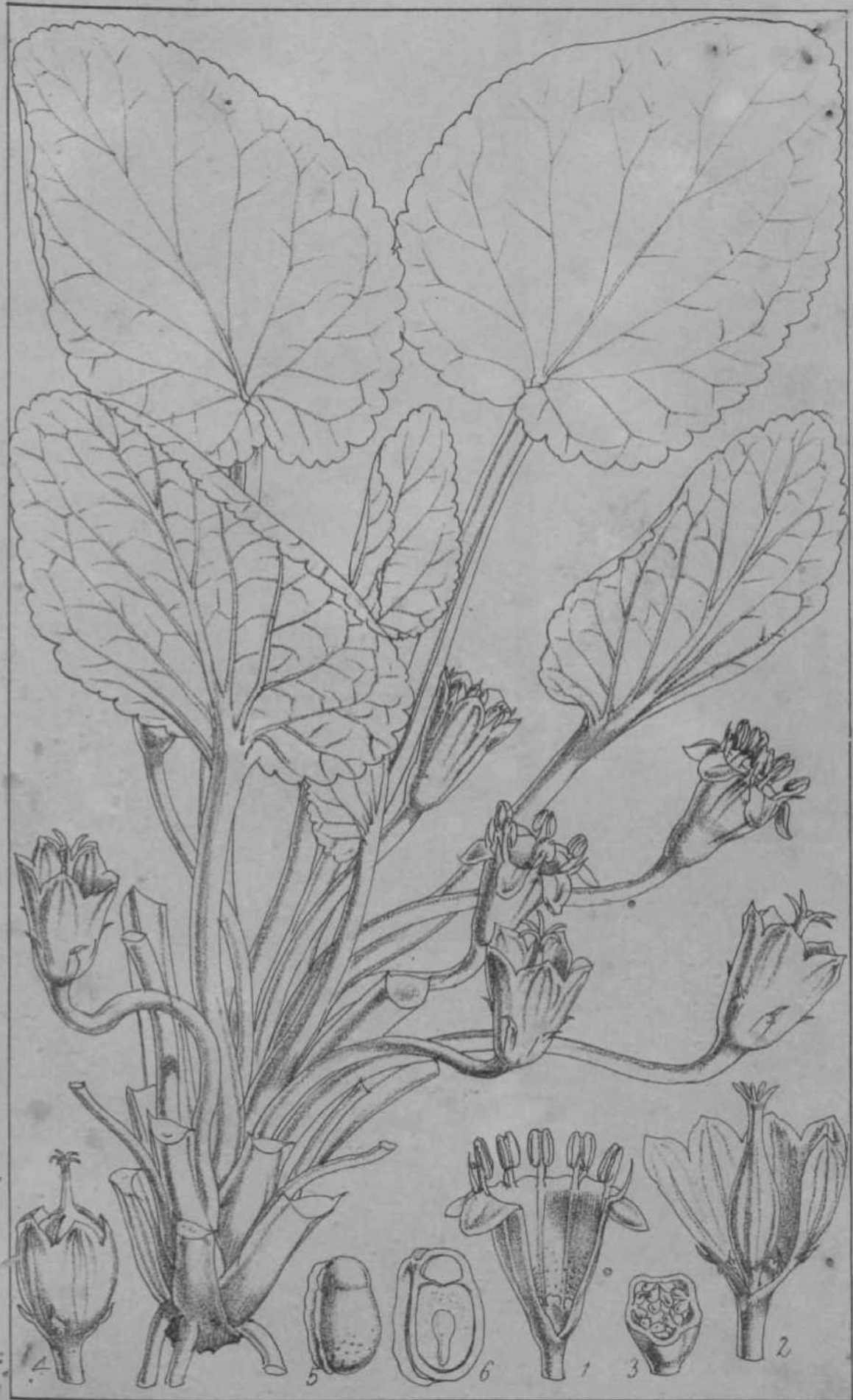
*Notopora Schomburgkii* Hook. f.



W.H. Fitch del. et sculp.

G.N. Fitch imp.

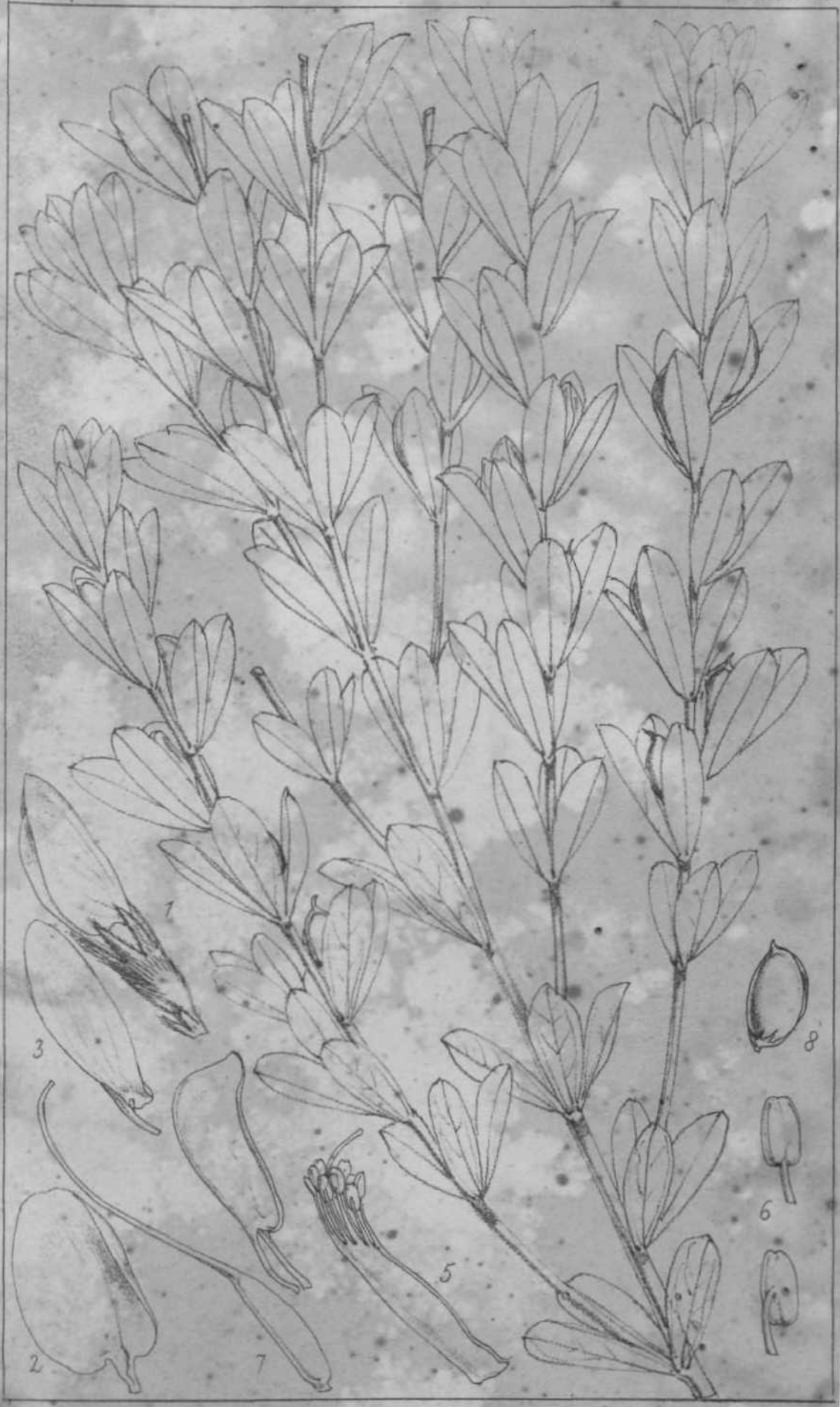
*Rigoiepis Lorneensis*, Hook f.



W.H. Fubok del. lith.

J.N. Fitch imp.

Gulihria, capensis. Botus.



... fitch dal.sbi&i.

J. N. Fitch, imp.

**Pterocarpus saxillaris, Bentiv**



W.H. Fitch del et lith.

J.N. Fitch imp.

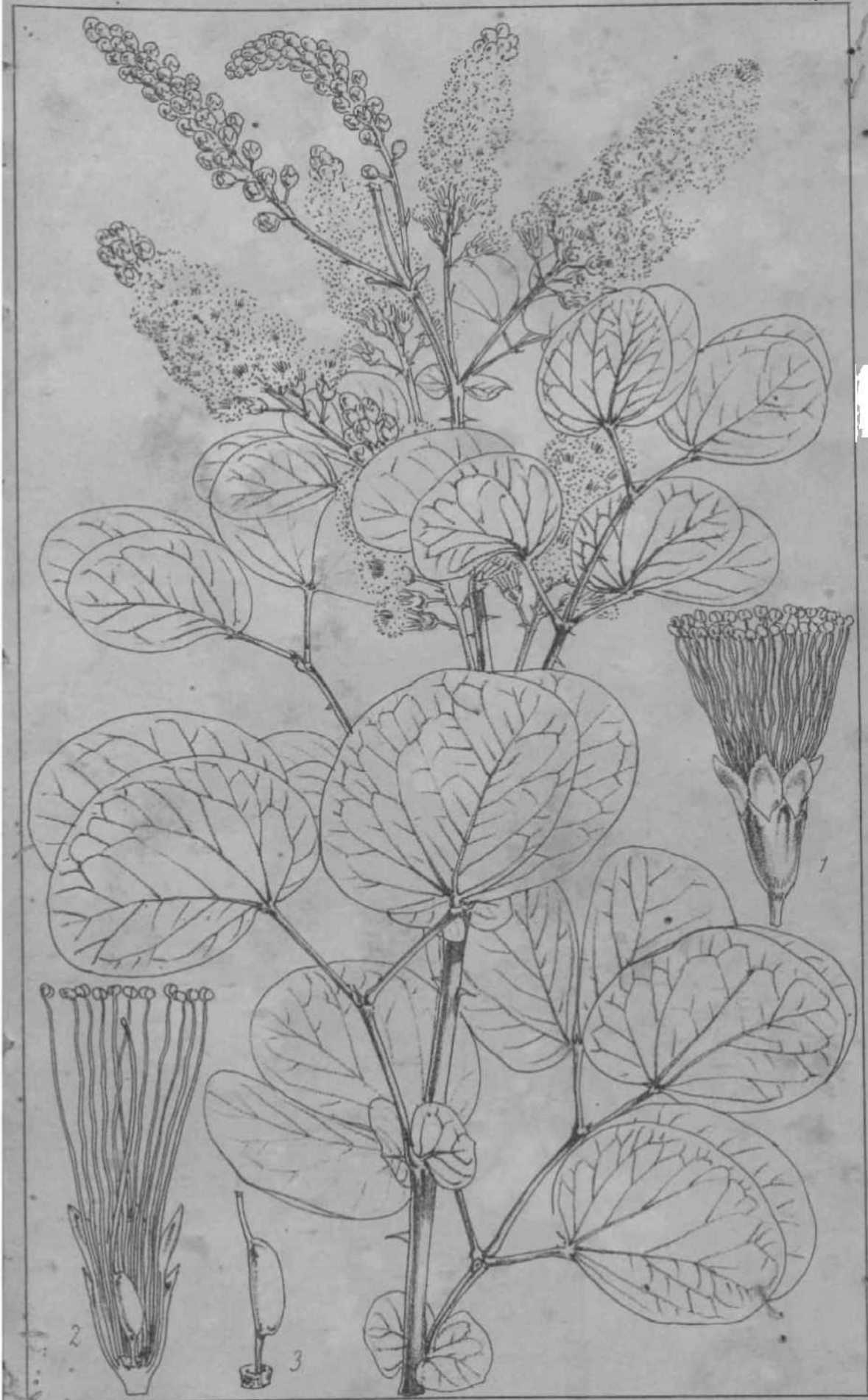
*Bolusia ccuoensis*, Benth.



W.H.Fitch del etMh

J.N.Fitch imp

*Koompassia malaccensis*, Mang.



W. H. Fitch del et lith.

J. N. Fitch sculp

*Acacia reriformis*, Benth.



W.H. Fitch del. et sculp.

J.N. Fitch imp.

*Acacia crassifolia*, Gray.

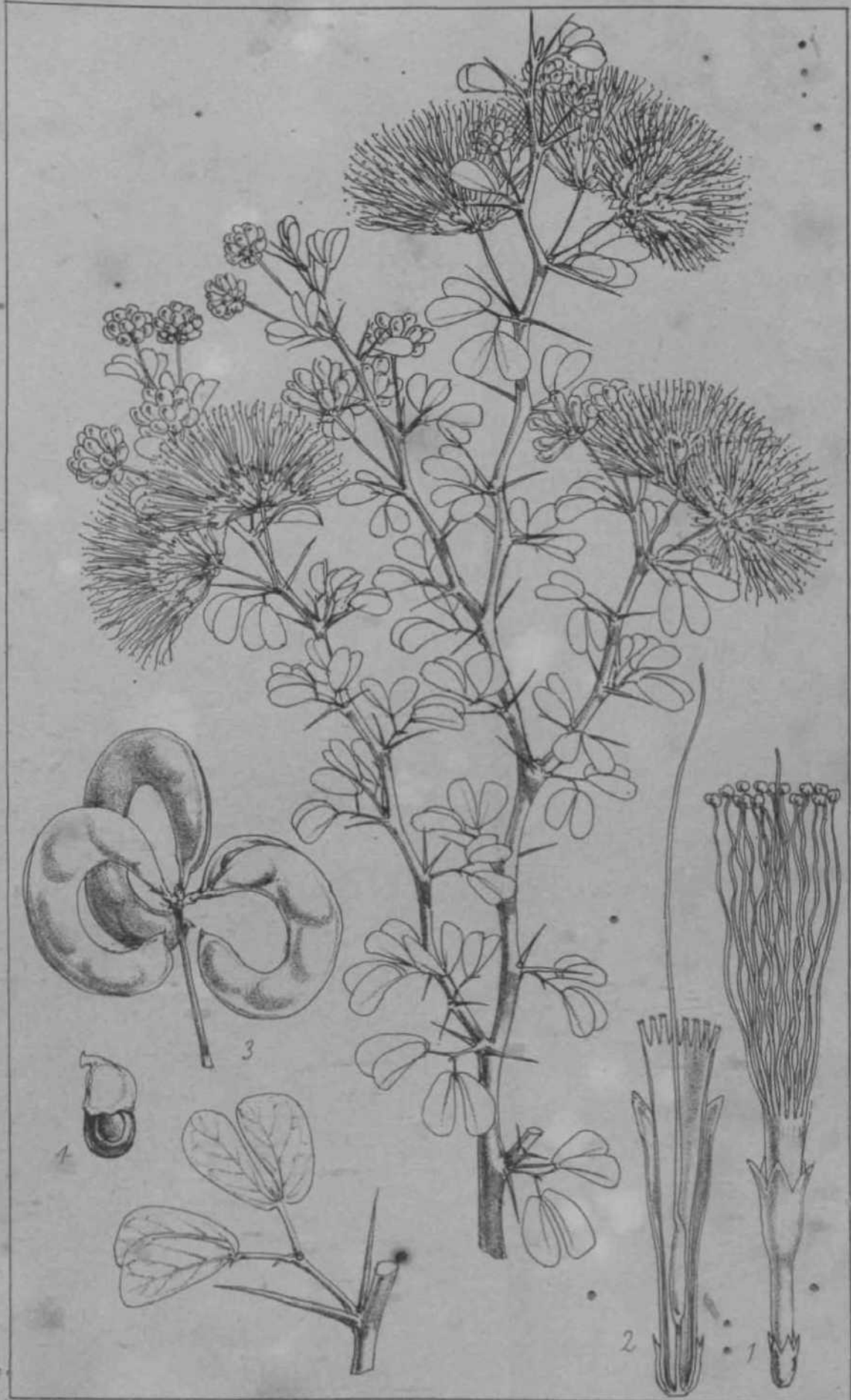




W. B. Fitch del et lith.

J. N. Fitch imp.

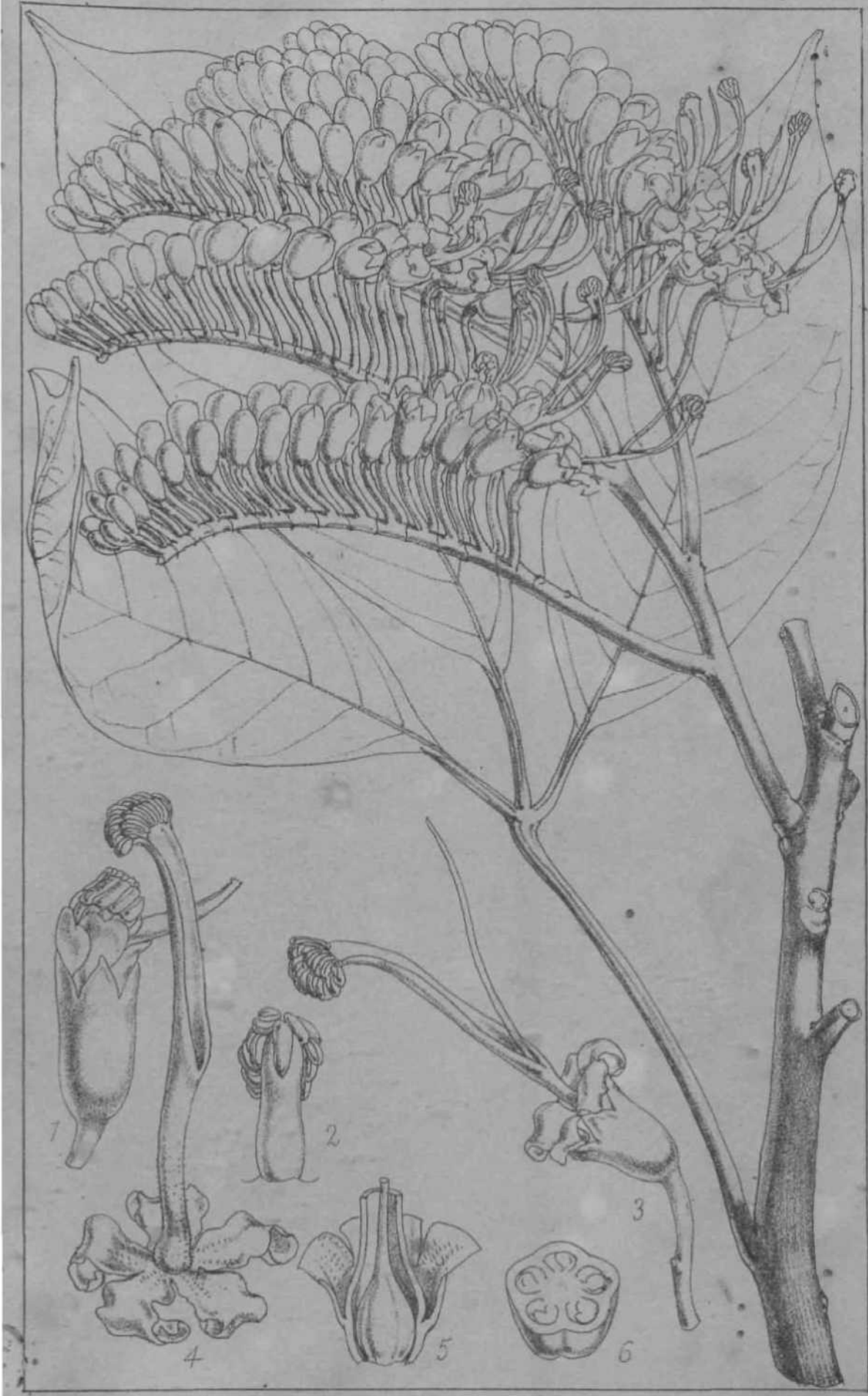
*Calliandra colieticoides*, Griseb.



W H Fitch del et lith.

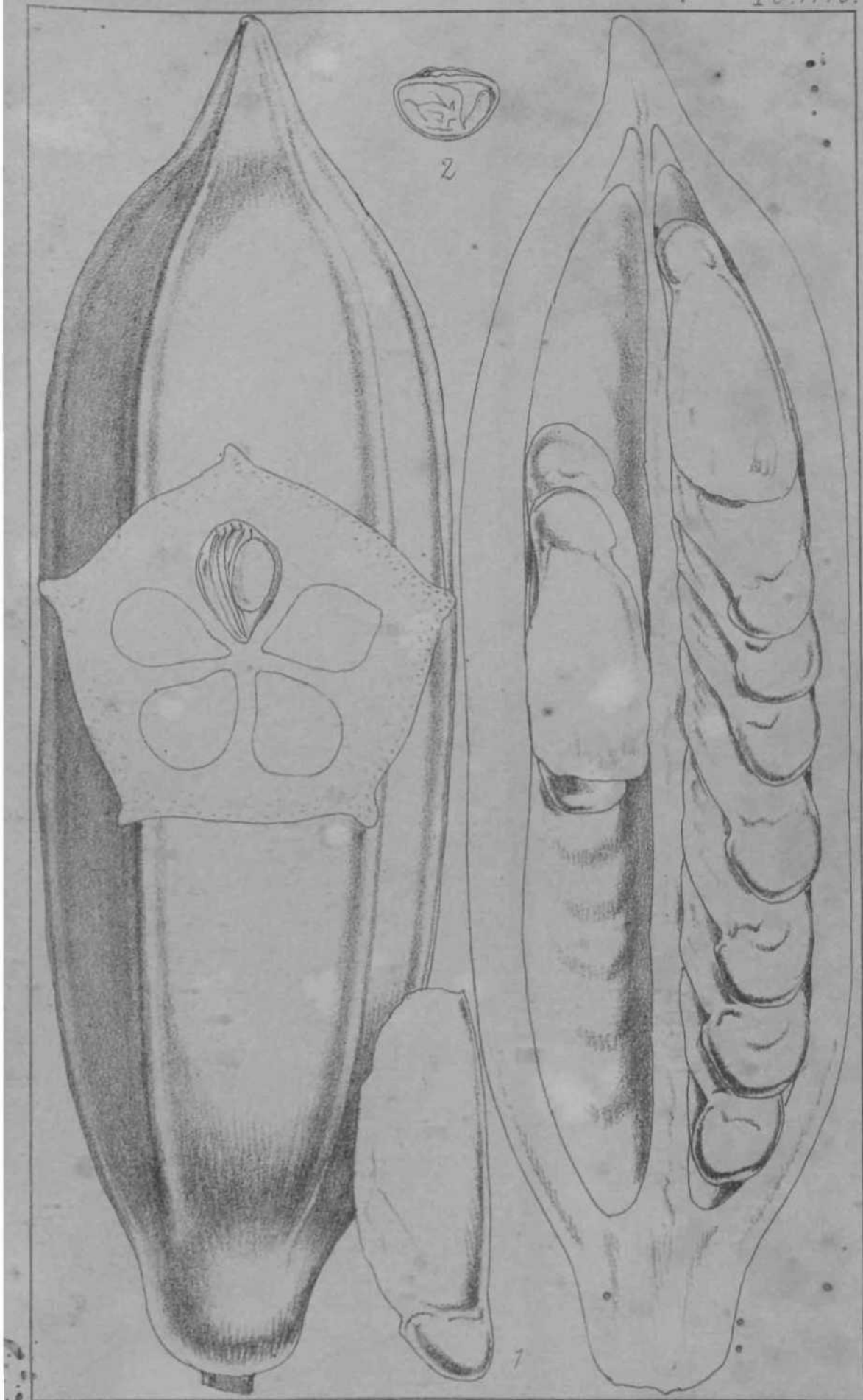
J N Pritch imp

Pithecolobium Hysirix. ienth.



J.N. Fitch imp

*Bernoullia flammea. Oliv.*



Bernoullia flammea. Oliv.

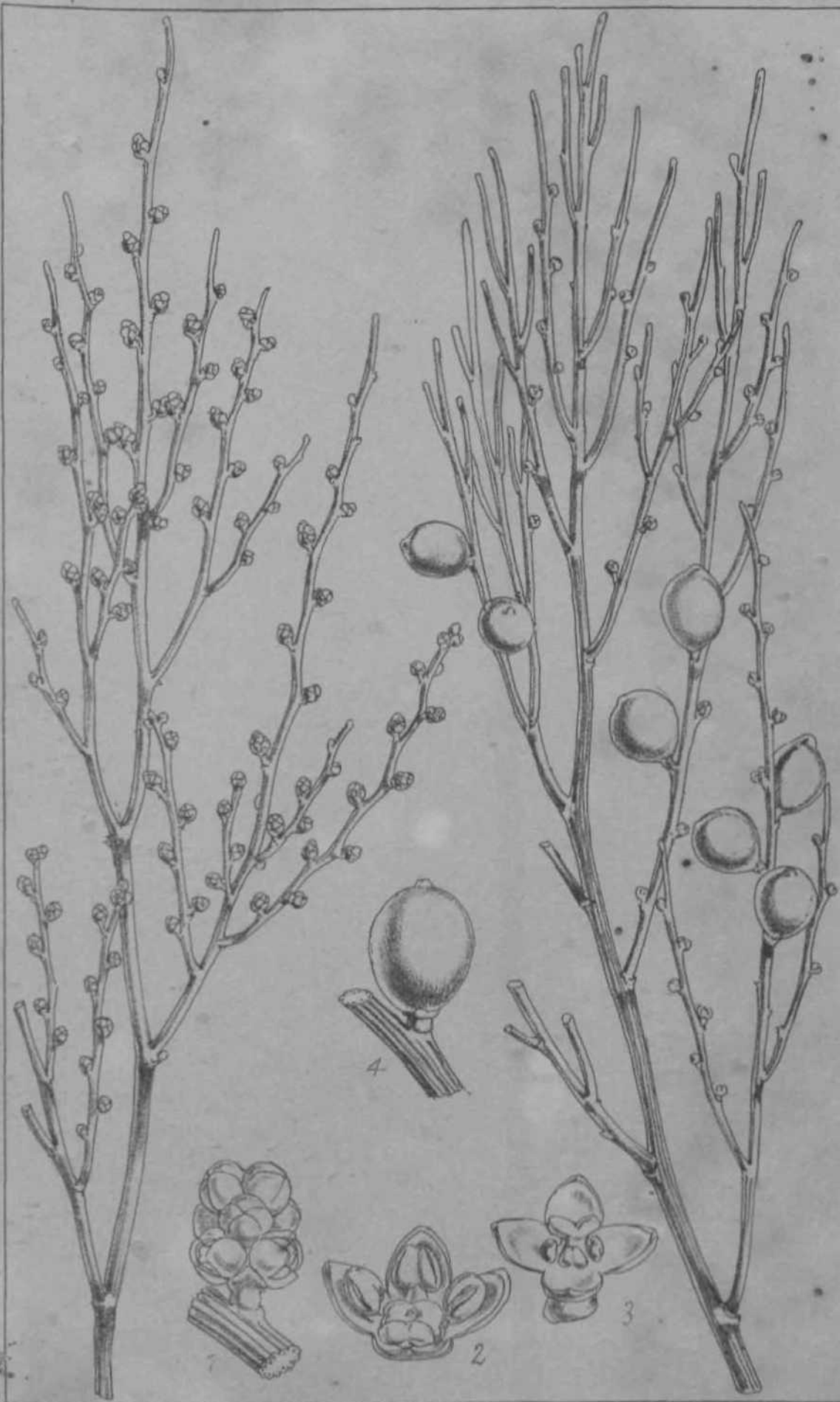
J. N. Fitch imp



W.H. Fitch del et lith.

J.N. Fitch imp.

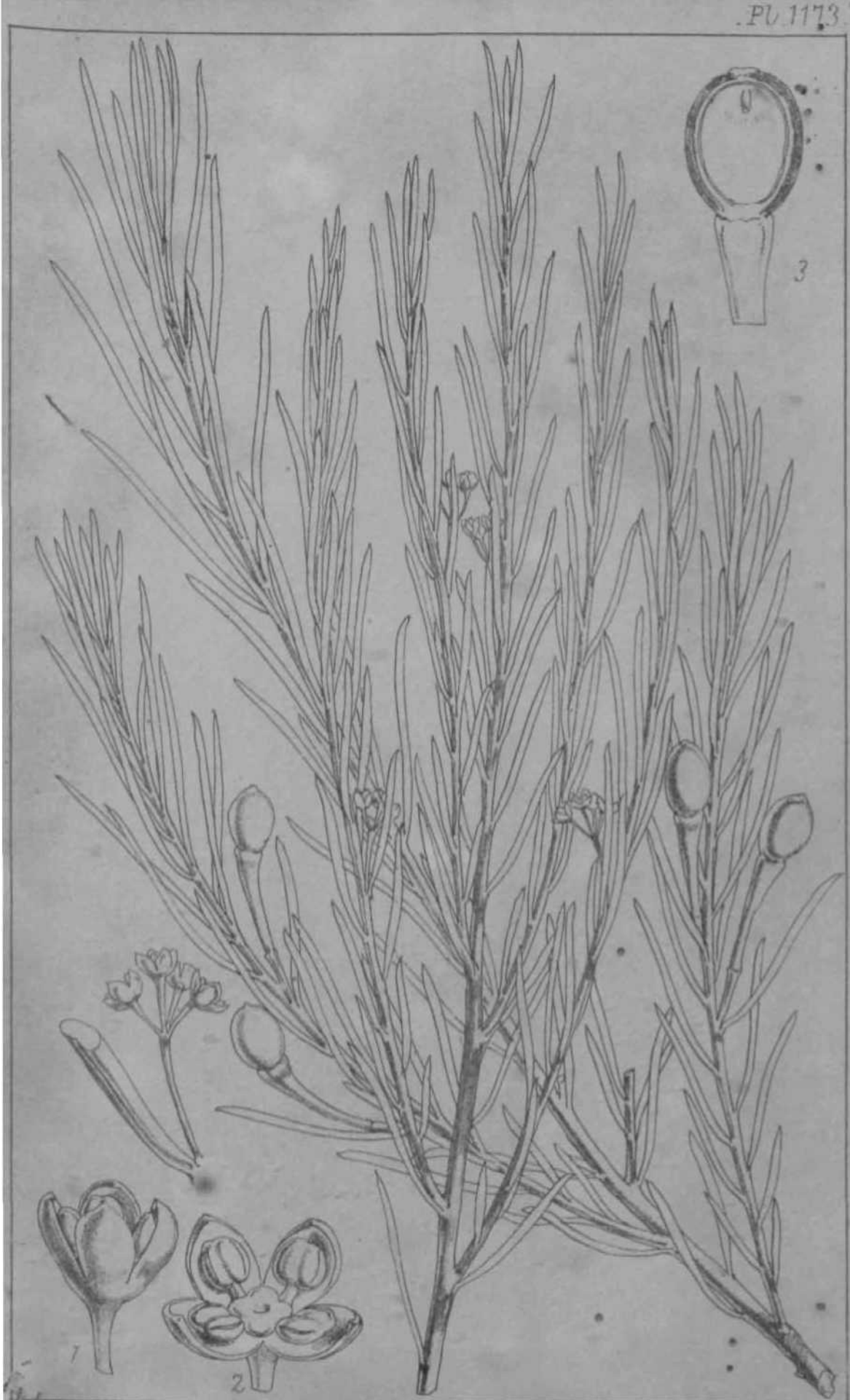
*Morina betonicoides* Benth.



W. H. Pritch. des. et. lit.

J. N. Fernald imp.

*Omphacomeria acerba*, A. DC.



H. Fitch del. ex lith.

J.N. Fitch imp.

*Anthobolus foveolatus* F. Muell.

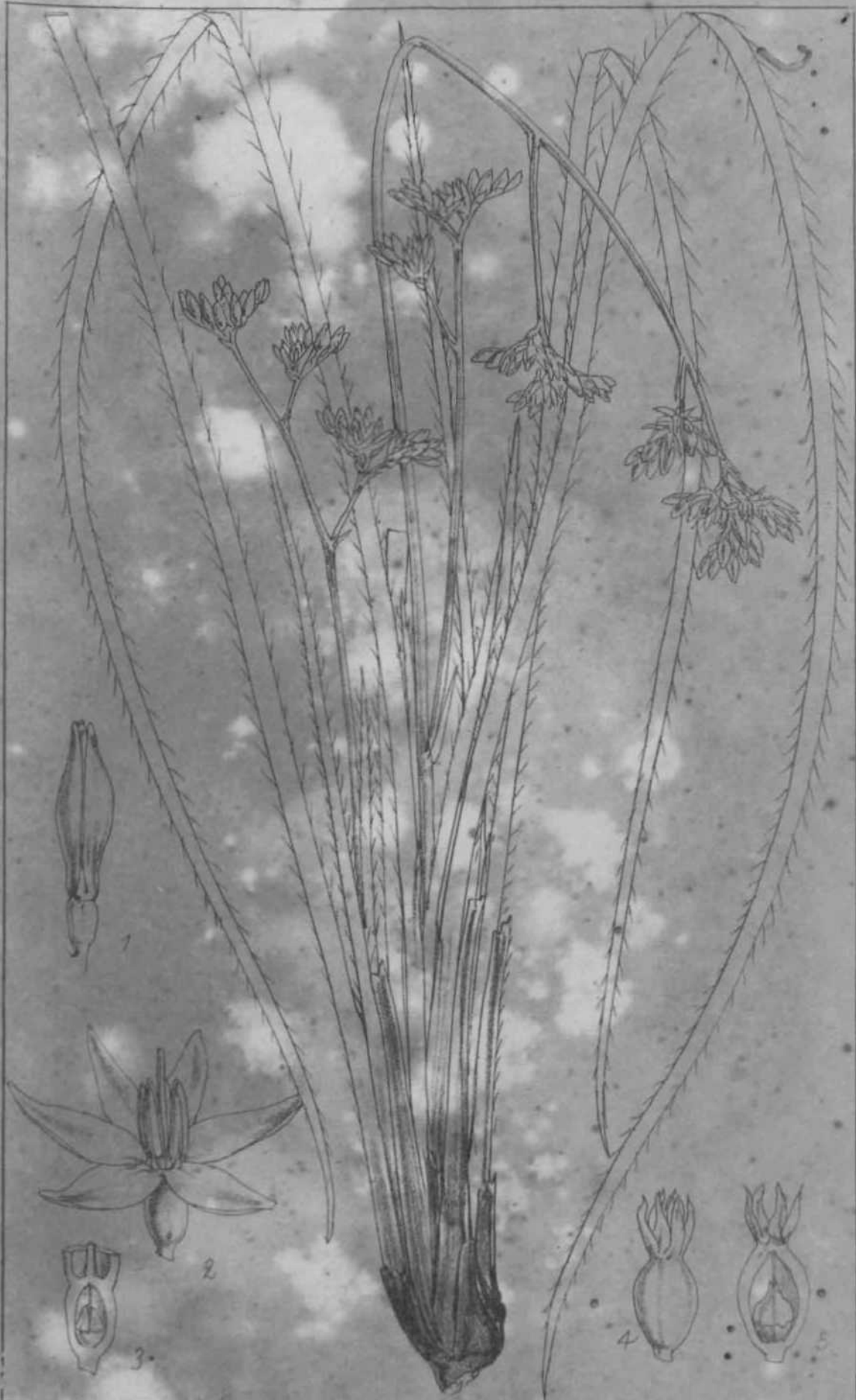


W H Fitch del et lith.

J N Fitch 1890

*Aphananthe philippinensis* Planch.



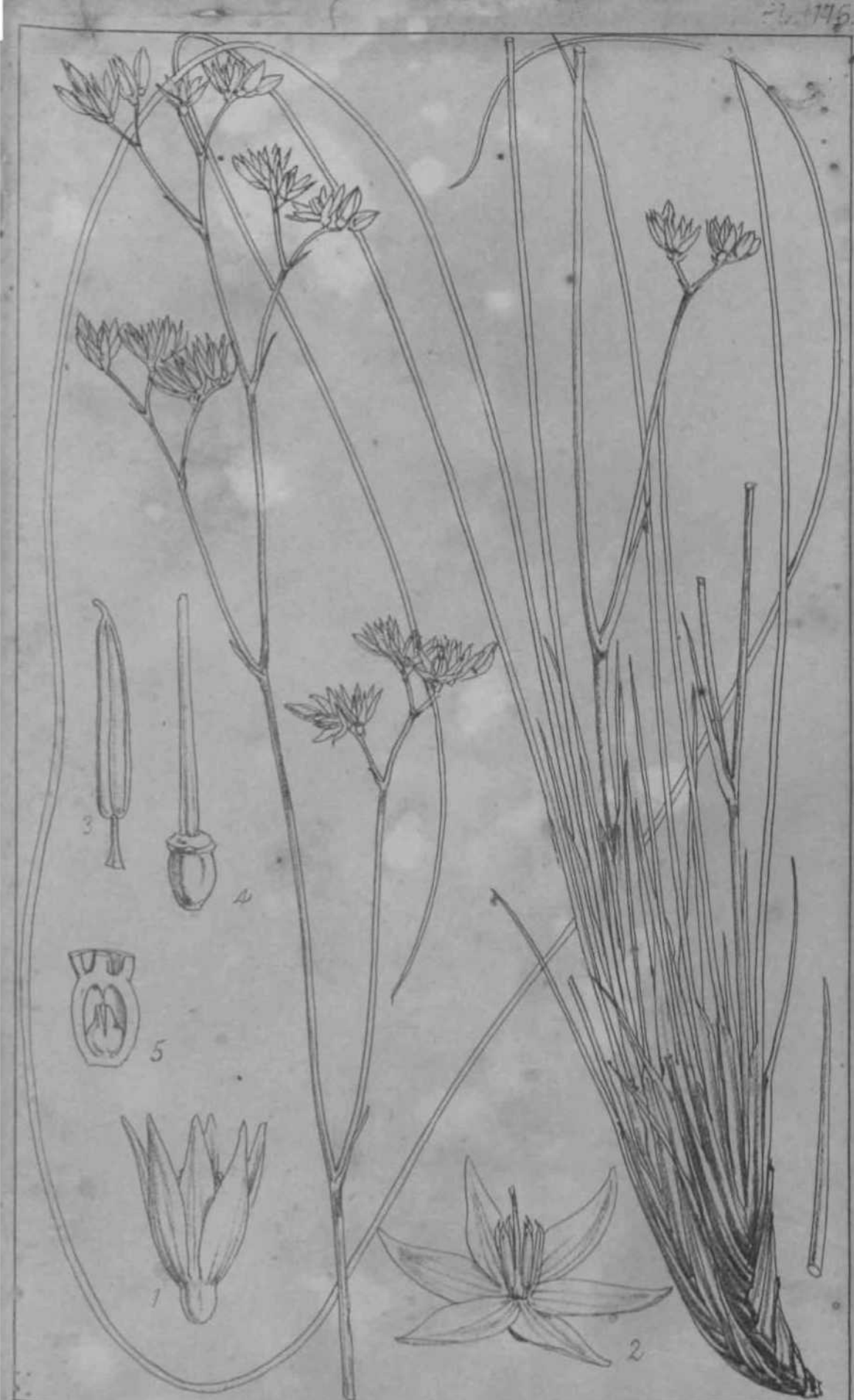


W. H. Hatcher del et lith

J. N. Pritch imp.

*Phlebocarya ciliata*, Br.

26. 176.



W.H. Fitch del. et lith.

J.N. Fitch. imp.

*Phlebocarya filifolia*, F. Muell.



W. H. Fitch, del et lith.

J. N. Fitch, imp.

*Heterotoma macrocentron*, Benth.



W. H. Fitch, del. et lith.

J. N. Fitch, imp.

*Dialypetalum floribundum* Benth.



W. H. Fitch, del. et lith.

J. N. Fitch, imp.

Amblyocalyx: Beccari^erc. *th.*



W.H. Fitch, del et lith.

J.N. Fitch, imp

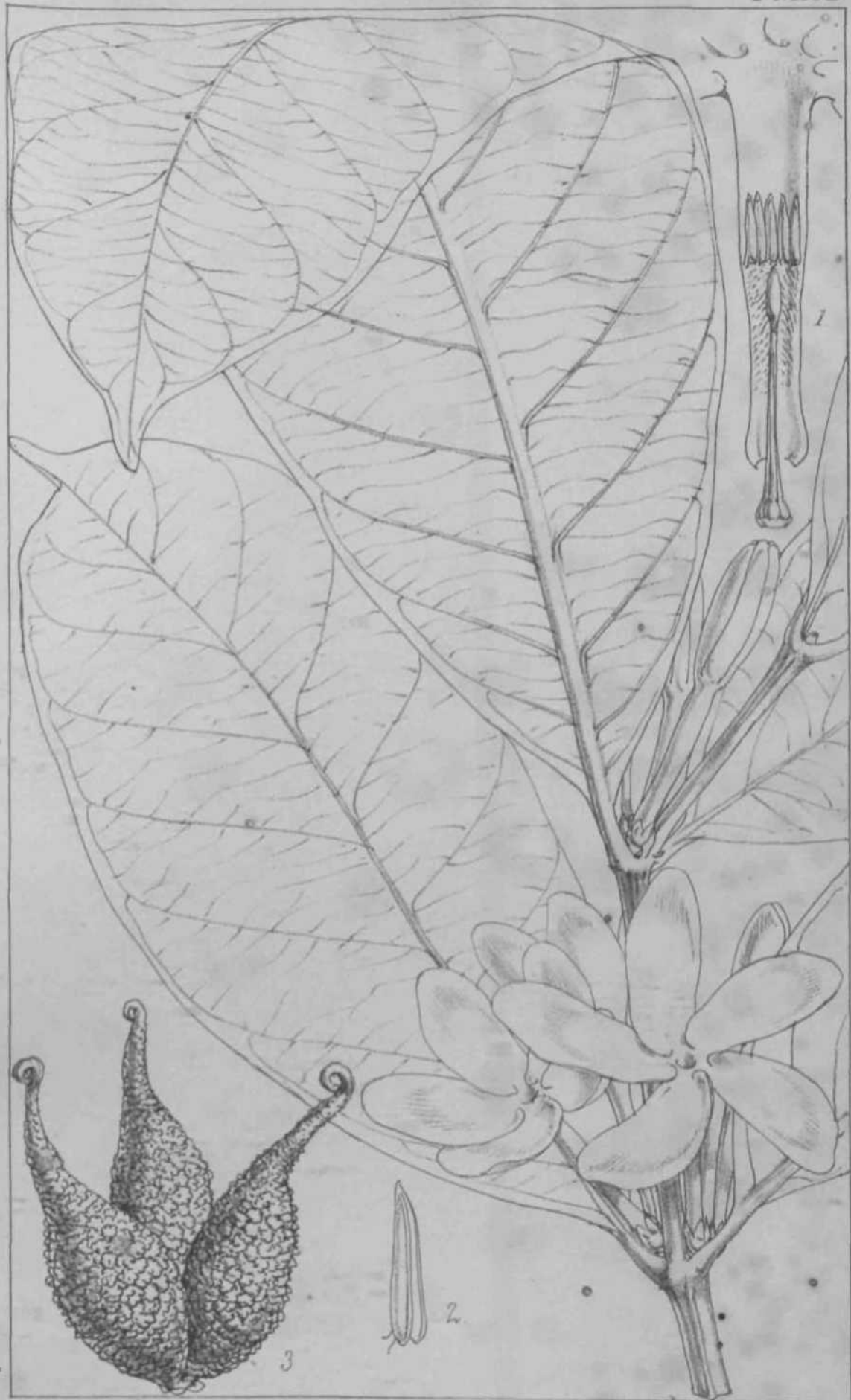
Notonerium Gossei *Benth.*



W. H. Fitch, del. et lith.

J. N. Fitch, imp.

*Pleiocarpa mutica* Benth.



W. H. Fitch, del. et lith.

J. N. Fitch, imp.

*Fleio-carpa rostrata*, Benth.

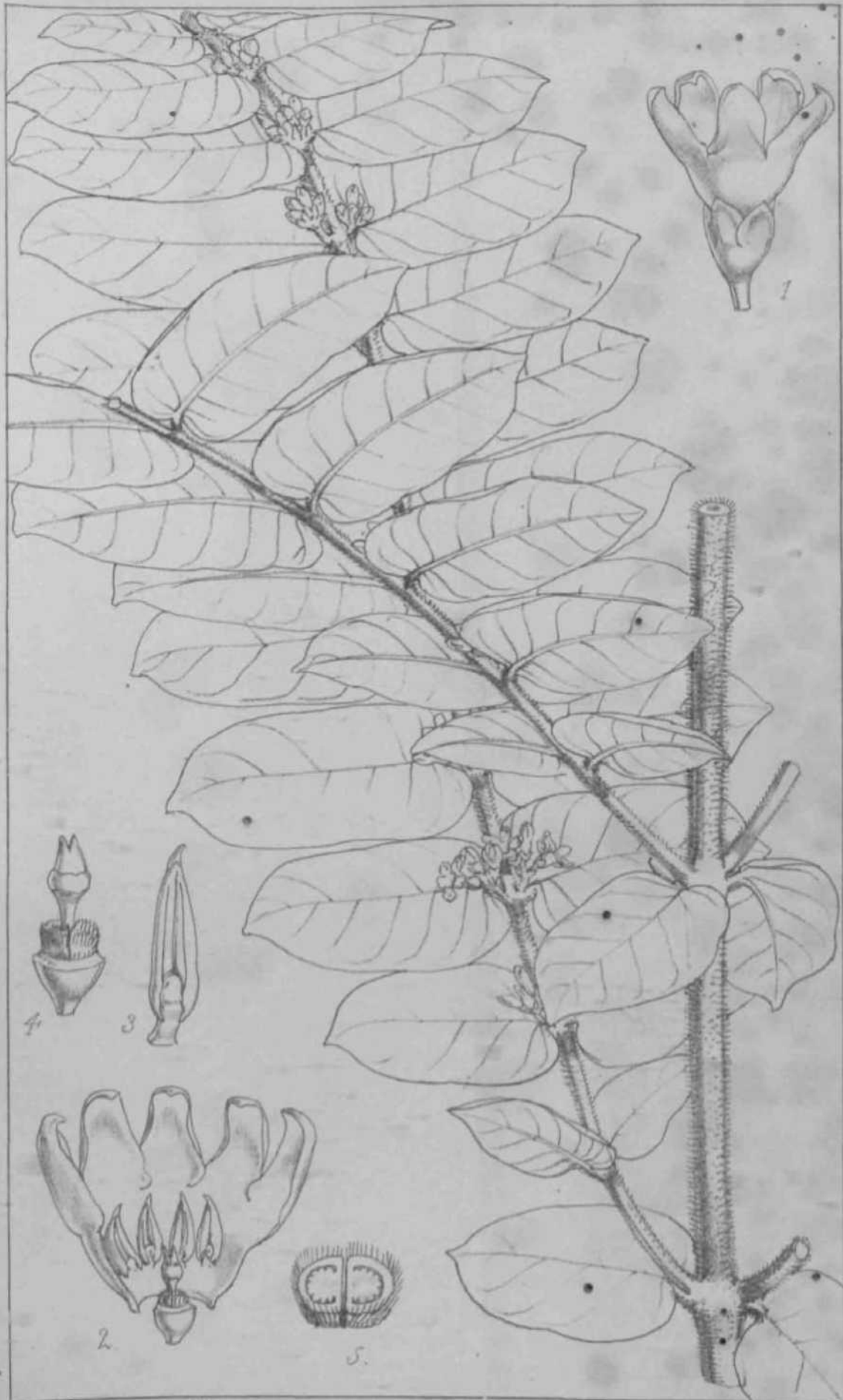




W. H. Fitch, del. et lith.

J. N. Fitch, imp

*Pycnobobrya, nitida, Benth.*



I W.H Htcfa,dcl. et lith

J. N. Fitch, sculp. p.

Zygodia axillaris, Benth.



W. H. Fitch, del. et lith.

J. N. Fitch, imp.

*Motandra sumeensis*, A. DC.



W.H. Fitch, del. et lith.

J.N. Fitch, imp.

*Gymnocema Newii*, Benth.



W.H. Fitch del et lith.

J.N. Fitch, imp.

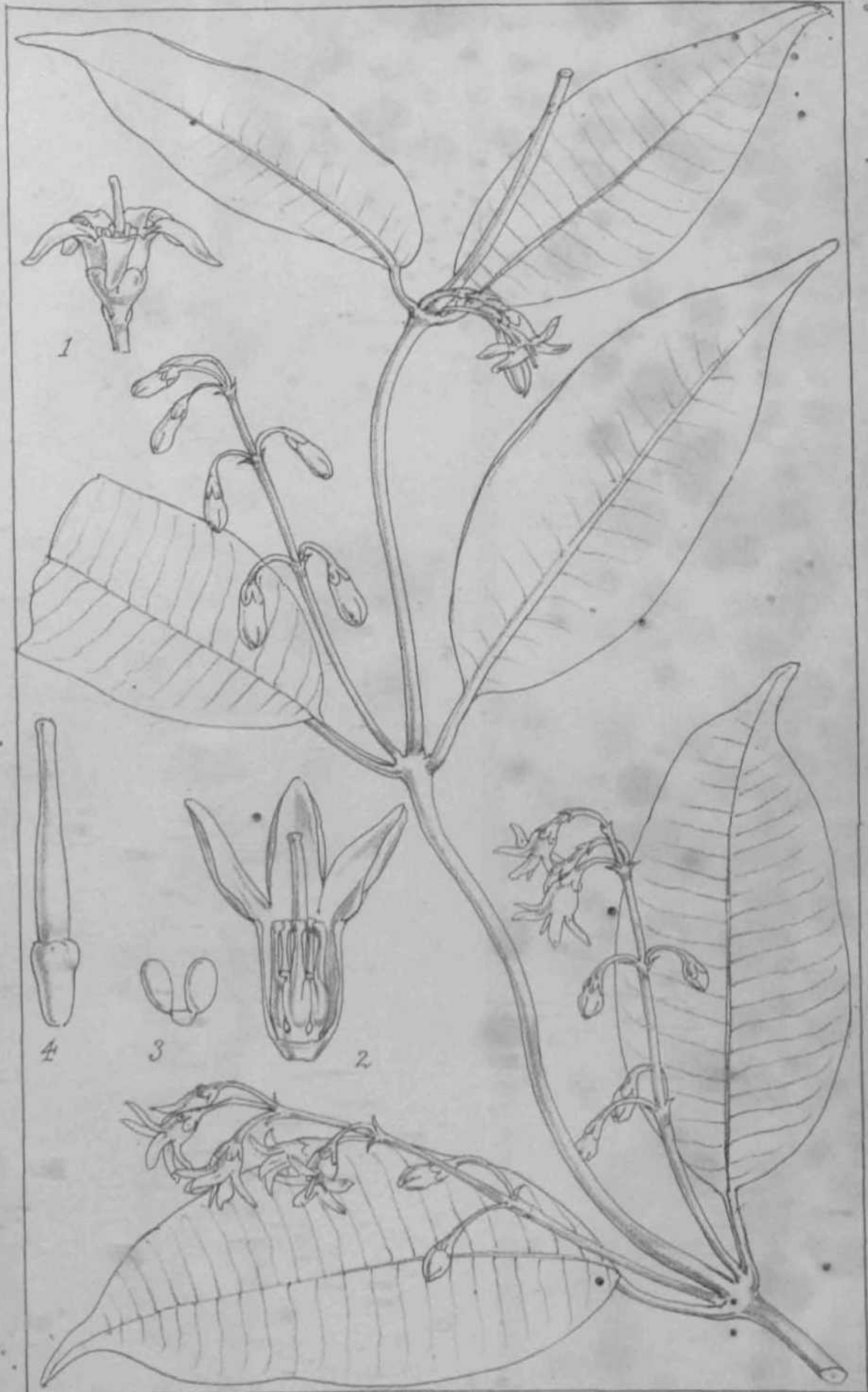
*Ectadiopsis nigritana* Benth.



W.H. Fitch, del et lith

J.N. Fitch, imp.

*Amliysigma hypoleucum* Benth.



W.H. Fitch, del. et lith.

J.N. Fitch, imp.

*Rhynchosigma racemosa* Benth

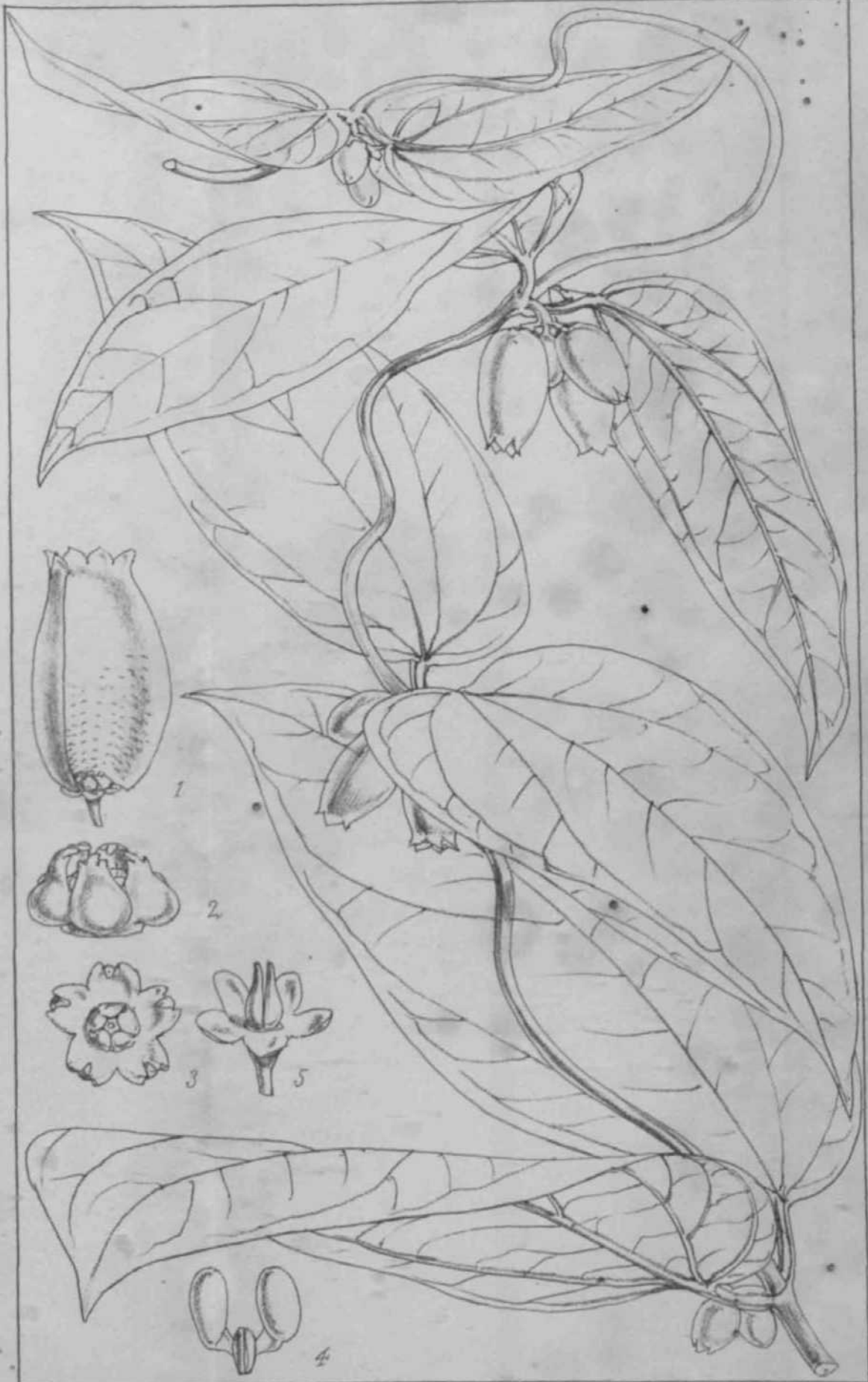


W.H. Fitch, del et lith

J.N. Fitch, imp

*Sphaerocodon obtusifolium*, Benth.





W.H. Fitch, del et lith.

J.N. Fitch, imp.

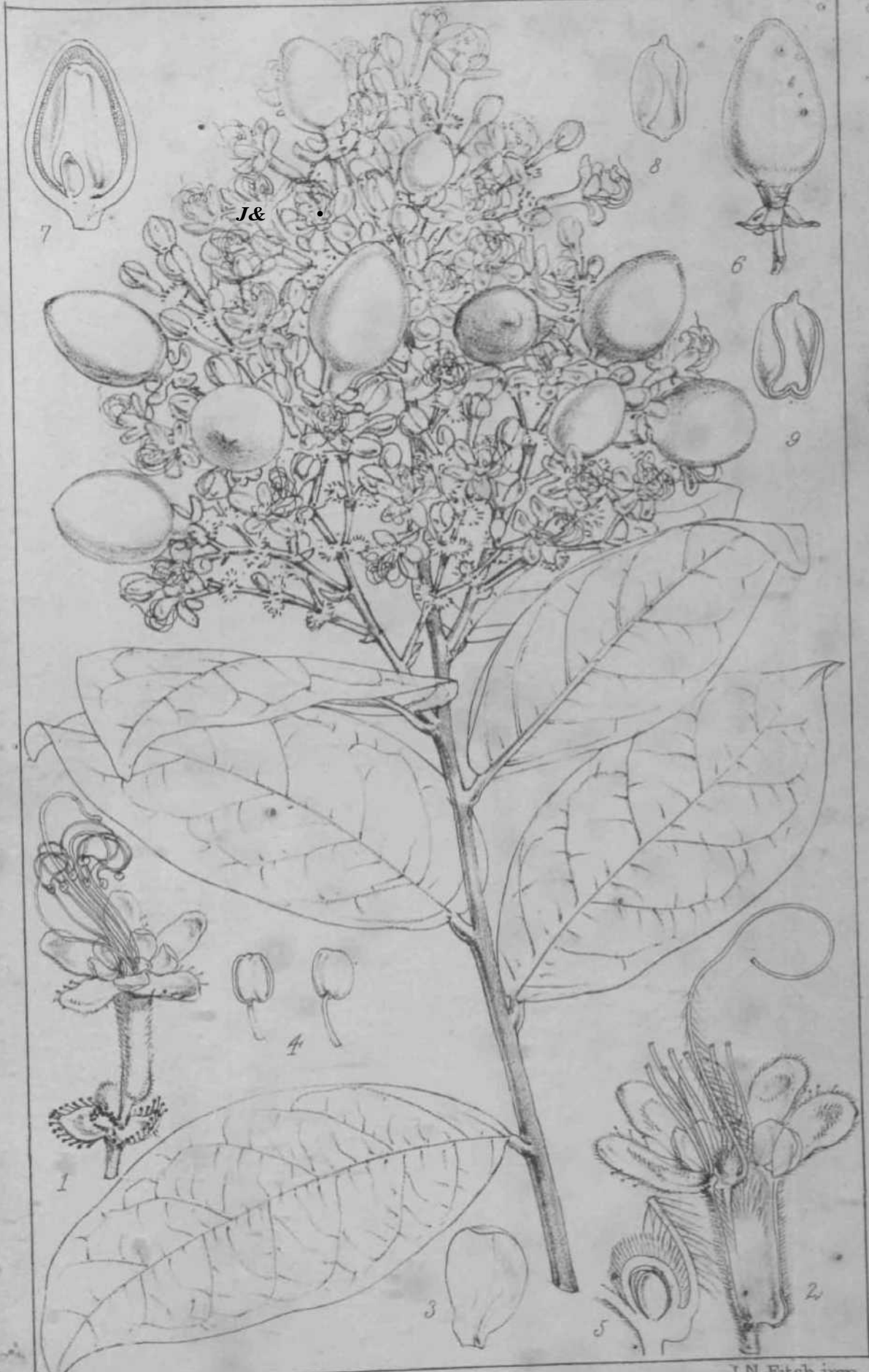
*Dianthus virceolaius*, Benth.



W. H. Fish, del. et lith.

J. N. P. amp.

*Lysidice rhodostegia*, Hance.

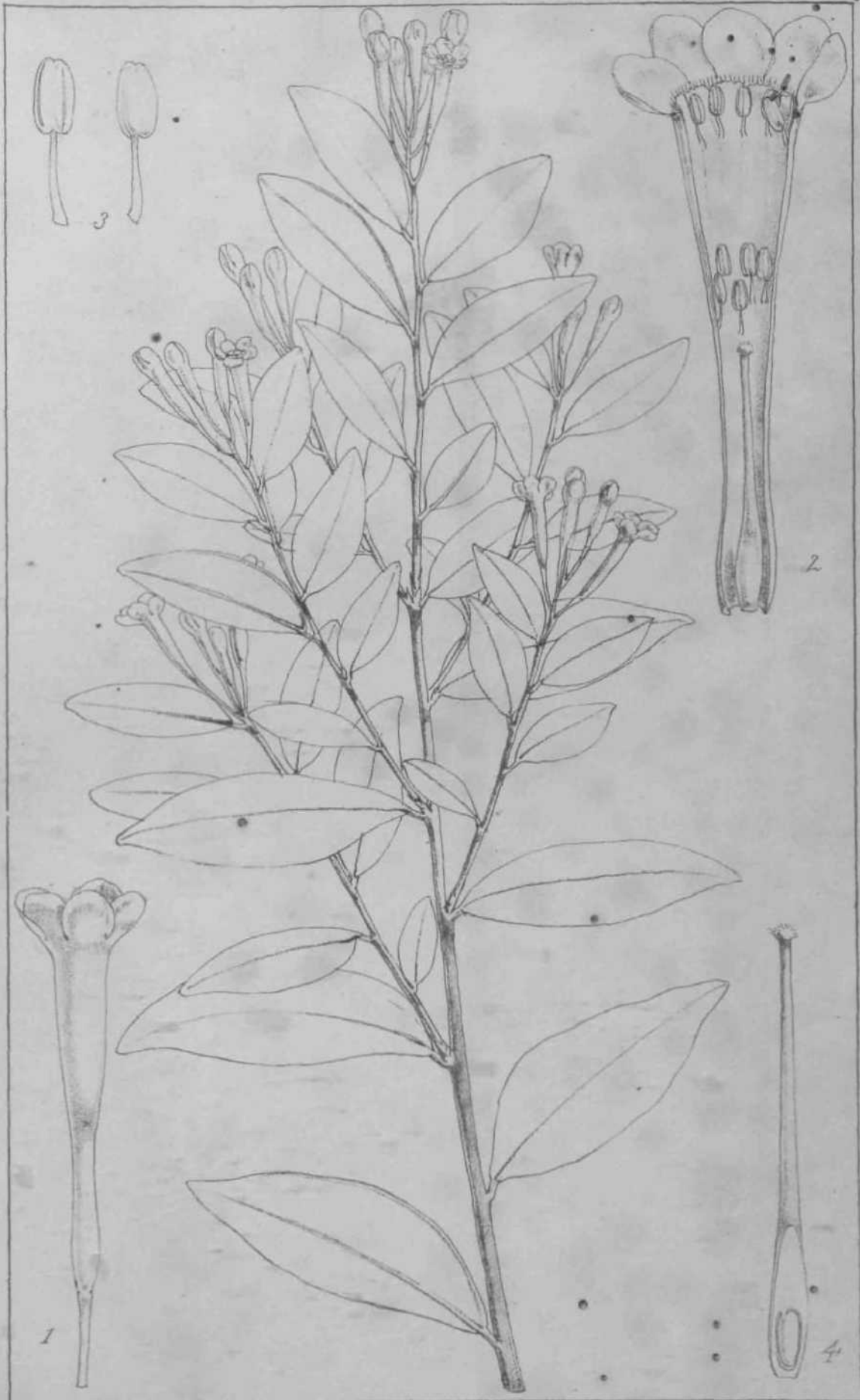


J&

W. H. Fitch, del et lith.

J. N. Fitch, imp.

*Hirtella zanzibarica*, Oliv



W.H Htdh.ael.etlith.

J.N. Fitch, irap

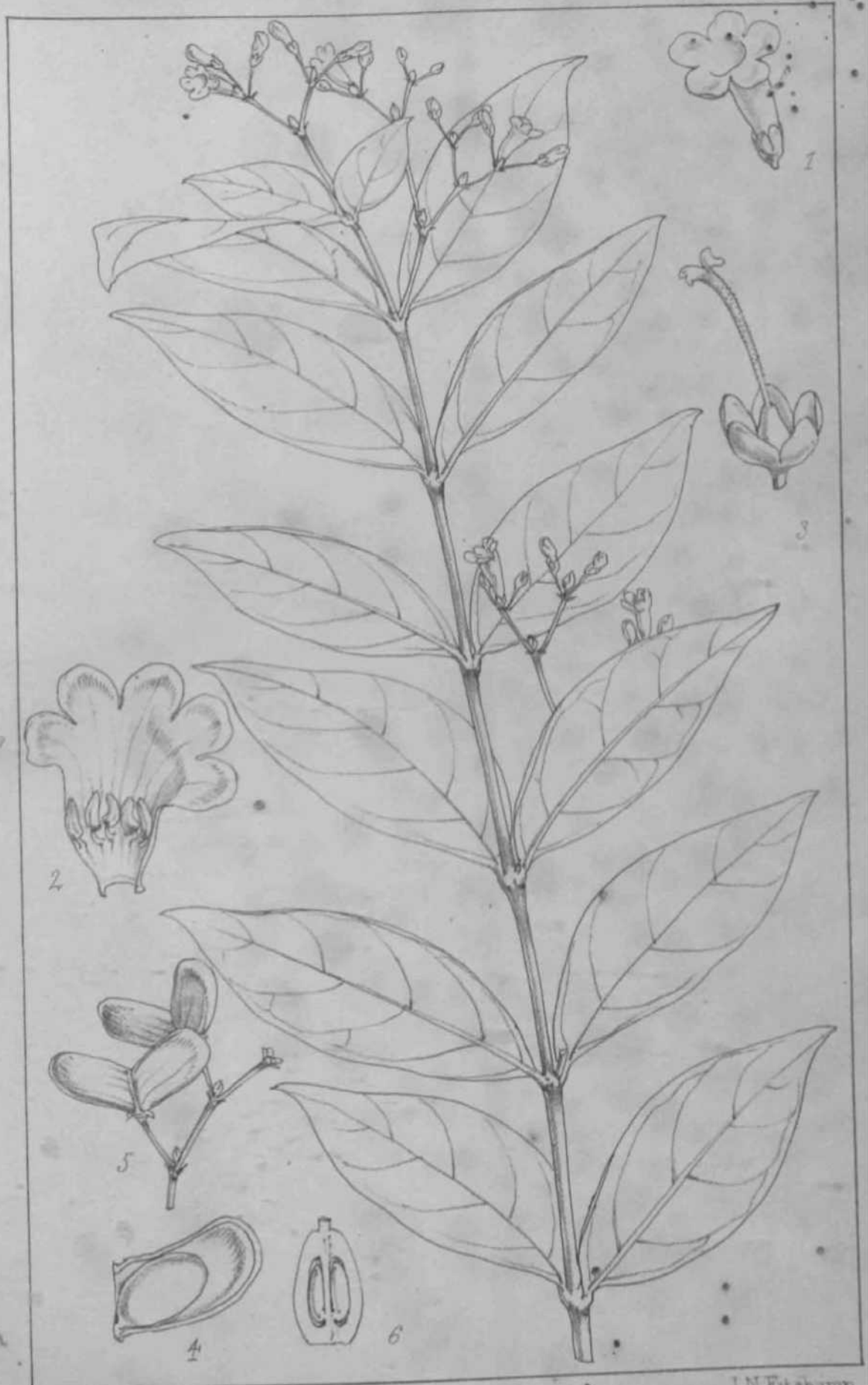
*Synaptolepis alternii olia*, Oliv



W.H. Fitch, del. et lith.

J.N. Fitch, imp.

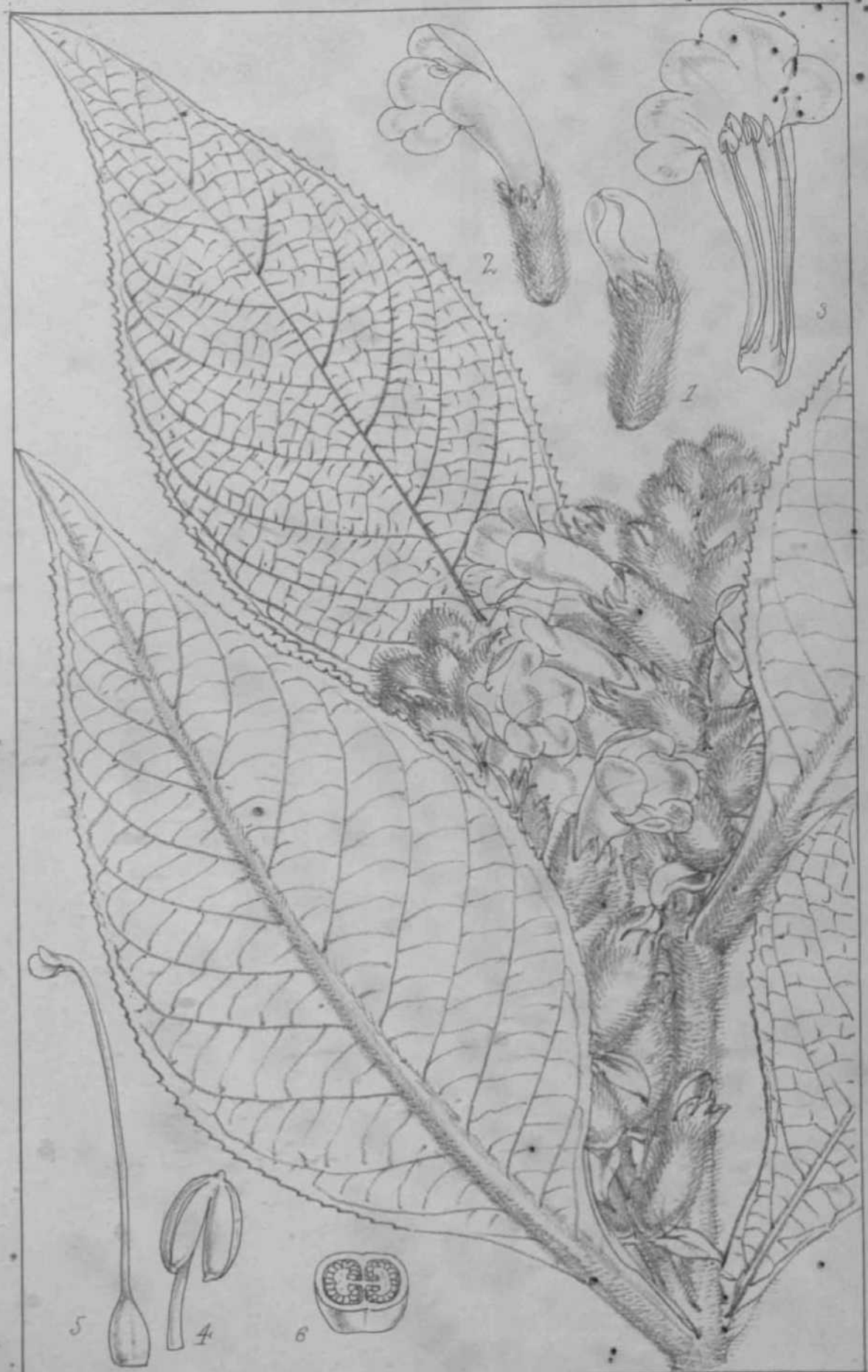
*Rcxosperma, buxifolium, Benth.*



W. H. Fitch, del et lith.

J. N. Fitch, imp.

*Mostuea surm& men. is* < *Benth*



W H Fitch, del. et lith.

J N Fitch, imp.

*Brookea dasyantha*, Benth.



W.H. Fitch, del. et lith.

J.N. Fitch, imp.

*Monopyle macrocarpa*, Benth.





W.H. Fitch, del. et lith.

J.N. Fitch, imp.

*Neriacanthus Purdieanus*, Benth.