

Indian Botanic Garden Library  
BOTANICAL SURVEY OF INDIA

CLASS No. 5.82

BOOK No. H00-1:VI4 ; 1880-'82

ACC. NO. B 1693



## . ICONES PLANTARUM.

PLATE 1301.

GLOSSOCARYX J. OICGICUSPIS, *Benth.*

MONIMIACEAE, Tribe *ATHEROSPERMEAE*.

*G. longicarpis*, *Benth. sp. n.*; foliis distincte petiolatis basi sequenter angustatis, perianthii lobo majore tubo 6-8-plo longiore.

HAB. West tropical Africa; Island of Fernando Po, *Mann, n.* 1428; and Sierra del Crystal, *Mann, n.* 1723.

*Arbor* 30-40-pedalis, partibus novis pilis brevissimis conspersis. *Folia* alterna, oblonga, 6-8 poll, longa, 2-2½ poll, lata, acumine longo angusto terminata > dentibus parvis distantibus notata v. integerrima, basi sequaliter attingentem petiolo 3-5 lin. longo fulta, membranacea, penninervis et tenuiter transverse venulosa. *Pedicelli* o nodulo axillari villosulo per 2-4s fasciculati, 4-8 lin. longi. *Perianthium* oblique campanulatum, 1-1½ lin. latum, ore plus minus dilatato valde obliquo et inaequaliter dentato, uno latere in acumen Riepe fere pollicari producto, fauce annulo carnosissimo subclausa. *Discus* tubo adnatus, in flore \$ praeter annulum faucis parum prominens, in flore ? carnosus, intra tubum plus minus inter calicem intus, cavum in loculo dividens, ab annulo faucis subdistinctus. *Stamina* floris \$ perianthio inclusa, intra discum 2-3-seriata, filamentis brevibus latis subconnatis; anthera ad apicem filamenti subsessilis, ovata, introrsum 2-locellatae, valvis sensum debiscentes. *Carpella* floris \$ plurima, singula locellis 2-liscis plus minus indusa, in stylum desinentia; styli liberi, e perianthio fere breviter exserti, ovulum e basi ovarii erectum. *Fructus* immaturus subglobosus?, angulatus, farnosus, limbo perianthii emarginato coronatus, maturus ignotus,

This and the species figured in the following plate form a new genus, now first published in our 'Genera Plantarum,' and belonging to an order previously unknown in Africa. The genus is closely allied to the American genus *Siparuna*, and has probably the same fruit, but appears sufficiently distinct in its alternate leaves and very peculiar perianth.—G. BENTHAM.

Plate 1301, Male plant. Fig. 1. Perianth. 2. The same seen from above, the long point of the limb cut away. 3, 4. Stamens'.

---

PLATE 1302.

GLOSSOCALYX BREVIPES, *Benth.*

MONIMIACEAE, Tribe ATHEBOSPEEMELE.

*Gk brevipes* *Benth.*, *sp. n.* foliis ovatis petiolatis basi oblique subcordatis, perianthii lobo majore tubo duplo v. vix triplo longiore.

HAB. Cameroon river, West tropical Africa, *Mann*, n. 722 and 2196.

*Frutex* 10-pedalis. *Specimina* primo aspectu iis *G. longicaulis* simillima, sed folia omnia integerrima videntur, paullo minora, acumine breviori et basi rotundato-subcordata plus minus inaequalia, petiolo 1 v. vix 2 lin. longo. Flores minores, in fasciculo praesertim masculi numerosiores, pedicello vix 2 lin. longo, perianthii dentibus 2-lobis minus inaequalibus, acumine vix 2 lin. excedente.—G. BENTHAM.

Plate 1302, Female plant. Fig. 1. Perianth. 2. Perianth-tube, longitudinal section, showing the manner in which the carpels are included in the fleshy disk. 3. Perianth seen from above, the long point cut away.

---

PLATE 1303.

LORANTHUS MAWNI, *Oliv.*

LORANTHACEAE.

*L.* (§ *Heteranthus*) *Manni*, *Oliv.*, in *Journ. Linn. Soc.* vii. 101, ramis subteretibus, cortice glabro punctato, foliis suboppositis ovali-lanceolatis apice obtuse subacuminatis glabris petiolatis, floribus incurvis 4-meris racemosis, racemis axillaribus folio brevioribus, pedicellis

patentibus calycem sequantibus, bracteis minutis, petalis lineari-lanceolatis basi leviter dilatatis, antheris continnis linearibus multilocellatis.

HAB. Island of St. Thomas, alt. 5,000 ft., *G. Mann!*

*Folia* 2-3 poll, longa, §-1 poll, lata tenuiter coriacea; pediculus 1-1 1/2 poll, longas. *Flores* 1-1 1/2 poll, longi saepius carvati.—D. OLIVES.

Fig. 1. Flower. 2. Petal and adnate stamen.

PLATE 1304.

LORANTHUS CURVIPILOBUS, *Benth.*

LORANTHACEAE.

*L.* (§ *Plicopetalus*) *Curtviflorus*, *Benth.*, ramulis teretibus, foliis alternis lineari- y. spathulato-oblongis\* obtusis, floribus axillaribus incurvis umbellatis, umbellis\* breviter pedunculatis 4-7-floris, calycis limbo sub-integro tubo turbinato, petalis liberis saepe attenuatis basi dilatatis intus plicis utrinque 3-5 orbiculis elevatis instructis, antheris continnis longe linearibus, stigmate obtusis subcapitato.

HAB. Abyssinia, *Plowden!* and, apparently the same, Somali Coast, *Dr. Kirk!*

*Folia* 1-2 poll, longa, 1/2-1/2 poll. lata. *Pedunculi* 1/2-1/2 poll, longi; pedicelli aequilongi, apice breviter cupulatum dilatati bractea camosula parva lateraliter gibbosi. *Flores* 1-1 1/2 poll. longi, incurvi.

This species belongs to the section *Plicopetalis*, *Bentham* (° *Genera Plantarum*,<sup>9</sup> iii. 208), which includes also *L. undulatus*, *E. Mey.* of the Cape of Good Hope.—D. OLIVER.

Fig. 1. Flower. 2. Petal and adnate stamen.

PLATE 1305.

EUPHORBIA ZAMBESIANA, *Benth.*

EUPHORBIAE, Tribe 42 EUPHORBIE.

*E.* (*Anisophyllum*, § *Pleiadim*) *zambesiana*, *Benth.*, *sp. nov.*, glabra, rhizomate crasso, caulibus numerosis pumilis ramulosis, foliis parvis



oppositis squamiformibus v. superioribus ovato-oblongis integerrimis, stipulis minimis, involucris pedicellatis terminalibus v. pseudo-axillaribus hemisphaericis brevissime lobatis, glandulis transverse oblongis, appendice lata alba petaloidea varie lobata involucri ipso sublongiore, capsula brevi.

**HAB.** East tropical Africa on the Zambesi, Zomba, and east end of Lake Shirwa, *Livingstone's Expedition*; Shire highlands, *Buchanan*.

*Caules* e rhizomate crasso carnosulo dense cespitosi, erecti, in specimenibus floridis 1-2-pollicares, adsunt tamen hinc inde vetustiorum reliquiae 3-4-pollicares, laxe ramosi. *Folia* inferiora squamiformia, superiora ovata v. oblonga, acutiuscula, 2-3 lin. longa, v. in specimenibus vegetioribus parvis summi lanceolata subsemipollicaria, basi breviter contracta, vix tamen obliqua. *Involucra* ad apices ramulorum supra parsum pedicello 1-3 lin. longo fulta, nonnulla (ramulo aphylo) axillaria apparent pedicello, semipollicari v. longiore, 1-1½ lin. diametro, lobis saepe 5 minimis triangularibus v. denticulatis. *Glandulae* transverse oblongae, majusculae, appendicibus petaloideis valde conspicuis albis late patentibus irregulariter et obtuse 2-4-lobis. *Bracteolae* intra involucri lineares, lacerae, irregulariter connatae. *Flores* masculi subinclusi, femineus breviter exsertus, glaber, stylis 2-fidis recurvis breviter connatis. *Capsula* matura nobis deest.

This curious little species is totally unlike any other African or Asiatic species, but comes very near to the South Brazilian *E. potentilloides* and *E. chamcerjwodos*, Boiss., figured in that author's splendid 'Icones Euphorbiarum,' t. 24 and 25, although specifically distinct from both either in the involucre or in the styles. There are several specimens from each of three different localities, but all very similar to each other.—Q. BENTHAM.

Fig. 1. Involucre. 2. The involucre opened out, showing the dorsal glands. 3. Male flowers with the bracteoles turned down. 4. Female flower.

---

PLITES 1306, 1307.

MUSANOA SMITHII, R. Br.

URTICACEAE, Tribe GONOCEPHALEAE.

*M. Smithii*, R. Br. in *Berm. Pl. Jav. Bar.* 49, single species.

**HAB.** Tropical Africa, on the Congo, *Ohr. Smith*; Sierra Leone, *Barter, Mrs. Mair*; Ferriando Po, *Barter, Mann*; and apparently the same species on the Kussumbo, Monbuttu Land, *Schoeinfurt Ji*, n. 3205.

*Arbor* pulcherrima, 40-80-pedalis, coma patente, ramulis crassis. *Folia* alterna, longe petiolata, ampla, peltata, fere ad basin radiatim divisa, segmentis 11-15 anguste oblongis breviter acuminatis basi longiuscule contractis interdum intrapedalibus 2-3 poll, latis, glabris puberulisve supra viridibus subtus albidis integerrimis subtus parallele penniveniis, veniis transversis tenuissimis. *Stipulae* in unam intrapetiolaem membranaceo-coriaceam 4-pollicarem extus tomentoso-villosam intus longe sericeo-villosam inflorescentias juniores includentem coalite, caducissimae. *Paniculum* \$ ad axillas solitarium, pedunculatum, 3-4-pollicares, repetito-ramosissime, florum capitulis numerosis globosis vix 2 lin. diametro. *Flores* in capitulo sessiles ad axillas bractearum stipitatarum apice subpeltato-dilatatarum. *Perianthium* tubulosum, apice truncatum. *Stamen* 1, filamentum recto, anthera breviter exserta. *Flores* ? in massas ovoideas v. obovato-oblongas 2-pollicares ad axillas geminatim pedunculatas dispositi, in capitulo sessiles, numerosissimi, arctissime conferti. *Perianthium* lineari-triangulari, vertice foramine minuto perforatum. *Ovarium* sessile, ovulo unico a basi erecto, stylo filiformi et perianthio breviter exserto. *Alumnium* perianthio parum ancto fibroso-carnoso apice crasso inclusum, pericarpio duro nitido. *Semen* pericarpio conforme, erectum, testa membranacea; albumen tenue; cotyledones oblongae »quales, radícula breviter sperma.—G. BENTHAM.

Hort. 1306, Male plant. Fig. 1. Perianth and bract. 2. Bract. 3. Perianth split open, showing the stamen.

Hort. 1307, Female plant. Fig. 1. Perianth. 2. Perianth and ovary, longitudinal section. 3. Achene. 4. Seed. 5. Embryo.

---

PLATE 1308.

GANOPHYLLUM PALCATUM, *Blume*.

ANACARDIACEAE.

*G. falcatum*, *Blume*, *Mus. Bot. Lugd. Bat.* i. 230.

Foliis 9-14-foliolatis glabris nitidis; foliolis alternis breviter petiolulatis oblique ovato-lanceolatis basi breviter et obtuse acuminatis integerrimis, paniculis axillaribus foliis brevioribus pedunculatis, pedicellis calycemaequantibus, laciniis calycinis ovatis, staminibus (inn. & ) exsertis, drupis exsuccis ellipsoideis apiculatis.—*F. v. Mueller*, *Fragm.* vii. 24.

HAB. Indian Archipelago, *Blume* and others; Carpentaria, *R. Brown* (Herb. 5492)! Port Darwin, *Schultz*! Port Denison! Rockingham Bay and Torres Straits (*P. v. Mueller*, *I. c.*).

*Arbor* glabra innovationibus saepius balsamo obductis. *Folia* f-1 ped. longa; foliola 1<sup>^</sup>-3 poll, longa, f-1£ poll. lata. *Drupa* \ poll, longa utrinque acutata. *Ootyledones* incumbentes plicato-incurviro carnos®.

This interesting addition to the Australian flora has been well and fully described by the Baron von Mueller (*I. c*), who points out that fruiting specimens (of which we had then only very imperfect fragments) were referred to *Euroschinus falcafois*, Hk. f. in Benth. *Flora Australiensis*, i. 490.—D. OLIVER.

Fig. 1. Stnminate flower. 2. Eudimont of pistil from same. 3 and 4. Side and front views of embryo.

---

PLATE 1309.

LORANTHUS fclRKII, *Olio*.

LORANTHACSUB.

*L.* (§ *Acrostachys*) *Kirkii*, *Oliv. in Journ. Linn. Soc.* vii. 101, ramulis teretibus cortice glabro striato, foliis altemis v. suboppositis petiolatis, ovatis v. obovato-ellipticis obtusis glabris, floribus 4-meris in racemis multifloris terminalibus elongatis dispositis, pedicellis patentibus, bractea ovata obtusa, petalis liberis basi paiaim dilatatis, antheris linearibus.

HAB. Bovuma Bay and Dar Salam, E. tropical Africa, Dr. *Kirk!*

*Bami* soepe verruculosi. *Folia* |-2 poll, longa, |-1<sup>^</sup> poll, lata; petiolus ;£-£ poll, longus. *Bacemi* 4-6 poll, longi, breviter pedunculati vel a basi floriferi. *Pedicelli* £ poll, longi. *Flores* £ poll, longi.—D. OLIVES.

Fig. 1. Flower; 'the bract usually does not exceed half the ovary in length. 2. Fetal and admite stamen.

---

## PLATE 1310.

## PABSETIA BURTOITaS, Oliv.

CRUCIFERJE, Tribe ALTSSINEAE.

**P. Būrtōñfi**, *Oliver in App. iv. to Copt. Burton's Land of Midian Revisited*, 1879, caulibus divaricatis pilis malpigbiaceis appressis incanis foliosis, foliis lineari-oblancoelatis acutis basi angustatis utrinque dense pilosis, racemis pancifloris, alabastris lanceolatis acutatis, petals spathulatis, stigmatē breviter bilobulato, siliqua oblonga coinpressa stylo persiatente fere duplo longiore.

HAB. North and Central Midian, *Captain Burton I*

*Herba* basi suffrnticosa 6-10-pollicaris, pilis simplicibus mediofixis mducta. *Folia* 1-lf polk longa\* integra. *Pedicelli* flore bgeviores. *Sepala* lineari-oblonga apicem versus angnstata, nngaes petaloram subeequantia. *Filamenta* edentula. *Ovula* &-7 snbnneriata. *Siliqua* i-& poll, longa; τV-fr poll. lata.

With this interesting new *Farsetia* the name of Captain Burton's most efficient and enthusiastic helpmate may well be associated.—  
D. OLIVER.

Fig. 1. Sepal. 2. Potal. 3. Stamens. 4. Pistil.

## PLATE 1311.

## ASTBOSTEMMA . SPABTIOIDES, Death.

~~ASOLEPIADEE~~, Tribe CYNANCHEJE.

**Astrostemma**, *Benth., gen. nov.* *Calyx* parvus, alte 5-fidus, eglandulosus. *Corolke* tubus calyce sublongior, turbinatus; limbus dilatatus, alte 5-fidus, lobis inflexis conniventibus angastissime contorto-imbriçatis. *Corona* simplex, tnbo stamineo affixa, fere ad basin in lobos o pñanos stellato-patentes divisa. *Stamina* basi corollas affixa, filamentis in tubum brevem latum connatis; antheraB membrana inflexa parva terminateD. *Pollinia* in quoque loculo solitaria, ovoidea, ab apice pendula. *Stigma* vertico planum. *Pollicufi* . . . Frutex per anthesin

aphyllus, junior folia perpauca parva ferens. Ramuli juncei, apice spicam brevem ferentes, floribus parvis.

*A. spartioides*, Benth., *single species*.

HAB. Bangarmassing, Borneo, common in holes of trees, looking as if it were truly parasitical, but the roots only line the holes, *J. Motley*; also Northern Borneo, *Burbidge*.

*Fruticulus* epiphyticus, carnosulus, habitu *Barcostenymatis*. *Folia* in planta juniore v. in ramulis nonnullis brevissimis perpauca, opposita, ovata, semipollicaria. *Rami* floridi aphylli, ramulos emittentes plures juncifonnes, simplices, 3-6 poll, longi. *Spica* seu racemulus in quoque ramulo terminalis, rhachi 2-3 lin. longa parum incrassata cicatricibus anularibus notata ceterum ebracteata. *Flares* oppositi, vix 2 lin. diametro, pedicello 1 lin. longo fulti. *Fructibus* nobis deest.—G. BENTHAM.

Fig. 1. Flower, enlarged. 2. Corona, seen from above; the anthers and glands appearing between the lobes. 3. A pair of pollen-masses with the connecting gland.

---

PLATE 1312, J313.

QUEBCUS JENKINSII, Benth.

~~CUPULIFERA~~, Tribe QUEBCINEJS.

*Q. (Chlamydobalanus) Jenkinsii*, Benth., *sp. nov.*, foliis integerrimis subtus pallidis, spicis erectis, masculis paniculato-ramosis, foemineis simplicibus, involucris solitariis, fructiferis subglobosis clausis duris squamarum apicibus conicis undique echinatis, nuco incluso nec adnato, pericarpio crasso osseo, cotyledonibus crassis laevibus.

HAB. Upper Assam, *Griffith, Jenkins*; and bordering provinces of Burmah, on the Mogoung river, *Griffith*.

*Arbor* glabra v. inflorescentia tenuissima. *Folia* coriacea, oblonga, acuminata, 8-12 poll, longa, 3-5 poll, lata, basi acuta, petiolo 1-1.5 poll, longo, subtus pallida vix tamen incana, venis primariis simplicibus parallelis subtus prominentibus ad utrumque latus costae 12-16. *Stipules* angustae, caducae. *Flores* ut videtur dioici. *Spicce* erectae, masculae in panicula longa secus rhachin simplices, numerosae, foemineae in axillis superioribus plures, simplices, 6-10-pollicares. *Involucra*, foeminea sub bractea minima scissura, arete sessilia, sub anthesi 1-1.5 lin. diametro, squamis numerosis crassis basi connatis, mox aucta globosa undique densissime echinata. *Styli* 3, breviter exserti, crassi, erecto-patentes, apice stigmatosi. *Involucrum fructiferum* globosum v.

vix longius quam latum ad 1J poll, diametro, minutissime tomentellum, duram ad parum incrassatum, squamarum apicibus conicis y. recurvis valde prorainentibus numerosissimis irregulariter zonatis undiquo echinatum et perfecte clausum. *Nux* inclusa, globosa, 1<sup>^</sup> poll, diametro, ab involucre basi excepta omnino libera; pericarpium osseum, 2 lin. crassum.

This species closely connects the sections *Chlamydoalanus* and *Lithocarpus*, having the woody pericarp of the latter, but the nut entirely free from the involucre, though enclosed in it, as in *Chlamydoalanus*. Griffith's specimens are males and females in flower and with young fruits; the ripe fruits were received from Jenkins.—G. BENTHAM.

Bate 1313, Male specimen; Plate 1312, Female specimen. 1. Flower, enlarged. 2. The same, the involucre cut through, showing the perianth and styles. 3. Young fruiting involucre. 4. Ripe fruit. 5. The same, transverse section.

---

PLATE 1314.

QUERCUS 'KAINQAYI, Benth.

**CUPULIFERÆ**, Tribe QUEECINEJ.

ft. (*Jathocarpus*) *Maingayi*, Benth., sp. n., foliis integerrimis subtus pallidis, involucre fractiliteris in spica secus rachin erectam patentibus reflexisve oblongo-turbinatis clausis velutino-tomentellis, lineis paucis vix prominentibus zonatis, vertice depressis demum circumscisse scutiformis, nuce inclusa fere ad apicem adnata, pericarpio crasso duro.

HAB. Penang; found about a mile from the top of the hill, *Maingay*.

*Arbor* procera, ramulis inflorescentiaque minute ferrugineo-tomentellis. *Folia* 8-10 poll, longa, 4-6 poll, lata, coriacea, breviter acuminata, basi cuneata, petiolo 1-pollicari, subtus pallida at vix canescentia, venis primariis simplicibus parallelis subtus prominentibus ad utrumque latus costae 15-20. *Flores* nobis desunt. *Pedunculus* fructifer 4-6-pollicaris, erectus. *Imolucra* 3-4, matura subsesquipollicaria poll, diametro, ima basi valde attenuata quasi crasse pedicellata, tomento minuto ferrugineo subvelutina, lateribus zonis 2-3 parum prominulis notatis, vertice subplano centro umbonato zonis 2-3 notato demum scutiformi circumscisse deciduo. *Nux* involucre fere ad apicem arete adnata, pericarpio duro subsuberoso 2-2<sup>^</sup> lin. crasso.

Evidently allied to the *Lithocarpus scutigera* of Oudemans, but with a differently shaped fruit, and if that is fourfold on the *Quercus costata* of Blume, the foliage is also quite distinct.—G. BENTHAM.

## PLATE 1315.

QUEBCUS BECCABIANA, *Benth.*

CUFULIFERS, Tribe QUERCINEJB.

*Q. (Lithocarptts) Beccariana, Benth., sp. n.*, foliis integerrimis snbfcus pallidis subcanescentibus, spicis erectis, masculis paniculatis, foemineis simplicibus, involucris fcemineis secns rhachin solitariis sessilibus ovoideis v. frnctiferis obovoideis lineis parum prominentibns zonatis glabris perfecte clausis, mice inclusa fere ad apicem adnata, pericarpio duro crasso.

HAB. Borneo, *Beccwri, n. 3310.*

Specimina nostra prater canescentiam minutissimam inflorescentie et paginse inferioris foliorum glabra. *Folia* ojblonga, breviter acuminata, 3-4 poll, longa, 1-1<sup>^</sup> poll, lata, basi acuta, petiolo 5-6 lin. longo, coriacea, supra nitidula, venis primarily simplipibns parallelis in pagina inferiore prominulis ad iitrumqne latus cost© 6-8. *Spicce* mascul© pollicares v. terminales longiores, in panicula terminali 6-8, foamineaD inferiores simplices, sub fructu 2-3-pollicares. *Involucra* sub anthesi 2-3 lin. longa, arete sessilia, glabra, zonis prominulis 6-8 annulata. *fStyli* 3, breves, crassi, ex apice prominuli, stigmatibus terminalibus. *Involucrum fructiferum* 2-2| poll, longum, 1J poll, diametro, vertice non deprcssum et promiiaenter nmbonatum, quam in *Q. Maingayi* crassius, nucem arete includens et nt videtur omnino indebiscens. *Nitx* fere ad apicem adnata, pericarpio 2 lin. crassa dnro.—G. BENTHAM.

Fig. 1. Male flower. 2. Female flower. 3. Tho same, longitudinal section showing the pistil. 4. Eipe fruit. 5. The same, longitudinal section.

## PLATE 1316.

PERSEA NANMU, *Oliv.*

LAUUNEJJ, § PERSEACE^I.

*P. (PhoBle) Nanmu, Oliv., sp. nov.*, arbor procera; foliis e basi attenuatis oblanceolatis oblongo-oblafliceolatisve obtusiuscule acuminatis supra glaberrimis subtus nervo medio glabro excepto appresse sericeo-puberulis, paniculis srepius in«corymbum terminalem folio vix ecquantcm congestis periantliisqve sericeo-pubescentibus.

HAB. Sze-chuen, *Father Vincot!* and Yunnan, Western China.

*Eamuli* graciles lroves cito glaberrimi. *Folia* 3-6 poll, longa, 1-2 poll, lata, longiuscule petiolata. *Pedicelli* floribus requilongi v. iisdem longiores appresse sericei. *Perianthium* sericeo-pubescentis, segmentis subsequilongis, exterioribus obloiigo-ellipticis interioribus latioribus mtus sericeis. *Stamina* glabra. *Ovarium* in stylo attenuatnm glabrum.

Specimens of this laurel have been transmitted to Kew by Mr. Davenport, of H.M.'s Consulate at Shanghai, with a view to the identification of the species affording the durable and highly valued timber known in China as *Nanmu*. E. Bradford, Esq., has also contributed additional examples, which enable ns to determine its very close relationship to *Persea (Phcebe) pallida* and *P. lanceolata* (Nees) : if, indeed, *P. pallida* be rightly reduced to *P. lanceolata* as Dr. Brandis suggests ('Forest Flora,' 377), probably the *Nanmu* can scarcely be maintained as distinct. It differs from *P. pallida* chiefly in stature, in the form of the ~~margin of the leaves, and the character of the indumentum.~~ For detail respecting the *Nanmu* timber, see 'Report of the Royal Gardens, Kew,' 1877, p. 33.—D. OLIVER.

Fig. 1. Unezpanded flower; 4he otitef segments are represented as rela^rely too short. 2. Section of flower. 3. Section of pistil.

---

PLATE 1317.

MODECCA ACULEATA, *Oliv.*

PASSIFLOEEJ., Tribe MODECCEA.

*M. aculeata*, *Oliv.*, *MSS. in Herb. Kew.* aphylla, caule scandente 5-gono, angulis incrassatis aculeis brevibus rectis creberrimis 1-seriatis instructis, fl. ^ secus rhachin inermem eloilgatam gracilem fasciculatis, penanthio lineari-oblongo, sepalis lineari-oblongis obtusis, petalis aequilongis angustioribus acutis membranaceis, coYona brevi lacera, glandulis globosis, filamentis basi coiinatis, antheris lineari-oblongis obtusis, n. ^ \$ masculo breviores petalis multo minoribus, ovario 3-gono basi et apice constricto, stigmatibus sessilibus cfttso umbraculiformi carnosobutuso.

HAB. Somali Land in equatorial Eastern Africa, *Dr. Kirk.*

*Caul%*8 crassitie pennsB anatinas, rigjdus, subgeniculatim flexuosus, sordide albidus, faciebus inter angulos\* obtusos suberosos aculciferos profunde exsculptis; aculei TV ad J. poll, loiigi, e basi Jata subulati, ngidj, pungentes. *Cirrhi* validi, lceves. *FoKa* in exemplaribus nostris oramno desuut. *FL* \$ rhachis 3-4-pollicaris, ut videtur erecta, ad



fasciilos florum in pinnis intumescens ; bracteolae in pinnis minatae, subulatae; flores gracile breviter pedicellati. *Perianthium* ♂-♀ poll, longum, sepalis concavis petalisque erectis; 2 magis campanulatum, masculo dimidio brevius, sepalis latioribus et petalis abbreviatis, staminodiis 5 subulatis. *Capsula* in rachis brevi aggregate, 3-gono-globosa, ♂ poll, diametro, pallida, laves, valvis tenuiter coriaceis. *Semina* parva, orbicularia, valde compressa, testa irregulariter impresso-punctata.

This is certainly a most remarkable species of *Modeeca*, if, indeed, it should not form a subgenus characterised by the habit and the curious entire large umbraculiform stigma, in which I see no trace of lobing. The female flowers I have not seen *in situ*, and cannot say whether they are seated on an elongated rachis like the males; the capsules are certainly aggregated on a short rachis, but the latter may be only a lower node of what was an elongate one. The prickles of the stem are unique in the genus ; they are confined to the thickened angles, which are uniformly corky.—J. D. HOOKER.

Fig. 1. Vertical section of ♂ flower. 2. Petal. 3. Stamen. 4. Vertical section of ♀ flower.—All enlarged.

---

PLATE 1318.

STELLULARIA NIGRICAENS, Benth.

SCROPHULARIACEAE, Tribe GERARDIEAE (BUCHNERIJS).

**Stellularia**, Benth., *gen. nov.* Calyx tubulosus, 7-8-nervis, dentatus v. breviter 4-fidus. Corolla tubus tenuis, rectus, limbus stellato-patens, subaequaliter 5-partitus, lobis undulatis vix levissime imbricatis (2 posticis interioribus?). Stamina 4, inclusa, didynama, filamentis brevibus ; anthers 1-loculares, dorso affixae, rima longitudinali dehiscentes, muticae. Stylus apice incrassatus stigmatosusque, indivisus; ovula in loculis numerosa. Capsula oblonga, corollae tubo marcescente inclusa, septo contrarie compressa, loculicida dehiscens. Semina numerosa (angulata), in specimenibus viz matura. Herba erecta, siccitate nigricans. Folia opposita, linearia. Flores in spica terminali sessilibus, singuli bractea bracteolisque stipati.

**S. nigrescens**, Benth. (*juvenile species?*).

HAB. West tropical Africa, Angola Expedition, Welwitsch, n. 5838.

Herba erecta, rigidula, ut juvenis annua et verisimiliter in radicibus semiparasitica, pilis brevibus conspersa, siccitate nigricans, ramis oppositis erectis. Folia sessilia, majora 1 pollicaria, fere 2 lin. lata, ramealia minora et angustiora, omnia integerrima scabro-puberula. Spica supra foliorum par ultimum breviter pedunculata?, dense, cylin-

draceffi, 1<sup>^</sup>-2-pollicares. *Bracteae* ovatae, ad 2 lin. longae, 4-fariam imbricatae, ciliate; bracteolae breviores, angustae. *Calyx* bracteatus. *Corollae* tubus calyce subduplo longior, limbi lobi stellato-patentes lineam longi.

In all essential characters, this plant appears to be very nearly allied to *Buchnera*, but in a considerable number of flowers examined I have always found the calyx 4-merous with a 5-merous corolla, and the peculiar stellulate limb of the corolla reminds one of a *Hanulea* or of *Selaginella*. Welwitsch's n. 5837 is either a variety of the same species or possibly a second species with very narrow linear leaves, the spike twice as long and not so dense, narrow bracts and rather more slender corollas, but here, as in the typical form, there is the same difference in the number of parts of the calyx and corolla.—G. BENTHAM.

Fig. 1. Flower, with the bract and bracteoles (the bract rather too small). 2. Corolla. 3. Calyx. 4. Corolla part open, showing the stamens. 5. Stamens. 6. Pistils, the ovary cut longitudinally, showing the ovules.

---

PLATE 1319.

LORANTHUS ATKINSONIAE, Benth.

LORANTHACEA.

*L. Atkinsoniae*, Benth., frutex terrestris 2-3-pedalis glaberrimus; foliis oppositis alternisve oblongo-lanceolatis obtusis basi angustatis; racemis axillaribus foliis brevioribus/ floribus tribracteatis, petalis liberis simplicibus 6 patentibus linearibus, fructu drupaceo, endocarpio lignoso intra sinus albinis longitudinaliter intraso.

*Atkinsonia ligustrina*, F. v. Mueller; Benth. *Fl. Austral.*, iii. 388.—*Nuytsia ligustrina*, A. Cunn.

HAB. Blue Mountains, New South Wales, Cunningham \ F. von Mueller! and others.

*Folia* simplicibus 1-1½ poll, longa, ½-J poll, lata, basi in petiolum brevem angustata. *Bractea* bracteolaeque subaequilongae lineari-lanceolatae ovario saepius breviores, plus minus recurvae. *Petala* \ poll, longa.

This plant, now reduced by Mr. Bentham to *Loranthus* Q Gen. Plant/ iii. 212), section *Gaiadendron*, requires a new specific name, *ligustrinus* being preoccupied by a well-known Indian species.—D. OLIVER.

1. Expanded flower. 2. Fetal and adnate stamen, and detached anther. 3. Transverse section of fruit. 4. Embryo, with its subequal cotyledons and remnant of suspensor.

## PLATE 1320.

LEPTOGONTM DOMINGENSE, *Benth.*

POLYGONACEJ, Tribe TRIPIARJDEZB.

*L. domingense*, *Benth. in Benth. et Hook. Gen. Pl.* iii. 104, *single species.*

HAB. Island of Santo Domingo, near Agna, San Joan, on edges of savannahs, *SchombiwgJc, n. 34 and 122.*

*Frutex arborescens v. arbor parva*, ramulis novellis ferrugineo-villosulis, defoliatis reliquiarnm ocrearum annulatis. *Folia* alterna, ad apices ramulorum conferta, vix petiolata, elliptico-oblonga, 2-3-pollinaria, acutiuscula v. obtusa, integerrima v. obscure sinuato-crenata, basi contracta, rigidula, pennivenia, Venis primariis parallelis valde prominulis, supra scabriuscula, subtus rufescentia ad venas puberula. *Ocrece* brevissimae, interdum ad anulum parum prominentem reductae. *Spices* tenues, in innovationibus brevibus ad apices ramulorum inter folia 2-5 pedunculo communi brevi affixes, graciles, erecti v. nutantes, pilis sericeis ferrugineis vestitae. *Flores* vix 2 lin. longi, sericeo-villosi, secus rachin spiro intra bracteolam brevem oblique cupulatam solitarii v. gemini. *Perianthium* anguste tubulosum, alte 6-fidum, lobis angustis, 3 majoribus exterioribus e bracteola exsertis, 3 alternis multo minoribus inclusis. *Stamina* 3, tubo inclusa, lobis minoribus opposita, filamentis brevibus. *Ovarium* globoso-3-gonum, 3-sulcum, loculo centrali parvo; stigmata 3, parva, erecta; ovulum ab apice funiculi erecti pendulum. *Fructus* ignotus.

This curious genus is in many respects allied to *Ruprecitia*, but the flowers are perfectly hermaphrodite, and the ovule suspended from an erect funicle is that of *Brunnicia*.—O. BENTHAM.

Fig. 1. Bracteole, enclosing the flower of which the three longer lobes protrude, and subtended by a small bract. 2. Bracteole further advanced, showing the enclosed flower. 3. Flower with a second bud or imperfect flower, the bracteole removed. 4. Flower opened out, showing the stamens' and ovary. 5. Stamens. 6. Ovary. 7. The same, longitudinal section showing the ovule and funicle.

## PLATE 1321.

OXYGONTJM ALATUM, *Burch.*

POLYGONACEA; Tribe EUPOLYQONEA:

*P. alatum*, *Burch. Travt i. 548*, annuum, papilloso-scabriusculum v. glabrum, foliis lanceolatis dentatis v. inciso-pinnatifidis, pedicellis 1-3-

nis bractea subduplo longioribus, perianthii fructiferi angulis membranaceo-alatis v. rarius medio cornutis.

HAB. South Africa; Griqualand, on or near the Sand river a smaU affluent of the Orange or Gariiep river, *BurcML, Zeyter*; and on the Orange river, probably in the same neighbourhood, *Barber*.

*OauUs* basi ramosi, tenues at rigidi, ascendentes, W pedaled >>\*• majora latiuscule lanceolata, lfe-2 pollicaria, irregulariter uicwo-pinna-tifida, in petiolum contracta, alia multo minora, angusta, deitata v. hinc inde integerrima. Oerete laxe turbinato, membranaceo-scarioso, truncate, margine setis nonnullis longiusculis raliatte v. nndae. Flores inferiores seepe axfflares, superiores in racemum longi interruptum aphyllum dispositi, pedicellis intra bracteas ocreiformes dissitas saepius generis filiformibus 2-3 lin. longis; masculinis; specimeni us p A pateri, perianthio fide Burchellii 4-fido; in floribus examin u t ui hermaphroditifl 5-fido, omnes parvi, perianthU lacinus vix hnea^ngw-ribus. *Perianthii fmeHferi* liAbus danrafl marceacens, tubus auctus 3-4 lin. longus, angulis 3 nunc in alam scanosam %2 bn. totem expansus, nuic rarits exalatus, medio v. supra medium dente v. cornu patente instructus.

Meissner, in De Candolle's *Prodromu*, xiv. 38,39, d \* ! f ^ t o \* JTM genera, *Oxyganwm* and *Geratogmm*, placed in two different triDes, Saving misunderstood Burchell's expression (in ^ d f ^ f ^ 1 ^ ; *gormm*) 'fructus 3-alatus,' which applied to the whole frmVnotto\_the enclosed achtenium. The other character, the angles of ^e frurtmg perianth winged or toothed only, falls to the ground, as both forms are sometime! seen on the same specimen in *O.alatum-*, the form represented in the plate, fig. 2, is very rare. When the tooth or horn is prominent, it is usually below the middle, and sometimes it is con-tinned both above and below into a narrow wing.—&. BBNTHAM.

Fig. 1. Hermaphrodite flower. 2. IVnit with toothed ««!««. 3. JW t with wimjtd angles. The perianth-limb remain\*,long attached, as in the winged fruit represented still attached to the raceme.

ELATE 1322.

DIMORPHOCHLAMYS JffANNII, *Hook. f.*

CUCURBITACEJS, Tribe CUCUMERINBJE.

D. Mannii, *Hook. f. in Bmth. et Book. Gen. PL* i. 827; *Oliv. Fl. Trop. Afr.* ii. 550.

HAB. Western tropical Africa; Fernando ^Vogel, Mann; Old Calabar river and Ambas Bay, *Mann, Bev. W. G. Thomson*.

**Dioica.** *Caulis* gracilis, scandens, 8-15-pedalis, angulatus, firmus. *Folia* 3-5 poll, longa, petiolata, rigide coriacea, late ovato- v. rotundato-cordata, acuminata, denticulata, utrinque scabrida, subtus reticulatim venosa, pinna basilari aperta; petiolo 1-f-pollicari. *Cirri* simplices r. 2-fidi. *Flores* dimorphi; ♂ ad axillas fasciculati, pedicello (calycisque tubo) in alam obovato-cuneiformem membranaceam reticulatim venosam dilatato; bracteolae parvae, recurvae. *Calyx* 5-lobus, lobis 5 ovatis, acutis, dorso breviter alatis. *Corolla* campanulata, pollicaris; segmenta 5, ovato-oblonga, acuta, extus furfuracea. *Filamenta* 3, libera, antherae connatae v. demum libera, una 1-locularis, duo 2-loculares, loculis linearibus conduplicatis. *Fl.* ♂ solitarii, parvi, pedicellis non alatis. *Calycis* limbus supra ovarium breviter productus; segmenta 5, linearia, patentia, persistentia, demum decrescentia et fructum coronantia. *Corolla* 5-partita, segmentis oblongis extus furfuraceis. *Staminodia* 0. *Ovarium* ellipsoideum, furfuraceum; stylus columnaris, stigmatibus 3 peltatis globosis; placenta 3, multiovulata. *Bacca* globosa, 2-3 poll, diam., calycis segmentis elongatis rigidis loriformibus pericarpio duro granulato appressis coronata, polysperma. *Semina* magna, pollicaria, oblongo-quadrata, crassa, granulata, utrinque appendiculata et dentata, faucibus planiusculis sulco intramarginali quadrato insculptis, lateribus convexiusculis marginatis; cotyledones crasse.—  
J. D. HOOKER.

A very singular genus, allied to *Cephalandra*, remarkable for the winged pedicel and calyx of the male flower, and the more singular calyx of the female, which enlarges greatly after flowering, and is persistent in the ripe fruit, a character probably unique in the order.

Fig. 1. Calyx of ♂. 2. Stamens. 3. ♀ flower. 4. Fruit. 5. Seeds.—Figs. 1 and 2 enlarged.

---

PLATE 1323.

ABEOPHYLLUM ORNANS, Hook.f.

SAXIFRAGES, Tribe ESCALLONIEAE.

*A. ornans*, Book. 1. in Benth. et Hook. Gen. Plant, i. 647; Benih. Fl. Austral, ii. 437.—*Brachynoma ornans*, F. Muell. Fragmenta, iii. 90.

**HAB.** New South Wales; banks of the Grose river, Brown; Mount Tomah, Blue Mountains, A. and E. Cunningham; Richmond river, near Ballena, C. Moore.

*Frutex* ramulis gracilibus \* petiolis nervis subtus cymisque pube appresse hirsutulis. *Folia* 6-12-pollicaria, membranacea, gracile petiolata, elliptico-lanceolata, acuminata, basi attenuata, remote dentata, dentibus apiculatis, supra et subtus nervis exceptis glaberrima, petiolo

1-2-pollicari; stipulre 0. *Cynice* pedunculate, irregulariter ramosce. *Floras* pedicellati, £ poll. diam. *Sepala* 4-6, decidua. *Petala* 4-6, ovata, patula, decidua, aestivatieme valvata. *Stamina* 4-6, marginis disci inconspicui inserta, filamentis brevissimis; anther© magnse, petala subasquantas. *Ovariwn* basi lata sessile, ovoideo-oblongum, 4-5-loculare; stigma sessile, 4-5-lobum; ovala in loculis numerosa. *Bacca* pisiformis. *Semina* minuta, testa punctata.

As stated by Bentham in the 'Flora Australiensis,' I had described this genus under the above name for the 'Genera Plantarum' (and with the specific name of *Ounninghamii*) before the arrival at Kew of the third volume of Mueller's 'Fragmenta,' wherein I found it described (all but the fruit) as *Brachynema ornata*; and the name *Brachynema* being preoccupied, I was compelled to adopt my own generic name, and my friend Mueller's specific one. It is interesting to find that this curious plant had not escaped Brown's keen observation; specimens of it are contained in his Herbarium, collected seventy years ago, during half a century of which they, together with the rest of his magnificent collections, were jealously closed to botanists. The fruit, which in Cunningham's specimens appears to be oblong, is in Brown's distinctly globose.—J. D. HOOKER.

Fig. 1. Flower. 2. Stamens. 3. Calyx and ovary. 4. Berry. 5. Transverse section of berry.—All but fig. 4 enlarged.

PLATE 1324.

PHACELLAKIA **RIGIDULA**, Benth.

SANTALACEÆ, Tribe OSYRIDEJÆ.

*P. rigidula*, Benth. in Benth. et Hook. Gw. PL iii. 229, caulibus teretibus rigidulis ramosis.

HAB. East India; Mergni, Griffith.

*Fruticulus* in *Lorantho* quodam parasitens, caulibus dense fasciculatis teretibus ramosis rigidulis 3-5-pollicaribus, i lin. v. majoribus vix 1 lin. crassis glabris aphyllis. *Squamæ* Uce ad nodos alternas, minutas dentiformes v. vix prominentes. *Flores* ad nodos secus ramos sparsi, solitarii v. fasciculati, sessiles, masculi subglobosi ^ lin. diametro, foeminei ovoidei, demum lineam longi. *Perianthii* tubus in flore masculo solidus, in foemineo ovario adnatus, lobi 4 v. 5, usque ad discum soluti, breves, crassi, aestivatione valvati. *Stamina* 4 v. 5, basi loborum affixa usque breviora, filamentis brevissimis, crassis; anther© terminales, loculis distinctis divaricatis longitudinaliter debiscentibus. *Discus* subplanus, inter stamina v. inter lobos perianthii angulatus.

*Ovarium* inferum, 1-locularo; stylus brevissimus, crassiusculus, stigmate integro discoideo; placenta in centro loculi brevis, erecta, ovulis 3 ab apice pendulis. *Fructus* junior ovoideo-oblongus; maturus adhuc non visus.

This curious parasite, with the habit of some of the leafless *Visca*, has nevertheless all the characters of a *Santalacea*, where its nearest affinity appears to be with the Australian *Leptomeria*.—Q. BENTHAM.

Fig. 1. Male flower, seen from above. 2. One of the lobes with the stamen at its base. 3. Female flower. 4. The same, longitudinal section showing the ovary-cell and placenta, with two of the ovules.

---

PLATE 1325.

ABAGOA LYCOPODIOIDES, *Benth*

SCROPHULARIACEJE, Tribe DIGITALS\*!

**A. lycopodioides**, *Benth sp. nov.* ramulis lanatis, foliis glabris lobulatis trigonis carinatisve acutiusculis incurvo-imbricatis, calycis lobis ovato-ellipticis margine apicem versus lanatis, corollae fauce villosa.

HAB. New Granada, *Purdie!* Ocaña, *Schlim!* Kalbreyer!

*Frutex* pyramidalis, 3-6-pedalis, ramosissimus, ramulis teretibus confertis lanatis. *Folia* 1-1<sup>1</sup>/<sub>2</sub> lin. longa multifariam imbricata. *Flores* breviter pedicellati v. subsessiles ^ poll. diam. *Calyx* foliolis concavis coriaceis dorso glabris. *Corolla* rotata, alba, lobis obovatis obtusis, margine glabris. *Stamina* ezserta. *Capsula* ovoidea calycem aequans y. superans stylo filiformi persistente coronata.

Differs from *A. abietina* in the lanate branches, much shorter leaves and villous throat of corolla; from *A. cupressina* in the narrow trigonous or keeled leaves, which are not closely appressed as in that species.—D. OLIVER.

Fig. 1. Expanded flower. 2. Stamen. 3. Section of calyx, showing pistil. 4. Calyx and capsule. 5. Portion of ultimate twig.

# ICONES PLANTARUM.

PLATE 1326.

LANESSANIA TUKBINATA, *Bailh*

URTICACEJE, Tuibe ARTOCARPEJE.

*L. tmbinata*, *Baill. Adans.* xi. 298.

HAB. North Brasil, in the Capoeiras at Barra do Rio Negro, where it is known under the name of *Murwró*, *Spruce, n.* 1825.

*Arbor* 20-pedalis, ramulis petiolis venis paginre inferioris foliorum receptaculisque torn en to brevi rufescentibus, succo lacteo sordido. *Folia* alterna, breviter petiolata, elliptico-oblonga, breviter et anguste acuminata, basi rotwidata, coriacea, supra glabra lasviuscula penniveuia, venis primariis et rete venularufn subtus prominentibus, 3-5 poll, longa, 2-2i poll, lata; stipulse parvaB, caducas. *Rer&ptacua* ad nodos interiores ramuli hornotini in axillis solitaria, pedicello petiolum vix excedente mox recurvo fulta, anpúste turbinata v. obpyramidata, 5-6 lin. longa, carnosuia, in vivo basi fulva superne pallida. *Bracte*ce circa marginem receptaculi fere tuberculiftrmes, obHcure 2-3-Reriata?. *Flares* \$ numerosi, apicem explanatnm rceptaculi obtegfntes, arcto conferti, basi subcónnati. *Perianthium* tuWuloPum, carnosulum, brevissime obtuseque 3-4-fidum. \* *Stamina* 2, rarius 3, filamentis inclusis rectis crassis; antherea parvae, loculis adnatis. *Ovarii* rndimentum 0 y. minute subulatum. *Flns*>\$ in centfo receptaculi unicus. *Feria*)i-thium a receptactilo carnosu hand distinctum, caualem centralem rffi-ciens. *Oyariuin* in fundo receptaculi inferum; stylus intra caialem liber, apice exsertus, ramis stigmatosis elongatis; ovulum ex' apice loculi penduluxn.

The fruit of this species is unknown, but specimens of what would appear from the foliage and inflorescence to bê a nearly allied congener



have small globular succulent fruits, not yet ripe. They were gathered by Spruce in the Managuiry-gapo, at the mouth of the Soimoes, from a shrub known to the natives by the name of *Caimbé*, and distributed with the n. 1635. Being passed flower, they cannot be named or properly described.—G. BENTHAM.

Fig. 1. Fleshy receptacle, vertical section. 2. A male flower, cut open.

---

PLATE 1327.

SCYPHOSYCB MANNIANA, *Baill*

URTICACEJ.; Tribe ARTOCARPEJE.

*S. Manniana*, *Baill Adans.* xi. 293.

HAB. West tropical Africa, Sierra del Crystal, *Q. Mann*, n. 1727.

*Frutex* humilis, caule simplici 67-O-pollicari tomento brevi fusco vestito. *Folia* alterna, breviter petiolata, elliptico-oblonga, acuminata, infra medium angustiora, membranacea v. chartacea, integerrima v. obscure denticulata, pennivenia, glabra y. snbtus ad venas parce scabro-puberula, 3-5 poll, longa. *Stipulce* liber© angustod. *Receptacula* in axillis superioribns solitaria, pedicello petiolum breviter snperante fulta, tubuloso-cupulata, 1£ lin. longa, basi florifera carnosnla, parte snperTore v. limbo cupulato membranacea, margine breviter 4-5-loba. *JFlores* £ in fundo receptaculi pluri-seriati, apice exserti. *Perianthium* anguste tubulosum, obtuse minuteque 2-4-dentatum. *Stamen* 1, filamento recto; anthera obloDga, erecta, exserta. *Ovarii* rudimentnm 0. *Flos* \$ in centro receptaculi unicus. *Perianthium* e segmentis 2 distinctis latis uno alterum pistillumque involvente, perianthio masculo sequilongum. *Ovarium* superum, sessile; stylus snbulatus, primum centralis, demum fere lateralis, ramis stigmatis ezsertis subfiliformibus; ovulum apice oblique affixum, pendulum. *Fructus* junior ovoideo-globosus, nitidus, receptaculi limbo deciduo denudatus, reliquiis florum masculorum cinctur.

This interesting plant, allied in some respects to *Bosquiea* of Thouars, is described on the collector's label as herbaceous, probably from its small stature; for the stem, though simple and often not even six inches high above the rooting base, appears certainly perennial and woody in the lower portion.—G. BENTHAM.

Fig. 1. Head of flowers, vertical section, showing the fleshy base of the receptacle and several male flowers with the central female one, the two Derianth segments opened out and partially cut away to show the ovary and style. ~2«. Male flowir. 2b. Stamen.

---

PLATE 1328.

BRUNNICHIA AFRICANA, Welw.

POLYGONACEAE, Tribe COCCOLOBEJ.

**B. africana**, Weluritsch in *Trans. Linn. Soc.* xxvii. 61, scandens, ramulis striatis puberulis, foliis ellipticis apiculatis basi cuneatis subrotundatisve petiolatis, cirrhis axillaribus apice bifidis, floribus fasciculatis in racemis simplicibus terminalibus dispositis, pedicellis plano-compressis fructiferis accrescentibus bialatis alia subcequilatis fere ad basin pedicelli decurrentibus.

HAB. Golungo Alto, Angola, *Dr. Welwitsch!*

*Frutex* gracilis, ramulis patentibus, late scandens. *Folia* 2J-3J poll, longa, 1<sup>^</sup>-2 poll, lata, membranacea; petiolus ±<sup>^</sup> poll, longus. *Cirrhii* graciles folio longiores. *Racemi* 1-2 ped. longi, fructiferi pedales, glanduloso-puberuli; bractes 2-5-flores. *Fructus* ovoidens costulatus perianthii lobis persistentibus coronatus; pedicelli fructiferi 2-3 poll, longi; alee 1<sup>^</sup> lin. latea.

Fully described by Dr. Welwitsch (*I.e.*). Differs from *B. cirrhosa* in the form of the leaves, and more especially in the long winged pedicel, the wings nearly equal on each side, not confined to one side or nearly so, as in *B. cirrhosa*.—D. OLIVER.

Fig. 1. Flower. 2. Same laid open and enlarged. 3. Stamens. 4. Fruit and nate pedicel.

PLATE 1329.

ROSA ECHE, *Aitchison*.

ROSACEAE, § ROSEAE.

**Rosa Eche**, *Aitchison in Journ. Linn. Soc. Bot.* xviii. 54, humilis aculeatissima, aculeis homomorphis rectis rigidis patentibus basi plus minus dilatata, foliis parvis 5-7(-9)-foliolatis parce glandulosis, junioribus antris solitariis pedunculatis, fractu globoso glabro nitido calycis laciniis reflexis coronato.

HAB. A common and characteristic shrub from Habibkalla to Alikli el, Afghanistan, forming with *Amygdalum eburnea* the greater part of the scrub on the stony ridges of the Hariab district.

*Frutex* erectus 3-4-pedalis, ramosus; ramis gracilibus glabris junioribus ruberrimis; aculeis in raris floriferis confertis 1<sup>^</sup>-1<sup>^</sup> poll, longis. *Folia* 1<sup>^</sup>-1<sup>^</sup> poll, longa; foliola obovate v. elliptica serrata glabrata v. subtus parce glandulosa; stipule parvas. *Flores* j-1 poll.

diam.; pedunculi £-§ poll, longi, glabrati; calycis segmenta oblongo-lanceolata indivisa vel apicem versus denticulata intus plus minus albedo-sericea. *Fructus* £-£ poll, diametro; achenia glabrata, stylis persistentibus villosissimis.

The characters of this very interesting yellow Rose are chiefly taken from Dr. Aitchison's paper cited above, with the specimens before me.—D. OLIVER.

---

PLATE 1330.

PENIANTHUS LONGIFOLIUS, *Mien, fl. 8.*

MENISPEBMACEJE.

*F. longifolius*, *Miers in Ann. Nat. Hist. ser. iii. xiii. 124; Contrib. Bot. iii. 372, 1.149.* Frutex glaber; foliis obovato-ellipticis obtusiuscule acuminatis basi saepe plus minus cuneatis longe petiolatis, floribus § in glomerulis subglobosis multifloris sessilibus v. breviter pedunculatis confertis, perianthii segmentis liberis 6 v. 5 obovatis biseriatis, exterioribus paullo brevioribus, staminibus liberis 6 v. 5, filamentis leviter superne dilatatis, antheris bilocularibus longitudinaliter dehiscentibus perianthio subbrevioribus.

HAB. Camaroon Mountains, 500 feet. (Fl. §, Fernando Po). *Gwtav Mann.*

*Folia* tenuiter coriacea 5-7 poll, longa, 2-3 poll, lata, petiolo ad 2 poll, longus sulcatus supra canaliculatus, apice incrassatus. *Glomeruli floriferi* £-£ poll. diam.

The female flowers are described by Mr. Miers (*Contrib. I.e.*), and in 'Flora of Tropical Africa' i. 50. The specimens now described, bearing staminate flowers, had been sorted away in Artocarperia, and so were not at hand when I described the plant in 1868.—D. OLIVER.

Fig. 1. Detached flower. 2. Stamen and opposed inner perianth-segment.

---

PLATE 1331.

CEPHALANTHUS NATALENSIS, *Oliv.*

RufiAGEJE, Tribe NAUCLEEJE.

*C. natalensis*, *Oliver, sp. n.*, ramosissimus, ramulis ultimis pinnatis, foliis ovatis v. ovato-ellipticis breviter acuminatis acutis v. obtusiusculis glabris v. costa subtus petioloque pinnatis, capitulis terminalibus

breviter pedunculatis, calycis limbo supra ovarium producto obtuse dentato, corolla tubulosa superne inf undibuliforme dilatata.

HAB. Natal, *Gerrard* (1495); Transvaal, *Dr. Atherstone*.

*Folia* | - 1 ^ poll, longa, tenuiter coriacea, rete venularum inconspicuo; petiolus 1 lin. longus. *Capitula* globosa florifera 1 poll. diam.; pedunculus ^-J poll, longus, pubescens. *Corolla* £ poll, longa, tubo iuferne gracili fere glabro, ore saepe leviter obliquo. *Antliera* vix exserta lineari-oblong© mucronulatae. *Stylus* longiuscule exsertus, apice clavatus.

The fruit-heads are said to become sufficiently succulent to be edible.—D. OLIVER.

Fig. 1. Detached flower. 2. Longitudinal section of ovary and calyx-tube.

---

PLATE 1332.

CABMICHAELIA KIRKII.

LEGUMINOS£, Tribe GALEGEJS.

*C. Kirkii*, *Hook.f. n. sp.*; sparse pilosa, ramis gracillimis cylindraceutis sulcatis, foliis 3-5-folioiatis, foliolis orbiculari-obcordatis, racemis 8-5-tioris, floribus ^ poll, longis, longe pedicellatis, legumine ellipsoideo turgido longe rostrato.

HAB. NEW ZEALAND : Otago,prov.,in tfeeCardronaValley, *T. Kirk*; Otapopo, *M. Petrie*.

Laxe ramosa, ramis ramulisque spareis divaricatis, ramulis petiolisque tenuiter sericeis v. pilosulis. *Folia* sparsa, petiolo cum rachi ^-1 poll, longo, foliolis ^-^ poll, longis glaberrimis sinu acuto lobis rotundatis. *Pednnculi* foliis aoqailongi v. breviores gracillimis floribus pedicellatis, braoteolis ciliatis. *Calyx* campunulatus, glabratus, dentibus intus sericeis acutis. *Vexillum* orbicularef2-lobum ; carina falcata alis spathulatis brevior. *Ovarium* glaberrimuui. *Lcgumen* \ poll, longura, rostro valido recto pungente 2 -spermo, valves obscure reticulatis, reple crasso lato tvi.

This differs from all (he described species of *OarmicJiaelia* in the very slender habit, cylindric lax spreading almost filiform branches, large flowers and long beaked pod. It forms the tenth species of a genus long supposed to be pecnliar to New Zealand, but of which one species has been found in Lord Howe's Island, the vegetation of which, as indicated by its position, shows the characters of those of Australia and New Zealand. I have named it after Mr. Thomas Kirk, F.L.S., of

Wellington, New Zealand, its discoverer, who, with Mr. Gheesman, of Auckland, have added more to our knowledge of the New Zealand Flora than any botanists of late years.—J. D. HOOKER.

Fig. 1. Flower. 2. Wing. 3. Ovary. 4. Seed. 5 and 6. Embryo. All enlarged.

---

PLATE 1333.

EEYTHBOSPERMUM POLYANDRUM, *Oliv.*

BIXINEÆ.

*E. polyandrum*, *Oliver*, *sp. ft.*, glaberrimum, foliis oblongis v. ovali-oblongis breviter acuminatis basi obtusis subintegerrimis petiolatis, loricibus polygamis racemosis racemis terminalibus v. in axillis superioribus approximatis, pedicellis solitariis geminis ternisve basi bracteolatis, staminibus circ. 15 nriseriatibus, ovario oblongo-ovoideo superne angustato, stigmate 4-fido.

**HAB.** Samoa, *Rev. T. Powell*

*Arbor* nunc videtur glaberrima, ramulis teretibus levisque. *Folia* tenniter coriacea 6-9 poll, longa, 2-3<sup>^</sup> poll, lata; petioli <sup>^</sup>-J poll, longi. *Racemi* 6 poll, longi pedunculati; pedicelli <sup>^</sup>-§ poll, longi. *Flores* J poll, lati; sepala rotundata v. obovato-rotundata concava imbricata petalis paullo breviora; petala obovata inappendiculata. Stamina libera 15-16 glabra, filamentis subnatis crassiusculis, antheris longitudinaliter dehiscentibus oblongis v. lanceolato-oblongis reerivis basi sagittatis, connectivo incrassato. *Ovarium* glabrum; ovula indefinite, placentibus 4.

We have young specimens of probably the same plant from Samoa, sent by Rev. Mr. Whitmee.—D. OLIVER.

Fig. 1. Bud. 2. Flower. 3. Stamens. 4. Pistil. 5. Transverse section of ovary.

---

PLATE 1334.

LANIUM MICROPHYLLUM, *Lindl.*

ORCHIDEA, Tribe EPIDENDREJE (Stenoglossæ).

*L. microphyllum*, *Lindl. MS.*, canibus brevibus non incrassatis foliosis, foliis distichis angustis carnosissimis, racemo simplici.—*Epidendrum* (*Lanium*) *microphyllum* *Lindl. in Hook. Journ. Bot. iii. 85.*

**HAB.** British Guiana, *Schomburgk*. Surinam, *Hostmann*, n. 626.

*Rhizoma* v. candex reptans radicans, vaginis brevibus laxis obtectum. *Caules* absque inflorescentia 1-2-pollicares, carnosuli at non in pseudobulbas incrassati. *Folia* 4-8, alterna, disticha, in vaginis sessilia, recurvo-patentia, crassa, fere 3-quetra, acuta, semipollicaria. *Racemus* terminalis, simplex cum peduncalo 1-2 $\frac{1}{2}$  poll, longus, tomento minuto pallescens. *Flores* subsecundi, parvuli, viridi-purpurascens, pedicellis peiianthiobrevioribus v. panllo longioribus, bractea brevioribus. *Perianthii* segmenta ad 2J lin. longa, patentia; sepalum posticum lineari-lanceolatum subincurvum, lateralia panllo latiora basi columnae tubobreviter adnata; petala sepalo postico paulo angustiora. *Columna* brevis, marginibus membranaceis cum labelli basi in tubum connatis. *Labelli* lamina sepalis 89qnilonga, erecto-patens, late lanceolata, concava, acuta, indivisa, basi secus lineam centram 2-lamellata. *Antherarum* loculi septo transverso 2-locellati. *Pollinia* 4, in locellis antherae segregata, inferiora longiuscule, superiora brevius, acuminata, apicibus visco perparco connexis.

This, and the species illustrated in the following plate, form a very distinct group of Orchideae which Lindley had originally intended to establish as a genus, but which he finally (induced probably by the union of the base of the labellum with the column) entered as a section or subgenus of *Epidendrum*. The pollinary apparatus is, however, as observed by Focke, so totally different from that of *Epidendrum* that it was impossible to retain the two species in that genus without doing violence to its character. It is in fact very nearly allied to that of the Liparideae, but upon the whole the genus seems best placed in our subtribe Stenoglosse.—G. BENTHAM.

Fig. 1. flower, magnified. 2. Labellum and column (without the anther) seen from above. 3. Anther-case, showing the four locelli. 4. The two pollen-masses of one cell.

---

PLATE 1885.

LANIUM AVICUBA, *Umdl.*

ORCHIDEAE, Tribe EPIDENDREAE (Stenoglosseae).

*L. Avicula*, *Lindl. M8.*, caulibus pseudobulbosis apice 2-foliatis, foliis in pseudobulbo sessilibus planis ovatis, panicula ramosa.—*Epidendrum* (*Lanium*) *Avicula*, *Lindl. in Hook Journ. Bot. iii. 85.*

HAB. Brasil, Organ Mountains, growing in dense tufts on the stems and branches of trees, *Gardner, n. 625.*

*Caules* in pseudobulbum ovoideo-globosum - semipollicarem foliis 2 coronatum incrassati, basi squamis 1-2 latis brevibus vaginati.

*Folia* sessilia ovata, patentia,  $\wedge$ -1-pollicaria, plana, carnosula. # *Pedunculus* inter folia terminalis, cum inflorescentia 3-4-pollicaris, in ramos paucos divisus, paniculam laxè pyramidatam formans. *Flores* iis *L. microphylli* similes nisi paullo majores pedicellis 3 sublongioribus; bracteis minimis. *Perianthii* segmenta et labellum omnino *L. microphylli*. *Anthera* eadem excepto septo loculos dividente obliquo nee transverso, et polliniorum aenamina minus inaequalia, et (saltem in floribus examinatis) libera nee visco connexa.—G. BENTHAM.

Fig. 1. Flower, magnified. 2. Anther-case with three of the pollen-masses still in it. 3. Two pollen-inlets.

---

PLATE 1336.

THESPESIA DAMIS, *Oliv.*

MALVACEJ., Tribe HibiscE.fi.

*T. Lanis*, *Oliver, sp. nov.* — Prætex v. arbuscula, ramulis ultimis teretibus parce lepidotis, foliis rotundatis integris apice interdum apiculatis basi cordatis v. late truncatis, parce v. præcipue in petiolo lepidotis, pedunculis axillaribus 1-2 pollicaribus, calyce turbinato-campanulato truncato lepidoto, bracteis 3 ovato-lanceolatis patentibus, floribus 1|-2 poll. diam., petalis obovato-cuneatis dorso medio lepidotis, ovario 8-loculari, fructu ut videtur baccato v. tarde dehiscente.

**HAB.** Bibe, Nyika country, East tropical Africa; also in the Galla country, where it is held as 'sacred' and called 'Dānis.'—*Itev. T. Wakefield.*

*Folia* 2 $\wedge$ -3i poll, lata, submembranacea; petiolus  $\wedge$ -1 $\wedge$  poll, longus. *Bracteis*  $\wedge$ -f poll, longae. *Fructus* subglobosus  $\S$ -1 poll. diam.

To the same species, I take it, must be referred specimens sent home by Dr. Kirk and Hildebrandt (Nox1929) from the Zanzibar coast. Hildebrandt's specimens a-e remarkable from their large bracteis, about 1 inch in length, but they seem to be variable in Mr. Wakefield's specimens. An allied plant, much more lepidote and with broad bracteis, Dr. Kirk sent from the Somali coast, probably a variety of the same.—D. OLIVER.

Fig. 1. Calyx and bracteis. 2. Anthers. 3. Stigma. 4. Transverse section of ovary.

---

PLATE 1337.

MICBONYCHIA MADAGASCABIENSIS, *Oliv.*

ANACARDIACEA

*Micronychia*, *Oliver, gen. nov.*—Flores polygarai. Calyx parvns 5-partitns. Petala 5 ovato-oblonga calyce multo longiora, sestivatione imbricata. Stamina (in fl. g) 5, petalis alterna, disco hypogyno exteriora. Ovarium glabrum lateraliter compressum, obliquum; stylo ovario sequilongo apice breviter trifido, stigmatibus obtusis; ovulum solitarium prope apicem cavitatis pendulum. Fruct. . . —*Arbor* v. *frutex*? ramulis ultimis ferrugineo-hirtis, foliis alternis simplicibus petiolatis exstipulatis; panicalis multifloris folio longioribus arete deflexis ramulis lateralibus alternis patentibus. *Flores* pedicellati penduli.

*M. madagascariensis*, *Oliv. sp. n. Single species.*

HAB. Tanala, Madagascar, *Langley Kitching.*

*Folia* ovali- v. oblanceolato-oblonga obtusa v. obtusiuscule acuminata, coriacea, supra glabra subtus in costa et in venulis primariis prominentibus hirtella, 1-4 poll, longa, f-1½ poll, lata; petiolus hirtus ½-1 poll, longus. Paniculas sessiles ferrugineo-hirtae, ramulis divaricatis bracteatis, bracteis linearibus appressis; pedicelli dependentes 1-2 lin. lodigi, bracteolis minutis. *Flores* ½ poll, longi. *Calyx* hirsutus. *Petala*, (sicco rubiginosa) dorso minute pubescentia.—D. OLIVER.

Fig. 1. Flower. 2. Same, the petals removed. 3. Anthers. 4. Style and stigmas. 5. Vertical section of ovary.

PLATE 1338.

GAMBLEA CILIATA, *O. B. Clarke.*

ARALIACEJ., Tribe HEDEREJ.:

*Gamblea*, *C. B. Clarke in Hook. f. Fl. Brit. Lid. ii. 739.*—Flores polygami, ebracteati. *Cahjcis* margo brevissimus. *Petala* 5, valvata. *Stamina* 5. *Ovarium*. 3-5-loculare; styli 3-5 usque ad dimidiam partem coadunati. *Fructus* globosus, troventu glaber, 3-5-ocularis. *Semina* baud compressa; albumen leviter ruminatum, fere ut in *Hedera*.—*Arbor* 30-pedalis, inermis. *Folia* digitata 5-3-(vel 1-) ioliolata; stipalae intrapetiolaes; foliola oblanceolata (solitaria interdum cordata), acuminata, integra supra acabride pilosa, in marginibus argute setoso-ciliata; potioluli rubiginoso-villosi. *Umbellitli* in parvis paniculis dispositi; pedicelli puberuli baud aKticulati.



HIMALAYA, alt. 10-12,000 feet, on the ridge dividing Nepal from Sikkim; from ToDglo to Jongri.

The flowering specimens of this tree which Sir J. D. Hooker collected in 1850 were communicated to Professor Decaisne; but he did not take them up, because without fruit the place of the tree in the Order could not be determined. Examples in fruit have been lately received from J. S. Gamble, Esq., of the Indian Forest Department, and the genus established thereon has been named after him. The tree is plentiful on the ridge dividing Nepal from Sikkim, in the region of *Rhododendron Falconeri*, but has not yet been communicated from any other locality.—G. B. CLARKE.

Fig. 1. Flower, potato removed. 2. Fetal. 3. Fruit. 4. Seed. 5. Vertical section of same.

---

PLATE 1339.

AMPHIDOXIA GNAPHALODES, B.C.

COMPOSITE, Tribe GNAPHALHLS.

**A. gnaphalodes**, DC. *Prodr.* vi. 246; Harvey and Bonder, *Flora Capensis*, iii. 263.

HAB. Gape Colony, near Uitenhage, *EcJdon*; Port Elizabeth, Zeyher; Natal, / . M. Wood.

*Herba* facies Gnaphalii, decumbens lanata. *Folia* anguste lineari-spathulata appresse v. tegniter lanata 1-nervia, sessilia subamplexicaulia, ad 1| poll, longa. *Capitula* 1<sup>^</sup>-2 lin. diam. in cymis parvis gracile pedunculatis disposita; involucri squamis interioribus stramineis albidisve obtusiusculis v. subacutis flores superantibus; receptaculum nudum. *Flores* § graciles ore minute 3-dentati; 9 tubulosi superne param ampliati 5-dentati; pappi setffi ad 5 caducis apice tantum barbellata. *Antherce* basi minute papillosae. *Achcenia* oblonga subteretia punctata.—D. OLIVER.

Fig. 1. Female flower. 2. Hermaphrodite floret. 3. Anthers. 4. Stigmas.

---

PLATE 1340.

PENTZIA PINNATIFIDA, Oliv.

COMPOSITE, Tribe ANTHEMIDEÆ.

**P. pinnatifida**, Oliver, *sp. n.*; caulibus simplicibus e basi lignoso ascendentibus longitudinaliter striatis laxè pilosis, foliis pinnatipartitis,

segmentis ntrinque 1-3 anguste linearibus apice subulatim terminatis marginibus plus minus revolutis, corymbis terminalibus polycephalis, capitulis campanulatis pedunculatis, bracteis interioribus lineari-oblongis margine scariosis apice denliculatis basi incrassatis, achflaniis longitudinaliter striatis pappo cupuliformi dentato coronatis.

HAB. Inanda, Natal, *Mr. J. M. Wood.*

*Gaulis* f-1j ped., simplices, foliosi. *Folia* sursum gradatim minora alterna v. 2-3-approximata, -§-1 poll, longa, segmentis angustis, primm pilosa. *Capitula* £ poll, diametro, pedunculata, pedunculis inferioribus longioribus pilosulis tomentosive, £-1 poll, longis; bractee inferioreB parvaB pinnatiuectffi. *Involucrum* bracteis pauciseriatis, arete appressis; receptaculum nudum. *Corolla* parce glandulosa, limbo campanulato 5-fido.—D. OLIVER.

Fig. 1. Capitulum. 2. Inner scale of involucre. 3. Floret, with enlarged upper portion of ovary. 4. Style and stigmas.

---

PLATE 1341.

COURTOISIA CYPEROIDES, *Nees.*

CYPERACE<sup>^</sup> Tribe SCIRPEJ;.

**C. cyperoides**, *Nees in Linncea*, ix. 286; *Boeckl. in Linncea*, xxxv. 434.

HAB. East India, in marshy wet places, in the Peninsula and in **Bengal.**

*Caulis* effispitosi, 1«-2-pedales, glabri, prope basin foliis 2-3 longis angustis flaccidis instructi. *Inflorescentia* terminalis, umbelliformiff, radiis numerosis valde inequalibus, exterioribus 2-3-pollicaribus umbel lulampleiocephalam ferentibus, intimis brevissimis 1-cephalis, intermediis pluribus. *Bracteae* 3-4, exteriores sub umbella foliaciso inoequales, longiores seBpe semipedales, sub umbellulis breves, sub capitulis brevissimae. *Spiculus* numerose, in capitulis globosis radia# nmbellffi v. umbellulee terminantes sessiles, bracteolis parvis subtenses,\* smgulaa plano-compressee, cum alis glumarusi ovatsB v. demum orbiculares, 1^ lin. diametro. *Glumae* 2, naviculares, carina dorso latiuscule alata. *Flos* unicus hermaphroditus addito rarius altero parvo imperfecto. *Setae* hypogynaB 0. *Stamina* 3. ^*Stylus* cum ovario continuus, basi hand incrassatus, deciduus, raznis stigmatosis 3 filiformibus. *Nux glumis* inclusa quibuscum decidua, oblongo-fusififormis, acute 3-quetra, basi apiceque acuta, erostris.—G. BENTHAM.

Fig. 1. Spikelet.- 2. Flower. 3/Cross-sectionoftof the spikelet.

---

## PLATE 1342.

EBIOSPORA PILOSA, *Benth.*

CYPERACEAE, Tribe SCLERIEAE.

**E. pilosa**, *Benth. MS.*—*Trilepis pilosa*, *Boeckel. in Linnaea*, xxxix. 10.

HAB. West tropical Africa. On high rocks where water stands during the rains at Nupe on the Niger, *Butler, n.* 1560.

*Bhissoma* longe repens, vaginis imbricatis foliorum vetustiorum dense obtectum. *Caulee* erecti, 3-quetri, 1-2-pedales. *Folia* ad basin caulis conferta, caule breviora, angusta, acuminata, rigidula, secus caulem pauca, breviora, longe vaginata. *Panicula* terminalis, angusta, ramulis irregulariter fasciculatis, superioribus brevissimis, inferioribus in fasciculo sepe numerosis tenuibus valde inequationis, uno alterove sepe 1-2-pollicari. *Spicularum capitula* (seu spicra spiculiformes) ovata v. oblonga, ad apicem cujusve ramuli paniculæ solitaria v. sepius 2-4 conferta, sessilia, 2-3 lin. longa. *Dpiculw* in capitulo numerosse, androgynae, undique imbricatæ, minimaæ. *Olumce* paucae, carinatæ, tenues, subditich&3, intima vacua, secunda florem foemineum, 1-2 superiores florem masculum foventes, v. interdum flores omnes masculi. *Stamina* in flore masculo 1-3. *Seta* hypogynæ normales desunt, sed ovarium floris feminei basi pilis longis flexuosis dense cinctum. *Ovarium* apice in stylum attenuatum ramis stigmatosis 3.

The very natural and well-defined genus *Eriospora*, proposed by Hochstetter, was well described by Achille Richard in his 'Flora Abyssinica,' except that he considered the female flower and its subtending glume as a separate spikelet, whilst I always find it inserted at the base of the spikelet on the same axis as the two or three upper male flowers, thus clearly indicating its place among true Sclerieae. Boeckeler associates the original Abyssinian species and the present one with the Brazilian *Finte&mannia* (under the name of *ZVifapt\**), which belongs to the Gryptangieae, and describes in 'Flora' 1879, 569, a third species (*E. Schweinfurthvma*), distinct from, but with the habit and main characters of the above two, as a *Carpha*, a genus with which it appears to me not to have the slightest affinity. Schimper's n. 1262, from Abyssinia, appears to be a fourth species, allied to, but distinct from, the original *E. abyssinica*.—G. BENTHAM.

Fig 1. Spikelet. 2. Outer glume. 3. Inner glume with a male flower. 4. Female flower.

---

PLATE 1343.

CYATHOCELFFITE CLANDESTINA, *Benth.*

CYPERACEJE, Tribe RHYNCHOSPOREJE.

*C. clandestina*, *Benth. Fl. Austral.*, vii. 351.—*Carpba clandestina*, *B. Br. Prod.* 231.

HAB. West Australia, King George's Sound, *Broum*, *Oldham*.

*Oaules* teretes, erecti. usque ad 7-8 ped. alti. *Folia* ad basin caulis e vaginis distiche imbricatis erecta, pedalia v. longiore, rigida, superne 1 lin. lata, vaginis 2-3-pollicaribus membrana lacera coronatis, pauca secus caulem vagina longa lamina brevi. *Bracteae* florales secus caulis partem superiorem longe lazeque vaginatse, lamina parva, superiores gradatim breviores brevius acuminate. *Spiculce* intra quamque Ijrac-team ssepius 2, viz exserfc© v. **uaa** longius pedunculate, singulee fere 2-pollicarps, august©, viz comprepsee, 2-flora. *Olumce* sropina 4, 2 ezteriores vacueB, 2 interiores longiores latiores flores arete involventes, quorum superior hermaphroditus, inferior masculus v. Bterilis. *Setce* hypogyneB 4, rigid®, injra medium ciliato-subplumosae. *Stamina* 2, filamentis pollice glamas ezcedentibus. antberis linearibus pollicaribus. *Stylus* filiformis, longe exsertus, ramis stigmatosis 2 filiformibus. *Nux* obionga, styli basi indurata coronata, bene matura tamen adhuc ignota.— G. BE NTH AM.

Fig. 1. Bract opened out shoving the spikelet. 2. Hermaphrodite flower.

---

PLATE 1344.

RHYNCHOSPOBA RUPPIOIDES, *Benth.*

CTPERACEJJ, Tribe BHYNGHOSPOBEJ:.

&. (*Eurbyncbospora*) *ruppioides*, *Benth. sp. nov.*, aquatica, caue. foliis bracteisque submersis filiformibus, inflorescentia irregulariter umbellatim composita, spiculis singulis pedi^ellatis, setis hypogynis 6, styli ramis stigmatosis 2.

HAR. Ceylon, in ponds near Colombo, ^livoaltes ; Paraguay, marsbes at Caaguaza, *Balansa*, n. 2550.

*Gauhis* submerai fasciculatim ramosi, foliis a basi lineari-filiformi longe capillaceis. *Inflorescentia* composita, irregulariter fasciculato-Rubumbelliformis, radiis umbellaliferis, urfribelluHs aliis ad fasciculam bractearum longe capilliformium reductis"aliis spiculas paucas louge pedicellatas ferentibus. *Spiculce* angustae, acumiaatas, 4-0 lin. long®,

1-florae. *Olumce* 3-4«, rigid®, ab extimo brevi ad intimum florentem gradatim auctte. *Setce* hypogynae 6, subspquales, superne retrorsum barbata. *Stamina* 3. *Stylus* elongatus, basi incrassatus, ram is stigmatosis 2 papillosis. *Nux* late ovata, compressiuscula, styli basi persistente rostrata.

Although aquatic submerged specie^ have been already described in most of the large widely spread Cyperaceous genera, none had been yet known in *Ithyochlopora*, of which the present species has been received at once from Ceylon and from South America without my being enabled to detect the slightest differences between the specimens gathered in these two very distant stations.—G. BENTHAM.

**Fig. 1. Glumes. 2. Young flower within the hypogynous setae. 3. Flower further advanced, with the sets developed and the anthers fallen away. 4. Fruit.**

---

PLATE 1345.

ARTHROSTYLES APHYLLA, R. Br.

CYPERACEA:, Tribe EHTNCHOSPOREJE.

**A. aphylla, R. Br. Trod. 229.**—Fimbristylis planicnlnmis, Boeckel. in *Linnaea*, xxxviii. 391.

**HAB.** Tropical Australia, from Endeavourriver, *Banks and Snlander*, to Oroker's island, A. *Cunningham*, and gathered by various collectors in intermediate stations.

*Caulis* e rhizomate brevi plures, cespitosi, erecti, rigidi, 1-1^pedales, complanati, aphylli, basi vagina pilosula brevi breviter acuminata stipati, vaginis caulim vetustiorum diu persistentibus dense imbricatis. *Spiculum* in capitulo terminali depresso-globoso 3-4 lin. diametro numerosas, sessiles, 1^2 lin. longae. *Bractea* exteriores involucentes lanceolato-acuminatae v. fere subulate appressae, 1-2 capitulo sequi-longra interiores minores gradatim in glumas abeuntes. *Glumes* cujusve spiculeB 5-7, intima oblongo-lanceolata, acuta, membranacea, obscure 3—5-nervis, florem herm8j)liroditum fovens, ceter© gradatim breviores latiores omnes vacua v. ex Boeckelero una sub gluma fertili florem masculum fovens. *Setce* hypogynae 0. *Stamina* 6, quorum 3 exserta pffficacia antheris caducissimjs v. interdum deficientibus, 3 breviora inclusa. *Stylus* in ovario articulatus, crassiusculus, uti rami stigmatosi crassi recurvi undique dense pube nivea tomentosa obtectus. *Nux* ovoidea, obtusissima, erostris, albida, Isevis v. sub lente minute reticulata.—G. BENTHAM.

**Fig. 1. Spikelet. 2. Flowering glume. 3. Flower. 4. Nut with the style naturally detached at maturity.**

## PLATE 1346.

ACTIWOSCHCBITUS PILIFOBMIS, *Benth.*

CYFKBACM, Tribe RHTHCHOSPOSB\*.

*A. filiformis*, *Benth.* 118. *Arthrostylis filiformis*, *Thwaites*, *Enum. Pl. Zeyl.* 352.

HAB. Ceylon, *Thwaites*, *Beckett*.

Caules e rhizomate brevis, plures, OBspitosi, erecti rigide filiformis, triquetri, 1-3-pedaleo, aphylli, basi vagina gabra \* TM 1 ^ aminata stipati. 8vMa tenues, in capitulo terminali goboso merosse, i e B, undique radiantes, wteriores «fle«D 2-2i lm. long\* Brac-tece exteriorel pane\*, lineari-subulat\*. Bmb Bpiculis J « J » occulte. Glum\* cujusve spiento 4-6, intima v. ranus 2 intimie flo ^ erma-vo, phroditam foventes, breviter subulatcHWuminato, acmrne sepe, recar-exteriores vacme gradatim breviores. Set\* hypogyna 0' ,feteMUa6; filamentis snb anthesi brevibus. 8hjh« in ovario ^ iculatn ^ lebow subbnlbozo-incrassata filiformis, glaber, ramis atigmatisis 3 ranns i pariter filiformibas glabrisque. Nm ojoideo-globos ^ <\$\*»£%£; quetra, albida, obscdre papiUosa, interdum Btyh basi dm coronata, matura tamen nuda.

In the tarum' hitherto described as species of *Acthwsdwmus* and from which Boeckeler had taken his character of that genus. They differ however from Brown's genus (described by Boeckeler? as *W ^ Y ^ c ^ Z ^* the involucre, in the few narrow outer bracts not forming a craspigla-brous style. The th w species of *Acthwsdwmus* cldsely «« ^ TM » each other, but come from suet different countries \*£at they can scarcely be united as varieties without further evidence. They are ^ l. J ^ *Thouarsii*, *Benth.* (*Arthroryles Thouanii*, *Kunth*, *Enum.* ^ ^ J ^ r ^ S ^ t gascar; 2. *A. filiformis*, *Benth.*, as above, from Ceylon; and 3. *AAU nensU* (*Arthrodyles chinensis*, *Benth.* *Fl. Hongk.* 398), from Hong-Kong.—G. BENTHAM.

Fig. 1. Spikelet. 2. Flower. 3. Pistil. 4. Nat with the base of the style not yet fallen off.

## PLATE 1347.

PTEROSCLBBIA LONGIFOLIA, *Griseb.*

CYPERACEIB, Tribe CKYPTANGIEA:.

*P. longifolia*; *Griseb.* *Fl. Brit. W. M.* \*79.

HAB. Trinidad, *Herb. Each.* North Brasil, in marshy ground, Igarape Irurá, near Santarcra, *Hpruce*, w. (>48.

*Gaules* erecti, simplifies, 3-quetri, 1-2-pedales, nti tota planta glabri. *Folia* inferiora caulem scepe superantia, superiora pauca dissita, 3-6-pollicaria, breviter vaginata, omnia angusta, erecta, acuta, rigidula, subtus prominenter venosa. *Spicularum capitulum* terminate, semipollicem diametro, additis hand raro 1-3 inferioribus paullo minoribns ad azillas folioram snbsessilibns. *SpicuUe* parvaB, in quoque capitulo ssepilus numerosra, omnes sessiles sed irregulariter fasciculatcB, foeminea in qnoque fasciculo terminalis, masculis pluribns lateralibus, sed interdum foeminea adest infra masculias (an ad fasciculnm distinctum pertinens P). *Bracteoe* foliaceae nub capitulo terminali 2 v. 3, patentes, insequales longiore 1-3-pollicari, interiores concavae, carina in alam denticulatam seapins dilatata, recurvo-acuminata, acumine nonnullarum spiculas parum superante, seBpius tamen brevissimo. *Spiculce* \$ 2-3-flor©, glumis acntis carinatis exalatis, 1 rarius 2 exterioribus vacuis. *Stamina* 1-2. *Spiculce* ? 1-flora, glumis eepius 3. *Setce hypogynaz* 0. *Stylus* filiformis, ramis stigmatosis 3. *Nux* 3-costata, erostris, disco hypogyno parum prominulo.

The genus *Pteroscleria* now comprises three species, differing but little from each other except in stature and length of leaves. The original *P. gnianensis*, Nees, only known from Parker's specimens from British Guiana, has the leaves from £ - | of 2*k* foot (not of an *inch* as stated by Nees, evidently through a clerical error). The third species, *P. capitata*, Benth., is the *Scleria capitata*, WiJld., described by Boeckeler in Linnsa, xxxviii. 435 as a *Diplaerum*, in which the leaves are only 2 or 3 inches long and often obtuse, and the heads of spikelets small. Besides the original specimen from Cumana which I only know from descriptions, I should refer to it Spruce's n. 3763 from the inundated sandy banks of the Guiana river.—G. BENXHAM.

Fig. 1. Female spikelet. 2. Male spikelet with the subtending bract. 3. Bract. 4. Pistil.

---

PLATE 134S.

TEIANOPTILES CAPENSIS, *Fenzl*.

CYPERACEJE, Tribe RHttCHOSPOREJK.

*T. capensis*, *Fenzl in Endl. Gen. Pl.* 113.—*Ecklonia capensis*, *Steud. in Flora* 1829, 138; *Boeckel in Linncea*, xxxviii. 229.

HAB. South Africa, Table Mountain, near Cape Town *EcJcJ* \*  
*Harvey*.

*Caules* dBspitosi, 3-4-pollicares. *Folia* ad basin caulis ffrarninea. caulem ©quantia v. breviora. *Spiculas* plures, sessiles, fasciculate in

spicam angustam breviter oblongam terminalem densam v. laxam rarius ultra semipollicarem conferhw, scepius 2-florce. *liracteo?* inferiores 1-3, foliacee, spicam seepius superantes, interiores parv». *Glumce* 4-5, imbricates, quarum 1-2 inferiores breviores vacuas, et interdum summa parva vacua. *Flos* uterque hermaphroditas, inferior tamen seepius sterilis. *Squanwe hypogyne* 3, angustee, complanatee, basi plumosociliata, Buperne glabro, 3-fidae, lobis linearibus erectis medio laterilibus lodgiore. *Stmnina* 3. *Stylus* basi incrassatus, pubescens, persistens, superne glaber, filifonnis, deciduus, ramis stigmatosis 3. *Nuz* obovoidea, triquetra, styli basi persistentis rostrata.

SfceudePs original name of *Eclonia* was changed by Fenzl into *Triwvptiles*, as having been preoccupied in Algae.—G. BEXTHAM.

Fig. 1. Spikelet. 2. Flower. 3. Hypocynous scale. 4. Nut with the style not yet fallen off.

PLATE 1349.

A. VERNONIA STENOCEPHALA, *Oliv.*

R VERNONIA NYASSA, *Oliv.*

COMPOSITAE, Tribe VERNONIEAE.

*V. stenocephala*, *Oliver, sp. nov.* Frutex ramulis gracilibus striniis puberulo-tomentellis, foliis anguste linearibus subsessilibus adscendentibus minute canescenti-hirtellis deinde supra glabratis marginibus arete revolutis, capitulis 5-7-floris ovalibus cymosis breviter pedunculatis v. subsessilibus in paniculis oblongis terminalibus dispositis, involucri piloso-tomentoso squamis inaequalibus pluriserialibus appressis interioribus lineari-lanceolatis obtusiusculis mucronulatis apice purpurascens, corolla superne leviter dilatata pappi setis exterioribus brevibus complanatis interioribus gracilibus breviter plumosis, ovario sericeo-hirtello.

HAB. Lower plateau, north of Lake Nyassa, Mr. Thomson.

*llaml* ut videtur stricti parce ramosi. *Folia* 1-1<sup>1</sup> poll, longa, 1 in earn lata, costa subtus minute pubescente. *Capitula* 1-1<sup>1</sup> poll, longa; squamae involucri exteriores multo breviores ovato v. ovali-oblonge obtusiusculas plus minus mucronulata}.

Ripe achenes I have not seen.

Fig. 1. Capitulum. 2. Corolla. 3. Ovary and pappus.



V. *Nyassae*, *Olivv*, *sp. nov.*, acaulis, foliis radicalibus oblanceolatis acutiusculis v. obtasis pilosulis supra scabride hirsutis petiolo piloso, Bcapo monocephalo piloso foliis 2-3-plo longiore, capitulo multifloro] involucri squamis 2-3-seriatis lanceolatis acuminatis pilosis, exterioribus brevioribus subulatis laxe appressis, corollas segmentis linearibus patentibus, ovario pilis sabappressis hirsuto, pappi setis barbatis exterioribus multo brevioribus.

HAB. Higher plateau, north of Lake Nyassa, *Mr. Thomson*.

*Folia* 1-2 poll, longa, 3-5 lin. lata. *Scapus* 2-3 poll, longus. *Capitulum* poll, diametro, floribus iuvolucrum superantibus—D. OLIVER.

Fig. 1. Corolla, detached. 2. Ovary and pappus.

PLATE 1350.

ACACIA HUNTERI, *OUv.*

\*  
LEGUMINOSÆ, Suborder\* MIMOSEJE.

A. *Hunteti*, *Oliver*, *sp. nov.*—Glabrata, pallida; aculeis term's rectia v. curvulis, foliis parvis, pinnis 2-3-jugis; foliolis latiuscule oblongis obtusis y. interdum obscure mucronulatis basi oblique subcordatis glabris, rhacliide pnberula, floribus spicatis sessilibus, spicis breviter pedunculatis, calyce campanulato pnberulo, petalis oblanceolatis macronulatis, legumine oblongo stipitato valvis obtusis mucronatis transverse venulosis puberulis.

HAB. Neighbourhood of Aden, *F. Hunter*.

*Folia* ^4 poll, longa, rhachide puberula; foliola ad 1 lin. longa. *Infloreticardia* cum pedunculo £-J poll, longa. *Legtmen* ^-l± poll, longa, £ poll, lata, 1-3-sperma.—D. OLIVER.

Fig. 1. Leaflet. 2. Bud. 3. Fetal. 4. Expanded flower and separate anther. 5. Legume laid open, with a single funiculate seed remaining: excepting the hurt enlarged.

# ICONES PLANTARUM.

PLATE 1351.

TECOMA NYASSJE, *Oliv.*

BIGNONIACEJE.

**T. Nyassffi**, *Oliver, sp. nov.* **Aff.** *T. capensi*, differt: foliolis saepius obtusioribus, calyce 2-3-plo longiore 5-fido, lobis ovato-lanceolatis acutatis acuminatisve.

HAB. Lower plateau, North of Lake Nyassa, E. Tropical Africa, *Mr. Thomson.*

*Bamuli* puberuli gjabrescentes. *Foliola* lateralia 2-3-juga breviter petiolulata late elliptica v. ovato-elliptica obtusa apicem versus crenato-serrata subtos ad venarum axillas saepe villosula, terminalia basi rotundata 1<sup>^</sup>—1J poll, longa. *Inflorescentia* racemosa longe pedunculata folia superantia; pedunculus semi-pedalis minute puberulus teretiusculus; bractero lineari-subulats caducB; pedicelli j<sup>^</sup>-poll. longi medio bibracteolati, bracteolis<sup>^</sup>ubulatis. *Calyx* tubuloso-\*infundibuliformis puberulus -<sup>^</sup>f poll, longus 5-lobatus, lobis tubo brevioribus oblongo- v. ovato-lanceolatis apfee plus minus acuminatis curvulis. *Corolla* calyce 3-plo longiora longe tubuloso-infundibuliformis incurva, limbo bilabiato lobis late ovatis ovato-rotundatisve obtusis. *Stamina* exserta.—D. OLIVER.

Fig. 1. Flower. 2. Anther, front and back.

## PLATE 1352.

**BEGONIELLA KALBBEYERI, Oliv.**

## BEGONIACEJE.

*B. Kalbreyeri*, *Oliver, sp. nov.* Papilloso-setigera, perianthio dupli-  
e exteriori campanulato undulato-4-lobulato interiore genitalia squante  
campanulato hyalino-membranaceo, staminibus 4 erectis filamentis  
brevissimis a basi subliberis.

HAB. Antioquia, *Mr. Kalbreyer*.

*Gauss* 6-15 poll, erecti papilloso-hirsuti. *Folia* oblique ovato-  
elliptica acuminata pins minus grosse serrata utrinque papilloso-  
setulosa, breviter petiolata, 2-3 poll, longa; stipulis lineari-lanceolatis  
petiolo sublongioribus. *Flares* axillares pedunculati, pedunculis folio  
brevioribus saepius 1-2-4-floris, bracteis ovato-oblongis v. lanceolatis.  
*Perianthium* exterius ore late 4-lobulatum, extus setulosum 1-poll.  
longum; p. interius breve campanulatum membranaceum. *Antherae*  
lineares apicem versus paulo latiores.

This plant at first sight, in habit, form and size of leaves, indumentum  
and form of the flowers, closely resembles my *B. Whitei*, described and  
figured in 'Trans. Linnean Society/ v. xxviii. p. 513, pi. 41. It differs  
in the few bracts of the peduncles, which are numerous and distichous  
in *B. Whitei*, and, much more notably, in the presence of a short  
inner perianth (corolla), about or nearly equalling the stamens in the  
♂ and the branches of the stigma in the ♀ flower, also in the form and  
insertion of the anthers, which in the new plant are very slightly  
dilated above (not obovate-cuneate as in *B. Whitei*) and erect from  
their insertion (in *B. Whitei* distinctly monadelphous, the anthers  
diverging in two pairs). These differences compel a little expansion  
of the generic character.—D.<sup>0</sup> OLIVER.

Fig. 1. Staminate flower. 2. Same, calyx laid open. 3. Stamens, the corolla laid  
open. 4. Anther. 5. Pistillate flower. 6. Transverse section of ovary.

## PLATE 1353.

**PHYLLOBOTRYUM SPATHULATUM, Muell. Arg.**

## BIXACEA.

*P. spathulatum*, Muell. Arg.; DC. Prod. xv. pt. 2, p. 1232.

HAB. Sierra del Crystal, *G. Mann*. Munda, Gaboon, *H. Soyaux*  
(descr. ex. spp. gaboonensibp3).

*Arbuscula* 10-pedalis. *Folia* elongata oblanceolata acuminata basi  
angustata v. obtusiuscula. 1<sup>^</sup>-1f ped. longa. *Flares* polygami masculi

et hermaphroditum, pedicellatum, in costa primaria fasciculatum: fl. ♂, petalis 4 (?), oblongo-obovatis calyce 2-3 plo. longioribus; ovario libero ovoideo-conico 1-loculare, placenta tribus multiovulatis; styli 3 liberi divergentes; fl. ♀ trimeri, staminibus circ. 15-18, filamentis gracilibus, antheris deltoideo-ovatis.

For the specimen figured of this singular plant we are indebted to the courtesy of M. Soyaux and Dr. Ascherson, adding to our previous imperfect knowledge of it as published by Mueller, and confirming M. Baillon's view as to its affinity ('Bull. Soc. Linn., Paris,' 1881, p. 287). I cannot, however, regard M. Soyaux's plant as distinct from Mann's, as I see M. Baillon does, proposing to call it *P. Soyauxianum* (l. c. p. 288). A detached fruit sent me a few weeks ago by Dr. Ascherson, already dehiscent loculicidally in three valves from the apex downwards, may be 1 to 1.5 in. in diameter, the pericarp minutely rugulose-tubercled, and containing some four albuminous seeds with a straight embryo about 1/4 in. in length, the radicle as long as or longer than the ovate cotyledons.—D. OLIVER.

Fig. 1. Male flower. 2. Hermaphrodite flower. 3. Stamen. 4. Transverse section of ovary.

PIRATE 1354.

INDIGOFERA TRACHYPHYLLA, Benth.

LEGUMINOSAE; Suborder PAPILIONACEAE.

I. (*Euvindigofera*, § *Simplicifolia*) *trachyphylla*, Benth. MS. Frutescens, ramosa, hirsuta, foliis lineari-lanceolatis oblongisve apice obtusiusculis mucronatis brevissime petiolatis margine saepe anguste revolutis utrinque setulis subappressis scabridis, stipulis acicularibus 2-3-lin. longis, pedunculis axillaribus folio subsequilongis erectis, floribus capitatis pedicellatis, pedicellis bractea subulata brevioribus, calyce strigoso profunde 5-fido lobis acumatis, corolla exserta, ovario 2-ovulato setoso.

HAB. Shir6 Highlands, Zambesia, / *Budhanan* !

*Suffrutex* 1-2-pedalis ramosus, ramis adscendentibus setis inaequalibus hirsutis. *Folia* 1<sup>a</sup>-2<sup>a</sup> poll. longa ||-1 poll. lata. *Inflorescentia* uvoidea v. subglobosa capitata. *Fibræ* 2-lin. longi; vexillum obovato-rotundatum extus strigulosum; carina utrinque calcarata vexillo subaequilonga; alae oblanceolato-oblongae carina breviores. *Oearium* longe setosum, stylo superne glabro.—I. J. OLIVER.

Fig. 1. Flower. 2. Vexillum, within. 3. Ala. 4. Carina, lateral view. 5. Calyx and stamens. 6. Stamens. 7. Anther. 8. Young fruit. 9. Same, open.

## PLATE 1355.

DIPLORHYNCHTJS MOSSAMBICENSIS, *Benth.*

APOCTNACEJ.

**D. Mossambicensis**, *Benth.* \**p. nov.* Arbor, ramulis ultimis teretibus puberulis, foliis ellipticis breviter obtuse acuminatis basi srepius rotundatis longinscne petiolatis glabratis, paniculis tomentellis terminalibus subsessilibus foliis brevioribus, floribus breviter pedicellatis, folliculis lignosis rugosis 4-spermis,

HAB. Shife Highlands, Zambesia, *J. Buchanan.*

*Folia* late elliptica Rubmembranacea 2£-3£ poll, longa, 1J-2 poll, lata; petiolas J-f poll, longus. *Flores* (alabastro) £ poll, longi; pedicelli tomentelli calyce superne extns glabrato longiores. *Calyx* 5-fidus, lobis ovatis ciliolatis. *Corolla* fere <sup>s</sup>glabra, lobis tubo asqoilongis. *FollicuU* 2-poll. longi | - 1 poll, lati; semina alata funiculata 2 prope basin 2 snb apice peltatim affixa, ala inclasa 1J poll, longa.

Galled *Mtomoni* by the natives; a large tree abounding, Mr. Buchanan says, in 'a white juice poßsessing^ a good deal of the quality of India Rubber.' Very nearly allied to *Dvphrhynchus psilopus*, Welwitsch MSS. (No. 5982 of his *Iter Angolense*), in which, however, the leaves are much more gradually, or more cuneately, narrowed into their long petioles.—D. OLIVER.

Fig. 1. Bud. 2. Flower. 3. Corolla, laid open. 4. Anthers, back, front and side views. 5. Pistil. 6. Ovaïy, transverse section. 7. Follicle. 8. Same, open, one valve removed. 9. Seed.

## PLATE 1356.

RANDLA BUCHANANII, *Oliv.*

RuBiACEiE, Tribe GARDENIÆ.

**R. Buchananii**, *Oliver, sp. nov.* Glabra, ramulis teretibus, foliis ellipticis v. obovato-ellipticis late et obtusiuscule acuminatis basi srope cuneatis, petiolatis, floribus erectis solitariis terminalibus breve pedunculatis, calyce truncato breviter 5-dentato, corolla tubo appresse piloso inl'undibulari-campanulato basi in tubo cylindrico calyce longiore angustato, limbo 5-lobo, lobis patentibus late ovatis, fructu globoso pericarpio tenui, endocarpio opseo.

HAB. Shife Highlands, Zambesia, / . *Buchanan.*

*FoUa* membranacea glabra, 3J-4poll. longa^ 1£-2 poll, lata; petiolus

i poll. longus; stipulas breves late deltoide© persistentes. *Flares* 2<sup>^</sup>—3 poll, longi; pedunculi<sup>^</sup> poll, longi, bractera breves ovato-deltoidesa ciliolatae. *Calyx* £ poll, longus, basi angustatus cylindricas corollra brevior. *Corolla* limbo 2£ poll. lato. *Fructvs* subglobosus sublaevis bilocularis polyspermus 1£ poll, diametro.—D. OLIVEB.

Fig. 1. Anther, back and front. 2. Fruit. 3. Same, open.

---

PLATE 1357.

**BURMANNTA KALBBEYEBI, Oliv.**

BURMANNIACEJ!.

**B. Kalbreyeri, Oliver, sp. mv.** Perennis, canlibas adscendentibns foliosis basi foliis marcescentibns vestitis, foliis gramineis linearibns acuminatis nervosis, cymis multifloris a basi umbellatim 3-5-partitis, floribns erectis longe pedicellatis, bracteis majusculis herbaceis, ovario tnquetro vix v. hand alate, semiisibus inappendiculatis.

HAB. S. José, Prov. Antioqnia, *Mr. Kalbreyer.*

<sup>m</sup> *Herba* subpedalis, caulibns "basi plus minus decumbentibus. *Folia* inferiora 4-7 poll, longa -J-J poll, lata; superna gradatim minora. *Bracteae* lanceolate acuminatae <sup>^</sup>-f poll, longs. *Flores* semi poll icares: perianthii lobis exterioribus violaceis ovatis acutis interioribus brevionbus lineari-lanceolatis albis. *Antherce* diametro transversali quam verticali subdnplo majores connectivo crassiusculo. *Ovarium* basi angustatum triquetriim. *Semina* -£<sub>ff</sub> poll, longa oblonga v. anguste msiformia inappendiculata.—D. OLIVEf.

In *fades* resembles somewhat *B. longifolia*, Beccari, (Malesia, i. 1.13, **fig. 1**).

**T** Fig. 1. Flo-wep, perianth closed. 2. Part of perianth laid open. 3. Stigma. 4. **TanB** Tewe section of ovary.

---

PLATE 1358.

**PHYSOTRICHIA BUCHANANI, Benth.**

UMBELLIFERJB, § SESELINEJI.

**P. Buchanani, Benth.** «p. nov. 5-<sup>^</sup>»pedalis, glabra; caule erecto tereti striato glaucescente, foliis srepius ad apicem ramorum confertis, petiolo brevi vagiuato, bipinnatis, pinnis 1-S-jugis, foliolis siepius 1-3-

jagis cum impari, lateralibus oblique et late ellipticis mucronatis, terminalibus obovato-rotundatis saepe minute 3-dentatis, umbellis pluriradiatis longe pedunculatis, bracteis reflexis anguste ovalibus, fructibus oblongis subteretibus hirtellis, jugis primariis prominulis crassiusculis.

HAB. Top of Mount Zomba, Shiré Highlands, *J. Buchanan*.

*Folia* radicalia non vidi, caulescentes 5-7 poll, longa et lata; foliolis 1-2 poll, longis f-1<sup>^</sup> poll, latis, sessilibus v. lateralibus basi oblique angustatis subpetiolulatis. *Umbellae* composite tomentellae 4-8 poll, diam.; involucri bracteis 1-1<sup>^</sup> poll, longae, marginis submembranaceis pallidis, involucellorum bracteis minores; pedicelli hirtelli fructu longiores. *Petala* obovata apice inflexa. *Fructu* ellipsoideo-oblongo, 2 lin. longus.—D. OLIVER.

Fig. 1. Flower. 2. Stamens. 3. Pistil. 4. Fruit. 5. Mericarp, transverse section.

---

PLATE 1359.

**BRACHYSTEGIA LONGIFOLIA, Benth.**

LEGUMINOSAE, CIESALPINIÆ, Tribe ALFEBSTIÆ.

**B. longifolia, Benth. op. nov.;** foliis glabris, foliolis 8-12-jugis oblongo-lanceolatis obtusis sessilibus basi oblique subcordatis, racemis latiuscule paniculatis rufopuberulis, floribus pedicellatis, ovario stipitato.

HAB. Tropical Africa, Shiré Highlands, Zambesia, *J. Buchanaai*. N'Jombo of the natives.

*Arbor* ligno molli, ramis adultis foliisque glabris, novellis paninulaque pube minuta rufidulis. *Folia* inferiora pedalia; foliola 2-3-pollicaria, 6-9 lin. lata, tenuiter coriacea, nitidula, venulosa, subtus pallida, costa parum excentrica, prope basin tamen distincte inaequilatera, venis 1-2 in latere latiore medium folium interdum attingentibus; ramorum floralium foliolaque minoræ. *Paniculæ* in ramulis horizontalibus brevibus 1-3-foliatis terminales v. in ramo annotino laterales, aphyllae, ovato-pyramidatae, laxiusculae, 2-4-pollicares, floribundae, ramulis patentibus simplicibus 1. 2-fidis. *Bracteis* parvis, orbiculatis, jam ante anthesin caducis. *Pedicelli* vix semilinea longiores. *Bracteolae* valvatae, 3-3<sup>^</sup> lin. longae. *Seipala* 5, lineari-oblonga, membranacea, ciliata, linea paullo longiora. *Petala* sispo adsunt 3-4, linearia, tenuissima, sepalis longiora. *Stamina* bracteolis paullo longiora. *Ovarium* distincte stipitatum, oblique obovatum, pilosum,\* ovulis 6-8. *Legumen* sublignosum, corapressum, valde obliquum, 4-5 poll, longum,

medio 2 poll, latum, apice basique angustius, sutura seminifera 2-costata. Semina perfecta saepius 2, suborbiculata, plana.

I gave a revised generic character and described three species of this tropical African genus in the Linnean 'Transactions,' xxv. 311, t. 42, to these Mr. Buchanan's collections from the Shiré Highlands have added three more, the above *P. longifolia* and the two following, all distinguished from the previously published ones by the looser spreading panicles.

*B. floribunda*, Benth., foliis glabris, foliolis 3-jugis late oblongis ovatisve obtusis sessilibus basi inaequilateris, racemis latiuscule paniculatis rufo-pubescentibus, floribus pedicellatis, ovario stipitato rufo-villoso.—Arbor procera, ligno duro. Foliorum rhachis tenuis, semipedalis; foliola 3-4 poll, longa, 1\*2 poll, lata, papyracea, venulosa, costa parum v. distincte excentrica, basi latere latiore saepe 2-3 nervia. Paniculae in ramis annotinis fasciculatae, 2-3-pollicares, a basi dense floribunda, rufo-pubescentes. Bracteolarum paria in alastro ovoidea, 2 lin. longa. Sepala *B. longifoliae*. Petala deesse videntur. Legumen 4-5 poll, longum, a basi ad apicem 1/2 poll, latum. Semina orbiculata, plana.—The natives distinguish two varieties, one with broader leaflets than the other, but the other characters are quite the same in both.

*B. ghibiflora*, Benth., foliis pubescentibus, foliolis 5-7-jugis late oblongis obtusis basi valde inaequalibus, racemis late laxaque paniculatis, pedicellis brevissimis, ovario sessili villosa.—Arbor procera. Foliorum inferiorum rhachis saepe pedalis, foliolis 3-4 poll, longis 1/2 poll, latis, ramorum floralium foliola multo minora et angustiora. Panicula terminalis, foliata, ampla, v. in ramis annotinis paniculatae breves ramis valde divaricatis recurvis. Bracteolarum paria in alastro globosa, fere 2 lin. diametro. Sepala interdum parum breviora, et petala linearia quam in ceteris speciebus evidentiora. Legumen 2-pollicare, 1/2 poll, latum.—G. BENTHAM.

Fig. 1. Flower showing the two bracteoles, three of the sepals, two of the petals, ten stamens and the pistil. 2. A sepal. 3. A petal. 4. Pistil. 5. Ovary, longitudinal section. 6. Pod. 7. Seed.

PLATE 1361.

MICRAIEA SUBULIFOLIA, F. Muell

GEAMINEAE, Tribe ISACHNEAE.

*H. subulifolia*, F. Muell, *Fragm. Phyt. Austral*, v. 208.

HAB. Queensland, hilly districts, on rocks, sometimes completely covering them in dense masses, *Dallachj* and others.



*Gramm* hnmile, perenne, prostratum v. repens, interdum dense CEBspitosnm, basi ramonim et vaginis foliorum emarcidomm plus minus obtectum. *Folia* in ramulis dense fascicnlata, lineari-snbulata, rarius semipollicem excedentia, vagina ad os leviter ciliata. *Panicula* terminalis, gracilis, pedunculata, laze pyramidata, pollice brevior, ramulis pedicellisqne capillaribus. *Spiculce* minim®, sequaliter 2-florffi, rhacbilla snpra glnmas inferiores articulata, brevissima, ultra flores non producta. *Ghimce* 2 inferiores vacuro, vix semilinea longiores, sub articulatione persistentes v. demum sigillatim deciduee, membranacee, acute, tenuissime venosro, muticro, subsequales; florentes 2 vacuis breviores, membranacero, latee, truncated, nervis ad 7, fructifero cum palea inclusa subhemispbaericaB, non indurats. *Palea* plurinervis, nervis 2 croteris evidentioribus. *Stamina* 3 P *Styli* breves, distinctly stigmatibus plumosis. *Caryopsis* gluma paleaque inclusa, libera.—G. BENTHAM.

Fig. 1. Leaf. 2. Spikelet. 3. Flowering glume and palea. 4. Flowering glume, opened out. 6. Palea, opened out. 6. Pistil\*, 7. Caryopsie.

---

PLATE 1362.

ACIACHKTE PULVINATA, *Benth.* ♀.

**GRAMINEÆ**, Tribe AQROSTIDEJE (*Stvpece*).

**Aciachne**, *Benth. gen. nov.* > Char. gen. *Spicula* unisexuales, *t* ignotae. *Spicula* ? 1-flora, in pedunculo teiTninali unica, erecta, rhacbilla brevissima supra giumas inferioreo articulata, ultra florem non producta. *Glumce* 3, 2 inferiores vacuae, latee, tenuiter membranacete subhyalinas et rigidul©, obtusaB, muticce, parum inaeqnales, sub articulatione persistentes; terminalis florens multo longior, rigida, basi lata circa florem convoluta, superne in acumen longuxn teres rigidum producta; palea brevior, injlusa, hyalina, latiuscula, circa florem convoluta, tenuiter 2-nervis. Lodicul&3 parv&a. *Staminodia* 0. *Styli* distincti, stigmatibus pluHosis. *Caryopsis* (immatura) oblonga, gluma rigida subindurata inclusa, libera.

A. **pulvinata**, *Benth.* M8.9 single species.

HAB. Andes of South America, Parano Viejo, New Granada, a most annoying weed to walk through, the glumes sticking to the feet, *Pwrdie*; New Granada, *Goudot*; El Ecuador, abundant near Salinas on marshy ground, forming a dei.se mass, *Jameson*, n. 15?; Aigapata, in Peru, where it forms large masses, *Lechler*, n. 3134, also in Hohenacker's distribution of Iliechler's plants under the number 1813, as

from the summit of the Cordilleras near San Antonio, but as the very false name of *Distychia muscoides*, Nees, is given, there may be some error in the label; La Paz, Bolivia, at an elevation of 12,226 feet, *Pentland*; Alpine region, province of Larecaja, Bolivia, at an elevation of 3600 to 4200 metres, *Mandon*, n. 1287.

*Oramen* perenne, nanum, multicaule, pulvina latissima densissime cespitosa formans. *Canles* cum foliis 1-3-pollicares, foliorum vaginis imbricatis diu obtecti, basi demum fere denudati. *Folia* densissime conferta, nunc subdisticha nunc quaquaversa, laminis patentibus v. recurvis convoluto-subulatis rigidis saspe pungentibus raro semi-pollicem excedentibus; ligula prominens ovata. *Pedunculis* terminalis, rigidus, folia parum excedens v. iis brevior. *Glumae* vacuas diu persistentes, J-I lin. longed; florens cum acumine dimidio v. subduplo longior.

Notwithstanding the number of specimens from most of the **above** localities, I have been unable to detect any but female spikelets, which on some of them are numerous, often past flower, and showing only the persistent outer glumes. The males are probably on distinct plants and most likely with a different inflorescence, rendering it difficult to identify them. If that be the case, it is possible that the male of this, or an allied\* species, may be represented by Lechler's specimens gathered at Gachapata in Peru, a month earlier than the females above referred to, and distributed with the number 599. In these the leaves are longer, all erect, and very rigid, 1 to 3 in. long. The spikelets are several in a loose, slightly branched, rigid, erect panicle of 1 to 2 inches, the glumes precisely like those of the females, but enclosing three perfect stamens, and the ovary reduced to an ovoid rudiment with two small points.—G. BENTHAM.

Fig. 1. Seed. 2. Lea\* 3. Spikelet. 4,5. Lower empty glumes. 6. Ovary and style. 7. Palea, lodicules, and ovary, the styles having fallen off. 8. Flowering glume, almost closed over the palea. 9. Flowering branch from the specimens represented by the lower general figure; the upper general figure represents specimens from the same localities with much finer leaves with narrower sheaths.

---

PLATE 1363 A.

**ANTHOCHLOA LEPIDA**, Nees.

GKAMINK2E, Tribe FBSTUCB^I (*Melicece*).

**A. lepida**, Nees in *PI Meyen*. 164 (lapsu calami *Antochloa*).

HAB. Andes of Peru and Bolivia at an elevation of 14,500 to 15,000 feet, *Meyen*, *Mandon*, n. 1372.

*Oramen* nanum, dense cespitosum, caulikus foliorum vaginis ob-

tectis,  $\wedge$ -2 poll, longis. *Folia* anguste linearia, plana,  $\wedge$ -1 poll, longa. *Paniculce* laxae capituliformes (srepius densiores quam in icone delineated), inter folia terminates, sessileB v. breviter pedunculate, folia superiora brevia vix superantes. *Spicyjce* paucifloree, secus rhachin singnlflB v. inferiores 2-3-na9 brevissime pedicellate, rhacbilla inter flores articulata, floribus bermapbroditis. *Glumce* latro, hyalino-scariosee, albae, muticae, 2 inferiores vacu©, inaequales; florentes xnajores, a basi brevissime cucnllata latissime expanses, fere flabellatse, petaloidesa 1<sup>^</sup> lin. diametro, breviter tenuiterque 5-nerves; 1-2 superiores minores, vacuse, sub-3-nerves. *Palea* angosta, hyalina, 2-3-fida y. lobo medio diviso fere 4-fida. *Stamina* 3. *Styli* breves, distincti, stigmatibus plumosis. *Caryopsis* immatura ovoidea, intra bauin glnmtD a palea libera.

Tbis curious little grass with its numerous little beads of white spikelets has almost the aspect of some of the dwarf *Helichrysa*. Our specimens are Bolivian from Mandon, but they agree well with Nees's description of Meyen's Peruvian plant. Remy has published a second Bolivian species gathered by D'Orbigny, but I cannot make out from his description any really distinctive character.—G. BENTHAM.

Fig. 1. Spikelet enlarged and represerted looser than it is at the time of flowering. 2. Outer empty glume. 3. Flowering glume. 4. Palea. 5. Stamens and pistil.

---

PLATE 1363 B.

UBOCHUENA PUSILLA, Nees.

GBAMINEJ., Tribe FESTUCEJ: (*Sesleriee*).

**II. pusilla**, Nees, *Fl. Afr. Austr. Gram.*, 438.

HAB. South Africa, dry sandy hills near Ebenezer, Clanwilliam district, *Drege*. Not seen in any other collection.

*Gramen* pumilum, annuum, caulibus tenuibus rigidulis 3-4-poll-caribus. *Folia* angusta, pauca, summum sub inflorescentia spiculas euperans, a cseteris distans. *Spiculce* parvaB, pauciflora, in panicula capituliformi secunda densissime fasciculate, floribus hermaphroditis v. summo masculo; capitulum intra vaginam folii summi floralis subsessile, basi et intra capitulum ad basin ramulorum brevissimorum spiculis nonnullis sterilibns v. glumis vacuis quasi involucreto, fructiferum cum folio floralis a geniculo superiore caulis articulatum deciduum. *Gluma* ovatoe, concaes, membranaceae, 5-7-nerves, acuminato9, acumine in aristam patentem producto; 2 infinite vacua;, florentibuf paullo minores; superiores iterum paullo minores. *Palea* gluma paullo brevior, hyalina, 2-carinata. *Stamina*. . . *Shjli* distincti, stigma-

tibus laxe plumosis. Caryopsis breviter oblonga, glabra, a palea libera.

The manner in which the fruiting inflorescence with its subtending leaf breaks off from the stem or peduncle has not, as far as I am aware, been observed in any other grass. The genus is otherwise, as observed by Nees, allied to *Sesleria*. Drege's specimens are all past flower, so that the stamens are unknown.—G. BENTHAM.

Fig. 1. Spikelet. 2, 3, 4, 5. Glumes. 6. Palea. 7. Pistil. 8. Caryopsis.

---

PLATE 1364.

YOANIA JAPONICA, Maxim.

ORCHIDE-S.; Tribe NEOTTIEA; (*Arethuaece*).

*Y. japonica*, Maxim, in *Bull. Acad. Sc. Petersb.*, xviii. 68; *Mel. Biol.*, viii. 647.

HAB. Japan, in Alpine woods in middle Nippon, whence Maximowicz received three specimens from his collector, Tschonoski, in 1864.

' *Caillis* crassns, decolor, erectns, spithameus v. pedalis, aphyllus, parte subterranea ramosus, sparse squamatns, villosis, parte epigroa glaber, basi crebre snrsum rejnote...vagirfis concavis ovatis membranaceis tectas, e qnarum snperioribns prodeunt flores longe pedunculati, diametro 2-poSicares, in racemum laxum 4-7-floru.m collecti' (*Maxim.*). *Sepala* carnosa, libera, patSntia, oblonga, lateralia,,subjnjbquilatera. *Petala* sepalis paullo breviora, oyata, conniventia. *Labellum* cum petalis campannlato-connivens, iis ajqnale, libernm, lata basi sessile, suboblongnm, concavum, apice contracto snbforficatum, medio in saccnlam breve excavatnm, leBve^ *Columna* labello brevior, erecta, plana, qnadrata; stigma transversum, profunde excavatnm, -rostello obsoleto; clinandrii lobus medius triangnlari-ovatus, laterales semiovati, in alas columnam. marginantes#abeuntes. *Anthera* lobo medio adnata, persistens, longe rostrata; loculornm facies a margine solutas; pollinia 4, oblonga, pulposa, sectilia, per bina caudicnlis (stipitibus rostelli ?) arachnoideo-viscidtilis glanduhe affixa, qua quasi semilunaris margini superiori stigmati inserta.—(*Abridged from Maximowicz*).

Of this curious plant, more nearly allied to *Epipogon* than to any other, I have seen no specimen. The accompanying plate is copied from a drawing obligingly sent to us by Dr. Maximowicz, taken from the above-mentioned specimens. He has also\* sent a copy of a sketch

of Siebold's, representing a somewhat distinct variety or species with larger flowers.—G. BBNTHAM.

Fig. 1. Peduncle and flower, side view. 2. flower, partly laid open, showing the shape of the labellum. 3. Details of the flower: s. sepals, p. petals, l. labellum, c. column. 4. Column, the anther-lid turned up. 5 and 6. Pollen masses.

---

PLATE 1365.

**NORONHIA BBOOMEANA**, *Home*.

OLEACEJS, Tribe OLEINEJE.

**N. Broomeana**, *Home MS8*. Arbor; foliis anguste v. late ellipticis obovatis v. rotundatis breviter apiculatis basi cuneatis subcoriaceis in axillis venarum subtus tomentellis, paniculis lateralibus plurifloris foliis brevioribus, bracteis parvis ovato-lanceolatis sericeis, pedicellis pubescentibus calyce 4-fido subaequilongis, corolla alba 4-partita, fructu ellipsoideo utrinque angustato 8-costato, endocarpio crustaceo deinde bivalvatim dehiscente, semine esalbuminoso, cotyledonibus crassis carnis.

HAB. Forests near Grand Bassin, Mauritius, *Mr. J. Home*.

*Arbor* 50-70-pedalis, ramulis cinereis, innovationibus puberulo-sericeis. *Folia* 3-5 poll, longa 1<sup>^</sup>-5 poll, lata, subtus pallidiora. *Paniculæ* e basi ramulis hornotinis 1<sup>^</sup>-3 poll, longæ, leviter pubescentes. *Calyx* 4-fidus, lobis ovato-deltoides. *Corolla* glabra, lobis ½ poll, longis 1 lin. latis. *Fructus* drupaceus 1-2 poll, longus, medio <sup>^</sup>-1 poll. diam.

Mr. Home says this fine tree is known in the island as the \*Sandal,' and that he has only seen it in the locality cited, where it is not uncommon.—D. OLIVEE.

Fig. 1. Flower. 2. Corolla laid open. 3. Stamen. 4. Calyx and ovary. 5. Longitudinal section of ovary. 6. Fruit. 7. Embryo.

---

PLATE 1366. FIG. A.

**VERONICA CHEESEMANI**, *Benth.*

SCROPHULARINEJE, Tribe DIGITALEZB.

**V. Cheesemani**; perennans, caespitosa, ramosissima, cano-pubescentis, ramis gracilibus intricatis, foliis petiolatis cuneato-obovatis grosse obtuse dentatis lobulatisve, floribus axillaribus solitariis subsessilibus, calycis segmentis cuneato-spathulatis apices obtusos versus crenatis,

corollas segmentis obovatis retensis, ovario late ovoideo hispidulo.—  
V. *Cheesemani*, *Benth. MSS.*

HAB. New Zealand; Nelson, on the Raglan Mountains, Wairan Valley, alt. 5000 ft., *T. F. Oheeseman.*

CsBspites 2-3 poll, diametro; radice gracili elongato, ramis perphrimis filiformibus dense intertextis. *Folia* patentia,  $\wedge$ - $\vee$  poll, longa, in petiolum angustata, intrinse puberula; petiolo laminae requilongo. *Flares* inconspicui, albi,  $\wedge$  poll, diametro. *Galycis* segmenta corolla parva breviora, recurva. *Oapsula* Bepalis brevior, subdidymo-globosa, compressa, hispidula, matra ad basin 4-valvis; semina minuta, planoconvexa, fere ellipsoidea, testa granulata.

A very singular little species with the habit of a small *Euphrasia*, belonging to a section of the genus with solitary axillary flowers, of which only one species (*V. canescens*, T. Kirk in 'Trans. New Zeal. Inst.' y. ix. pp. 503 to 519) had previously been discovered in New Zealand. This latter differs in\* being still smaller, with procumbent stem, almost orbicular entire leaves, and peduncled pale blue flowers, which are large for the size of the plant; it has elliptic acute calyx-segments; its fruit is unknown. The capsule of *V. Cheesemani*, represented at fig. 6, is much narrower and less didymous than in specimens examined by me.—J. D. HOOKER.

Fig. 1. Leaf. 2. Flower. 3. Calyx. 4. Stamens. 5. Ovary. 6. Capsule, all enlarged.

---

PLATE 1366. Pl. B.

PORJANTHERA ALPINA, *Cheesem.*

EUPHORBIACEÆ, Tribe STENOLOBIEÆ.

*P. alpina*, herba pusilla, intricatim ramosissima, glaberrima, ramulis ascendentibus foliosis, foliis parvis subimbricatis erecto-patentibus sessilibus lineari-oblongis obtusis coriaceis\*marginibus fere ad costam crassam recurvis, floribus ad apices ramulorum subfasciculatis, pedunculis foliis brevioribus superne incrassatis, WPalis 5 oblongis obtusis, petalis 0.—*P. alpina*, *Oheesem. MSS.*

HAB. New Zealand; Nelson Province, Fort Arthur, alt. 4-500 to 5-800 ft. *T. F. Oheeseman.* H. Jay.

*Herba* 3-5-uncialis, ramis ramulisque flexuosis intertextis teretibus, articulatis, cortice rufo-fusco. *Folia*  $\times$  poll, longa, opposita et subopposita, crassiuscula, levia, superne tynvexa, enervia; costa subcrassissima; stipulae minutae, latse, obtusae, castaneae, oppressae. *Flores*  $\times$  poll. diam. in axillis supremis, flavescentes, pedicello perianthio

paullo longiore. *Sepala* patula v. incurva. *Stamina* sepalis paullo breviora, filamentis gracilibus; anthers 4-lobse, poris verticalibus. Ovarium subglobosum, alte 3-lobum, stigmatibus brevibus 2-fidis.—  
J. D. HOOKER.

Fig. 1. Male flower. 2. Anthers. 3. Female flower. 4. Ovary. 5. Transverse section of do. 6. Vertical section of carpel, *all enlarged*.

PLATE 1367.

**RHANTERIUM EPAPPOSUM, Oliv.**

COMPOSITE, Tribe INULOIDEA.

*R. epapposum*, *Oliver, sp. nov.* Suffrutex incanus ramosissimus; ramulis intricatis gracilibus, foliis gemotis paucisque linearibus v. anguste ovalibus remote dentatis integrisve parce lanatis v. glabris camosulis, capitulis solitariis terminalibus pedunculatis, involucri hemisphaerico, bracteis lanceolatis acutis glabris subsquarrosis, receptaculo paleaceo, floribus ? anguste ligulatis, ligula marginibus incurvis apice 3-dentata, ovario glabro epapposo.

HAB. Coast of Beloochistan, *Mr. E. Pierce*.

*Folia* 1—1.5 poll, longa. *Capitula* 1—1.5 poll, lata; bracteis pluriseriatis coriaceis exterioribus minoribus. *Receptaculum*, paleis coriaceis lanceolatis acuminatis marginibus interdum laciniatis. *Achenia* non vidi.

This plant has very much the aspect of *B. suaveolens*, Desf. (Kralik, PI. Turet. 246), though with less rigidly recurved scales of the involucre. We have what I take to be the same plant in the Kew Herbarium from Central Arabia, communicated by Col. Pelly in 1865, who described it as branching from the ground in bushes 1½ ft. high, and from 2 to 5 ft. in circumference, and, where abundant, from 3 to 6 ft. apart.—D. OLIVER.

Fig. 1. Capitulum. 2. Ray-floret and subtending scale. 3. Disk-floret and scale. 4. Anther (the tails are connate in pairs). 5. Stigma.

PLATE 1368.

**EBAGROSTIS CCELACHYRTM, Benth.**

GRAMINEA, Tribe FESTUOEA (*Eragrostideae*).

*E. (Plagiostachya) Ccelachyrtum*, *Benth.*, annua, humilis, foliis brevibus latiusculis, spiculis subdistiche spicatis 3-4-floris glabris, spicis

9d apicem pedunculi 3-4 brevibus confertis, glumis obtusis, caryopsi suborbiculata a dorso compressa valde rmgosa antice concava. *Eleusine brevifolia*, Hochst. et Stend. Pl. Schimp. exs. n. 799 non K. Br. *Coslachyrum brevifolium*, Nees in Linnea, xvi. 221.

HAB. Sandy shores of the Red Sea, near Djedda, *Schimper*, 8. *Fischer*, n. 133; between Kosseir and Ras-Benass, *Schweinfurth*, n. 1577.

*Gramen* annuum, cum pedunculo viz 3-pollicare, basi pluricaule, canlibas lateralibus prostratis v. ascendentibus, medio erecto, nndiqne glabrum. *Folia* ad basin caulis plura, in canle florido 1 v. 2, supra vaginam sessilia, plana, acuta, £-1 poll, longa, 1J-2 lin. lata, ligula parva nunc vix prominente. *Pedunculus* supra folium summum 1—1J poll, longum. *Spicm* ad apicem pedunculi arete approximatus, v. inferiores parum distantes, singulss 3-4\* lin. longce. *Spiculce* in quaque spica 8-12, subsessiles, 1-1£ lin. longis, compress® at non plans. *Glumm* obtusissimeB, laxe imbricate, tenuiter membranacee, nervis 3 prominentibus. *Garyopsis* gluma paleaque laxe inclusa, libera, late ovfta v. orbiculata, a dorso compressa, insigniter rmgosa, media facie foveola lata excavata.

Allied to this species is an East Indian Peninsular plant, *Dacbylis drevifolia*, Roem., confounded by Stendel and others with the *JEluropiw repens*, and placed by Kunth in *rda* (but not the *Mhwropus lecvis*, Trin.), by Sprengel in *Koeleria*, and by R. Brown in Wallich's Catalogue in *Meisine*. It has, however, all the characters of *Eragrostis*, and may take the name of *E. brevifolia*. It is sometimes quite dwarf, with the aspect of *E. Ccelachyrywm*, but is generally much more robust and branched, never, however, with the peculiar rigid creeping habit of *2Eluropu*8. The leaves are quite those of *E. Ccelachyrywm*, but the spikelets are larger and flatter, with 6 to 12 flowers and hairy glumes, and collected into a dense, almost globular head of about \ in. diameter. *JEluropus* is readily distinguished by the many-nerved glumes as well as by habit.—G. BENTHAM.

Fig. 1. Spikelets. 2, 3. Lower empty glumes. 4. Flowering glume, side view. 5. The same, open, with the margins turned in. 6. Palea, lodicules, and caryopsis. 7-8. Stamens and pistil. 8. Caryopsis, back view. 9. The same, front view.

---

PLATE 1369.

*NEPHELOCHLOA OBJENTALIS*, Boiss.

GRAMINE\*, Tribe FESTUCBJ: (*Eufestucea*).

*H. orientalis*, Boiss. *Diagn. PL Or.* v. 73.

HAB. Levant, province of Caria near Gheyra, *Boissier*, and in Phrygia, near Ouchak, *Balansa*.



*Gramen* annuum, erectum, tenue. *Folia* pauca, anguste linearia, siccitate convoluta, 1-2 poll, longa; ligula fimbriato-lacera. *Panicula* fere *Aires involucratce*, Cav., oblonga, laxa, 3-6-pollicaris, ramis numerosis verticillatis erecto-patentibus capillaribus parce ramulosis, verticillorum inferiorum granae sterilibus; pedicelli capillares, spicula saepe longiores. *Spiculae* 5-6-floribus, compressae, distichae, pilosae, bene evolutae fere 3 lin. longae, in pluribus speciminibus minores, rachilla glabra, floribus hermaphroditis. *Glumae* 2 inferiores vacuae sub articulatione persistentes, membranaceo-hyalinae, vix venosae, obtusae, mucronatae, secundum infima paullo longior, quam florentes paullo brevior; florentes vix carinatae, basi 5-7 nervis, apice scariorum, 2-fida, arista inter lobos tenni recta lobis longiore. *Palea* hyalina, 2-dentata, 2-carinata. *Lodiculae* inconspicuae. *Stamina* 3. *Styli* brevissimi, stigmatibus brevibus plumosis. *Ovaryopsis* adhuc immatura a palea libera.

This elegant grass is the only one known of the genus, for the Asiatic species added to it by Grisebach by no means agree with Boissier's character, and should more properly be restored to *Poa*, in which genus they were originally published.—G. BENTHAM.

**Fig.** 1. Spikelet. 2. Lowest empty glume. 3. Second empty glume. 4. Flowering glume. 5. Palea. 6. Flowering glume, side view. 7. Stamens and pistil.

---

PLATE 1370.

ERAGBOSTIS PIERCII, *Benth.*

GRAMINACEAE, Tribe Eragrostideae (*Eragrostideae*),

*E.* (*Platystachya*) *Piercii*, *Benth. sp. nov.*, caulibus elongatis laxis, spiculis secus ramos tenues simplices paniculae laxae pedicellatis planis ovatis 8-16-floris, rachilla articulata, glumis obtusis v. raris mucronatis glabris, caryopsi laevi.

HAB. Coast of Beluchistan, O. Pierce.

*Gramen* ut videtur perenne, glabrum. *Oculi* basi conferti crassiusculique, decumbentes v. laxae ascendentes, cum inflorescentia 1-pedales longioresque, in parte inferiore foliati interdumque ramosi. *Folia* plana, subulato-acuminata, 1-9-pollicaria v. raris longiora. *Panicula* longe pedunculata, tenuis, laxa, ramis 3-7 fere filiformibus dissitis v. superioribus subgeminis, inferioribus interdum semipedalibus, superioribus brevioribus. *Spiculae* secus ramulos distantes, pedicello brevi saepe capillari fultae, bene evolutae 3 lin. longae, 2 lin. latae. *Glumae* complicatae, distiche imbricatae, inferiores linea paullo longiores raris mucronatae, 2 infimae vacuae sed florentibus similes

post fructus delapsos persistentes, superiores gradatim minores obtusaa. *Caryopsis* oblonga, compressiuscula, lrovis.—G. BENTHAX.

Fig. 1. Spikelet. 2, 3. Glumes, side view. 4. Glume laid open. 5. Palea. 6. Stamen. 7. Pistil and lodicules. 8. Caryopsis.

---

PLATE 1371.

**EBAGBOSTIS SCHIMPERI, Benth.**

GBAMINEJS, Tribe FESTUCEA: (*EragrostideoB*).

**E.** (*Plagiostachya*) **Schimperi\*** *Benth.*, erecta foliis angustis longiusculis, spica v. racemo terminali simplici, spiculis brevissime pedicellatis longiusculis 8-10-floris, glumis dissitis angustis acutis, caryopsi laevi. *Harpachne Schimper*, Hochst. in A. Rich. Fl. Abyss, ii. 431 et in Flora 1855, 331.

HAB. Near Adoa, Abyssinia, *ScMmper*, n. 171, Bohr.

*Qramen* forte annuum, caulēs tamen dense caespitosi  $\wedge$ -1-pedales. *Folia* angusta, nunc semipedalia nunc multo minora, ad basin laminae ssapius ciliata, pleraque ad basin caulis conferta, secus caulem pauca. *Pedunculus* supra folium supremum brevis v. elongatus. *Spica* laxa, 1-3-pollicaris, in speciminibus nostris secundā, sed ex Hochstetterosaepe quaquaversa. *SpiculcB* perfects semipolhcares, pedicello  $\wedge$ -lin. longo fultoe. *Glumce* 2 iifferiores vacuae, inaequales, florentes longiores, angusta?, acnininatae, 3-norves, variant l $\wedge$ \*ad 2 lin. longsd. *Palea* multo brcvior, incurva, 2-carinata, post fructum glumamque delapsos diu persistens. *Caryopsis* oblonga, lcevis.

Hochstetter, in pointing out the affinity of this plant to *Eragrostis*, distinguishes it chiefly on account of the thjrd glume enclosing only a palea without any perfect flower, and thuB showing an approach to *Unioia*; but *Uniola*, besides the difference in the nerves of the glumes, has at least 3 and usually 4 to 6 of the lower glumes quite empty. The continuous rhachilla and persistent palea of our plant are specially characteristic of *EragrosHs*.—*Qt*. BENTHAM.

Fig. 1. Spikelet. 2, 3. Lower empty glumes. 4. Flowering glume. 5. Palea. 6. Pistil and lodicules. 7. Stamen. 8. Caryopsis.

## PLATE 1372.

MUNROA SQUABROSA, *Torr.*

GRAMINEE, Tribe FESTUCEAE (Seslerieae).

*M. squarrosa*, *Torr. Bot. Whipple Exped.* 102 (158).

HAB. North America; Western Texas, New Mexico, Sonora, np to Colorado.

*Gramen* annuum, humile, multicaule, caulibus primariis 2-4-pollicaribus apice fasciculato-ramosis saepeque fibrilliferis quasi proliferis rigidulis glabris. *Folia* ad basin fasciculorum conferta, linearia, acutissima, rigidula, rarius pollicem excedentia. *Spiculce* inter foliorum fasciculos paucae, sessiles et fere occultae, saepius 3-florae, floribus hermaphroditis, rachilla supra glumas inferiores articulata, sub quoque flore plus minus elongata. *Glumae* 2 inferiores vacuae, sub articulatione persistentes, lanceolatae, acutae, hyalinae, enerves, muticae; florantes majores, 3-nerves, mucronato-subaristatae, ad utrumque latus interdum in dentem brevem productas, superiores vacuae 1-2, florentibus similes nisi minores. *Palea* hyalina, complicata, anguste 2-carinata, florem amplectens. *Stamina* 3. *Styli* distincti, elongati, a basi laxe breviterque pilosi. *Ovaryopsis* anguste oblonga, palea multo brevior, libera.

This genus, dedicated to the distinguished agrostologist the late General Munro, is now represented by two or three species from extra-tropical South America, differing from the northern one in a few points of structure, but evidently congeners and with the same habits.—

G. BENTHAM.

Fig. 1. Cluster of leaves and spikelets. 2. Spikelet. 3, 4. Outer empty glumes. 5. Flowering glume. 6. The same opened out. 7. Palea. 8. Pistil. 9. Caryopsis.

## PLATE 1373.

FINGEKHUTHIA AFRICANA, *Lehm.*

GRAMINEAE, Tribe FESTUCEAE; (Seslerieae).

*F. africana*, *Lehm. Cat. Sent. Hort. Hamb.* 1834. *F. ciliata* aud *F. sesleriaformis*, *Nees, Fl. Afr. Austr. Gram.* 136, 138.

HAB. South Africa, apparently common in the colony from Albany and George districts eastward and recently found also, in Afghanistan by Dr. Aitchison.

*Or am en* cespitosum, erectum, rigidulum, caule foliis glabris,

1-2-pedale. *Folia* infuriora conferta brevia, superiora pauca **distantia**, vagina longa; lamina **anguste** linearis, plana, acuta v. in acumen subulatum produeta, 2-5 poll, longa; ligula brevissima, ciliata. *Spica* torcninalis, longe pedunculata, **dense** cylindracea ei *Phlei* subsimilis, |—1<sup>^</sup> poll, longa, 4-5 liu. diainetro. *Spic-tilm* 1- rarins 2-floras, circa rbachin inarticulatam densissinie coufbrtoe, singulge cum pedicello brevissimo articulata?, compresses, rhachilla ultra florum produeta stipitifirmi v. glumifera, flore unico v. infimo berraapbrodito, supciore dum adsit masculo. Spicnlae infimae **et** summsa cujuwve spicaj **dimi-nutffi**, vacutE v. ad glumas vacuas subulatas reductse, diu **persistentes**, perfects fructiferao caducai. *Glumes* 2 inferiores vacuce, complicato-carinata.8B breviter aristatas, parnm ioaaquales, pins miuus oiliatae; tertia fiorens vacuis similis nisi panllo latior rigidiorqne> arista brevi none ad mucronem redncta; terminalis minor, vacua v. pnleam solam rarins florem masculum fovens. *Palea* gluma paulo brevior, subliyalinn. 2-carinata. *Selvmina* 3. *Slyli* distinct], elongati, stigmatibus fiH-formibus pilis brovibua villosi<sup>^</sup>. *Caryopsis* oblonga, losvia, gluunt paleaquo laxe inclusa, a palea libera.

This grass is interesting as the only exception to the great series \*f Poacesa in the articulation of the pedicel below the spikelet, whilst **the** empty glume or male flower above\* the fertile one removes it from **the** Panicese. The geographical range is also unusoal, for it bus us<sup>ver</sup> been found in any station intermediate between South Africa and Afghanistan,—Gr. BKNTHAM. •

Fig. 1. Spikelet. 2. Outer empty glume. 3- Flowering glume. 4. **The** same opened out. 5. Palea. G Pistil. 7. Caryopsis.

PLATE 13?4.

**DISSANTHELIUM SUPINUM, Trin.**

GIIAMINI<sup>^</sup>, Tribe FESTUCEJ; (*Eragrostidece*).

**D. supinm, Trin. in Linpcea, x. 305,** kumile, dense casspitosum. panicula brevi dense spiciformi, spiculis ii-floris. *Phalaridium pervianum*, Nees in Pl. **Meyen.** lul *Dimmthdmm sclerochloides*, Fourn. Gram. Mexic, 112.

HAB, Andes of Peru and Bolivia, **Lechler, n. 1832, Mandon, n. 1<sup>^</sup>45,** apparently at considerable elevations ; also in Mexico (*Fournder*).

*Caules* basi vaginis foliorum obtecti, cum foliis dense caespitosis 1-2-pollicares, rarius cum panicula 3-pollicares, glabri. *Folia* angustolinearia, acuta, ligula membranacea 1-2 liu. longa. *Pedunculus* vix

e foliis exsertus v. demum folia breviter superans. *Panicula* oblonga, subpollicaris, densa v. basi paullo latior laxiorque. *Spiculce* 2-floree, rhachilla glabra sub floribus articulata, ultra flores in stipitem minutum producta, floribus hermaphroditis. *Gluma* 2 inferiores vacuæ, sub articulatione persistentes, linea paullo longiores, angusto, carinatæ, 3-nerves, acute, exaristatæ, parum inæquales; florentes multo breviores, latiores, obtusiusculæ, obtuse carinatas, 3-nerves, nervis lateralibus marginalibus y. interdum obscuris. *Palea* gluma paullo brevior, 2-carinata, 2identata. *Stamina* 3. *Styli* brevissimi, stigmatibus plummosis. *Caryopsis* oblonga, subtriquetra, libera.

In this genus the proportion of the lower empty glumes to the following ones is that of the European *Schismus*, but the venation of the glumes places it in a different subtribe. I have not seen any Mexican specimens, but Founder has identified them with Lechler's, and he describes the spikelets as 2-flowered only, which character distinguishes this species from the Californian one. Mandon's specimens, n. 1346, are probably the same *D. supinum* in younger state.—G. BENTHAM.

Fig. 1. Spikelet. 2. The same opened out, showing the summit of the rhachilla. 3, 4. Lower empty glumes. 5. Flowering glume. 6. Palea. 7. Pistil and lodicules. 8. Caryopsis.

---

PLATE 1375.

DISSANTHELIUM CALIFORNICUM, *Benth.*

GRAMINEÆ, Tribe FESTUCEÆ (*Eragrostidece*).

*D. californicum*, *Benth.*, tenuè, erectum, panicula longa angusto-laza, spiculis sæpissime 3-floris.—*Stenochloa californica*, Nutt. in 'Journ. Acad. Philad.' ser. 2, i. 189.

HAB. Islands of the coast of Lower California, Santa Catalina, *Gambel*; Guadelupe Island, in *Palmer*, n. 96.

*Caules* annui, graciles, erecti, 1-2 pedales. *Folia* angusta plana, longiuscula. *Panicula* 2-3-pollicaris. *Spicula* quam in *I*, *supino* paullo majores et in specimine *Gambeliano* uti in *Palmerianis* sæpè 3-floras vidi, a Nuttallio tamen 2-floras dicantur. Cetera orania *D. supini*.—G. BENTHAM.

Fig. 1 Spikelet. 2, 3. Lower empty glumes. 4. Flowering glume. 5. The same laid open. 6. Palea. 7. Pistil. 8. Caryopsis.

# ICONES PLANTARUM.

PLATE 1376.

CRYPTOCHLOBIS, SPATHACEA, *fienth.*

GRAMINEJ, Tribe CHLORIDES.

*Cryptochloris*, *gen. nov.*, Char. *gen. Spiculce* 2-florce (rarius 1-floneP) secusrhachin continuum spies subsecundcB sessiles, 2-seriatim confertae. *GlwnuB* 2 inferiores vacura, persistentes, angustissime lineares, complicate, glabrae, param ineequales, spiculam stHbeequantas, acutce, mufcicaa; florentes merabranaceae, late ovatse, 1-nerves, eztus longe ciliataB, apice minute 2-dentatae, sob apice dorso arista rigida instmctoo; saperiores plures vacua obovataQ v. subglobosss, gpadatira minores glabrioresqne, omnes aristatas. *Pcdea* gluma florenti panllo minor, 2-dentata, pilosnla, mutica. *Stamina* ... *Stylus* ... *Caryapsis* gluma inclnsa, obovoidea, libera.—*Gramen* annum, nanum, spica simplici densa bractea spathiformi semi-inclusa.

*C. spathacea*, *Berth.*, single species.

**HAB.** Most probably Patagonia, the only specimen known being in a collection made by Gapt. Middleton almost entirely in Patagonia, and deposited in Forsyth's Herbarium, though this particular specimen had no locality assigned to it.

*Gramen* annum, vix 2-pollicare, ramosum, caulibus infra inflorescentiam ^-1-pollicaribus, foliis paucis laxe yaginatiss, lamina lineari. Bractea spathifonnis nnica (v. 2?), temiinalis, 8-10 lin. longa, latinscula, membranacea, spicam fere omnino inchidens. Spica iutra bracteam sessilis, setis aristisque glumarum florentium quasi plumosa.

The structure of the spikelets is very nearly that of *Ohloria* itself, but they are generally, if not always, two perfect flowers, and the habit is very peculiar.—*Gt.* BENTHAM.

Fiff. 1. Inflorescence after the fall of the spikelets. 2. Deciduous fertile part of the spikelet. 3, 4. Flowering glumes. 5. Palea. 6. Caryopsis. 7, 8, 9. Upper empty glumes.

---

PLATE 1377.

GBASFEDOBHACHIS AFRICANA, *Benth.*

GRAMINEJS, Tribe CHLORIDE\*.

*Craspedorhachis*, *Benth. gen. nov.*, *Gnar. gen. Spicuke* 1-flora, secus rhachin marginatani spicarnm unilateralium subsessiles, rachilla brevissima ultra florem non producta, flore hermaphrodite. *Glumce* 3, exaristatce, 2 inferiores vacua, persistentes, carinatas, acute), 1-nerves, rigidule membranaces, subffiquales, infima rachi contigua, secnnda per anthesin patens; tertia florens pluries brevior, lata, snbtruncata, tennissime hyalina, ciliata. *Palea* gluma vix brevior, angustior, tennissime hyalina, apice breviter 2-fida v. 2-dentata. *Stamina* 3. *Styli* snb anthesi breves, distincti, stigmatibns plumosis. *Caryopsis* ..—*Qramen* elatiusculum, foliis paucis angustis. *SpicifB* plures, simplices, secns pednncnlom comznnrem sparsee, erectinsculee.

*C. africana*, *Benth.*, single species.

HAB. Tropical Africa, on the Zambesi, opposite Senna, *J. Kirk.*

*Caules* tenues, rigiduli, lf-2-pedales. *Folia* radicalia v. secus caulem panca, vaginis longiusculis striatis; lamina anguste lineans, snperne subnlato-teres, 3-4-pollicaris; ligula hyalina pluriseta. *Panivula* supra vaffinam summam breviter pedunculata, fere semipedahs, rhachi coñmmuni simplici. *Spam* secus rhachin 10-15, inter separum distantes, summ© 2-3 confertae, omnes a basi flonfer©, 2-3-pollicares, rhachi leviter flexuosa ad latera acute marginata. *Spiculas* sessiles, arete appressee, fere 2 lin. longae. „ . - . , , „ .

The genus is in many respects allied in character as well as in habit to the North American *Schedonnardus* figured above (1360), but is readily distinguished by the very small hyaline flowering glume and palea, almost resembling lodicules.—*G.* BENTHAM.

Fie 1 Portion of a spike with SSpikelets. 2. Outer empty glumes. 3,4. Flowering glumie. 5. Palea. 6. Stamen. 7. Ovary and styles.

---

## PLATE 1378.

SCHAFFNERA GRACILIS, *Benth*

## GRAMINEAE, Tribe ZOYSIEA?

*Schaffnera*, *gen. nov.*, Char. gen. *Spiculae* 1-florea, in pedunculis axillaribus 1-3 subsessiles, articulate, rachilla brevissima ultra florem non producta, flore hermaphrodito interdum sterili. *Gluma* 2, inferior vacua, spiculam equans, 00-nervis, 3-5-aristata, aristis lateralibus basi stipitibus hyalino-appendiculatis, superior florens membranacea, fere hyalina, brevissima 2-loba, arista inter lobos fere dorsali longiuscula patente. *Palea* gluma paulo brevior, tenuiter hyalina, 2-nervis, apice obtusa v. 2-dentata. *Stamina* 3. *Styli* 2, distincti, elongati, apice breviter plumoso-stigmatosi. *Ora* humile, annuum. Pedunculi in vaginis foliorum floralium inclusi, inferiores interdum solitarii, superiores in vagina 3-00, fasciati.

8. *gracilis*, *Benth*, single species.

HAB. Mexico; mountain<sup>^</sup> of San Miguelita, in the valley of San Luis Potosi, *J. O. Schaffner*.

*Oaules* dense fasciati, basi ramosi, ascendentes v. erecti, tenues, 3-6-pollicares, uti tota planta glabri. *Folia* inferiora ad basin ramorum conferta, secus caules plura dissita fere omnia floralia; vaginae rigidulae, striatae, 2-4 lin. longae; laminae angustae, interdum subulatae, 1-2 pollicares; ligulea lanceolatae hyalinae. \* *Spicularum* fasciculi vix folia excedunt. *Gluma* ipsa vix linea longior; aristae saepe 3-lineares, tenues, rigidulae, scabro-denticulatae. *Caryopsis* in speciminibus vix ab ovario aucta.

The affinities of this plant are still very doubtful. Although the structure of the spikelets is technically that of *Zoysia*, the inflorescence is nearer to that of some *Andropogoneae*, and the 3- or 5-awned empty glumes remind one of *Pappopkorec* B.—*Or.* BENTHAM.

Fig. 1. Cluster of 3 peduncles, each bearing 2 or 3 spikelets. 2. Peduncle with 3 spikelets. 3. Peduncle with 2 spikelets. # 4. Single spikelet. 5. Empty glume. 6. Flowering glume. 7. Palea. 8. Ovary and styles.



## PLATE 1379.

CLEISTACHNE SOBGHOIDES, *Benth.*

GRAMINEJE, Tribe TBISTEGINE-E.

*Cleistachne*, *Benth. gen. IIQV.*, Char. gen. *Spicula* 1-florru, oblongs?, secus panicul© ramos capillares inarticulatos dissitad, in pedicello articulatao, flore hermaphrodite. *Olumo*B 4, 2 inferiores vacuo, subcequales, lat», rigidoB, acutiuscul©, muticre, plurinerves, circa florem convolute, clause; tertia snbbrevior, vacua, angusta, bjalina v. euperne membranacea villosaque; quarta sub flore a basi minima hyalina in aristam longam rigidam tortam producta. *Palea* minima, hyalinatrnncataciliata; lodicul» majusculro. *Stamina* 3. *Styli* distinct?, stigmatibus plumosis. *Cartapsis* oblonga, glumis inferioribus rigide coriaceis arete inclnsa.—*Gramen* elatiusculum, foliis longis plan is. Panicula anguste thyrioidea, floribunda, pilosa, ramulis orectis flexuosifl.

*C. sorghoides*, *Benth.*, single species.

HAB. Tropical Africa, Shubanga, on the Zambesi, *J.Kirk*; and perhaps a variety with rather smaller spikelets, East Indian Peninsula, Bababoodun hills, Malabar, *Law*.

*Caules* fide *Kirkii* 7-pedales, rigiduli. *Folia* pauca, yaginis longis sparse setiferis; lamina plana, pedalis v. longior breviter snbnlato-acuminata; ligula brevis, ovattf v. lata, brunnea. *Panicula* supra folium summum breviter pedunculata, 6-10-pollicaris, angusta, densa, ramis ramulisque numerosis 1-2-pollicaribus v. interdum parum longioribus. *Spiculce* brevissime pedicellate, oblongee, 2-lin. longasB, dorso pilose; aristae ^-1-pollicares.

This plant at first sight' resembles some specimens of *Sorghum fulvum*, but the total absence of the second spikelet (whether perfect or rudimentary) to each node or notch removes it from the *Andropogonece*, and brings it into connection wittf *Arundinella*. The spikelets in the East Indian specimens are rather darker coloured and perhaps smaller than, in the African ones but I can find no other difference.—  
G. BENTHAM.

Fig. 1. Branch of the panicle. 2, 3. Outer empty glumes. 4. Third empty glume. 6. Flowering glume. 6. Palea. 7. Lodicules. 8. Ovary and styles.

PLATE 1380.

CYPHOSTIGMA PULCHELLUM, *Benth.*

SCITAMINEAE, Tribe ZINGIBEREA.

**Cyphostigma**, *Benth. gen. nov.*, Char. gen. *Calyx* supra basin elongatam tubulosus, per anthesin spathaceo-fissus. *Corolla* tubas tennis, e calyce breviter exsertus; lobi 3, anguste oblongi, subaequales, revoluti-patentes. *Staminodia* lateralia 0; labellum orbiculato-reniforme, obscure 3-lobum, lobo medio magis prominente sub-2-lobo; anthera in filamentum brevi erecta, loculis parallelis v. apice param divergentibus, connectivo angusto ultra loculos in cristam semi-orbiculatam petaloideam marginem crenulato-crispam dilatato. *Ovarium* basi saltem 3-loculare; stylus filiformis, stigmatibus ezserto crasso oblongo basi postice gibbo circafoveolam terminalem ciliolato; ovula in quoque loculo plurima, sub-2-seriata. *Fructus* ...—Rhizoma horizontale. Foliorum vaginas longae convolute caulem simulantes. Scapi florentes apiculati, e rhizomate ad basin foliorum elongati, procumbentes, ramulosi, floribus in ramulis sparsis.

**C. pulchellum**, *Benth.*, single species. *Amomum pulchellum*, Thwaites, Ennm. PI. Zeyl. 318.

HAB. Ceylon; forests of the Central Province, up to an elevation of 3,000 feet, *Thwaites*, O.P., n. 2736.

•*Rhizoma* durum, breve, horizontale?. *Folia* pauca; vaginae complicato-convolutae, striato-venosae venulis transversis interdum quasi tessellato, columnam cauliformem pedalem formantes; petioli supra vaginam 1-3-pollicares, lamina oblonga, 1-2-pedalis, praeter costam subtus pilosulam glabra. *Scapi* florentes 1-pedales, procumbentes, nexuosi, fere a basi floribundi, ramulis nunc brevissimis nunc 2-3-pollicaribus. *Bracteae* vaginantes ad basin ramulorum et florum confertae v. dissimilatae neo imbricatae. *Flavae* ad axillas bracteolarum breviter pedicellatae. *Corolla* ad 9 lin. longus, lobi vix breviores, extus puberuli, pallidissimi, venis 3 fulvis. *Labellum* et antherae crista inter se fere rostrata, rosea, ad apicem antherae horizontaliter patentia, 9-10 lin. longa, supra antheram brevissime exsertus.

This plant was placed by Thwaites in *Amomum* on account of the large crest or appendage to the anther, but in the large genus *Amomum*, so\* constant in its inflorescence, a dense erect spike with imbricate bracts, the appendage to the anther is exceedingly variable, and sometimes disappears entirely; and the inflorescence appears generally to afford one of the best generic characters in the order, and here

it appears to be accompanied by a peculiar stigma, and the remarkable shape given to the flower by the broad, equally-spreading labellum and anther-appendage. The inflorescence approaches that of the *Elettaria Cardamomum*. Miss Smith's drawing is made up partly from a series of excellent specimens received from Mr. Thwaites, partly from a coloured drawing taken by him from living specimens.—O. BENTHAM.

Fig. 1. Anther. 2» 3. Stigma. 4. Ovary. 5. The same, transverse section.

---

PLATE 1381.

**EBAGROSTIS WIGHTIANA, Benth.**

GRAMINEÆ, Tribe FESTUCEÆ.

E. (Myriostachya) **Wightiana**, *Byntli*. Erecta, elata, longifolia, panicula angusta, dense thyrsoides, ramulis numerosissimis quaquaversis confertis, spiculis breviter pedicellatis 4-6-floris, glumis 2 exterioribus vacuis parvis in aristam v. mucronem longum desinentibus, florentibus majoribus breviter mucronato-acuminatis. *Leptochloa Wightiana*, Nees in Steud. *Syn. Glum.* i. 209.

HAB. East India, East Bengal, *Griffith*; Sunderbunds, *Wall. Cat. Herb. Ind. n.* 3823.

*Caulis v&Udus*, pluripedalis, uti tota planta glaber. *Folia* longissima, erecta, rigidula, e basi latiuscula longe subulato-acuminata. *Panicula* 1-2-pedalis, cylindræa; ramis confertis 1-2-pollicaribus erecto-patentibus simplicibus v. parce ramulosis, rhachi glabra v. minute pubescente. *Pedicellæ* breves, filiformes. *Spicula* 3-4 lin. longæ. *Glumes* florentes 1<sup>^</sup> lin. longæ, rigidæ, carinae, 3-nerves, brevissime mucronatæ, 2 exteriores vacuæ vix lineam longæ sed sepias in aristam spiculam subsuperantem desinentes, superior vacua 1-2, parva.

This species has so peculiar an inflorescence that it is at first difficult to admit it into the genus; it is, however, in some measure connected with it through the *F. cynosuroides*. It has nothing of the chloroidous inflorescence characteristic of *Leptochloa*. Several specimens are affected with a peculiar gall, forming here and there hard nodes in the panicle.—G. BENTHAM.

Fig. 1. End of a branch of the panicle. 2, 3. Outer empty glumes. 4. Flowering glume, ♂. Palea. 6. Young caryopsis.

---

## PLATE 1382.

PSEUDOCENTRUM MINUS, *Benth.*

OSGHIDEJ!, Tribe NEOTTIE2E.

**P. minus**, *Benth. sp. w.*, perianthio laxe pilosulo, mento lineari clauso ovario 89qnilongo v. vix longiore.

HAB. Jamaica, Portland Gap, at an elevation of 5,400 feet, *D. Morris*.

*Fibrce radicates* in rhizomate brevi fasciculatae, carnosula. *Gaulis* erectus, simplex, cum spica pedalis v. paullo altior. *Folia* 2-3-inferiora subradicalia y. prope basin caulis, supra vaginam breyem longiuscule petiolata, ovato-lanceolata v. oblonga, acutiuscula v. obtusa, 3-5-pollicaria, 1-2 superiora multo minora, subsessilia, basi vaginantia. *Spica* donaa, 3-6\*)>ollicaris, floribus quaquaversis ad axillas bractearum lanceoiatarum subsessilibus erecto-patentibus, pilis crispulis laxe vestitis. *Ovarium* cylindraceum, basi attenuatum, vix 5 lin. longum. *Sepalum* posticum (inferum) patens, lato-lanceolatum, ovario plus duplo brevius; lateralia in mentum sen tubum cylindraceum ascendens ovario saqnilongum connata, ad marginem tubi in limbum patens emarginatum brevissime expansa. *Peiala* sepalo postico dimidio breviora angustioraque, patentia. *Labellum* ad basin columnae sessilis, ad os menti in lobos 2 breves falcatos divisum, intra mentum in laminam longe lthearem in fundo menti lobo inflexo clausam productum. *Oohimna* brevissima; clinandrium membranaceo-2-lobum. *Anthera* inter lobos clinandrii brevissime stipitata, erecta, 2 locularis; polynia in loculis gemina, pulvero-granulosa, acuminata. *Stigma* concavum ad apicem truncatum columnae pone rostellum breviter hinc, glandula terminatum.

The habit and essential character are entirely those of the original *JP. macrostachyum*, Lindl., from New Grenada, which, however, has larger, more glabrous flowers with the sepaline mentum twice as long <sup>8(8) \*he</sup> ovary and some other differences in the details of the flowers.

—Gh BENTHAM.

Fig. 1. Flower. 2. Labellum. 3. Column and anther-case. 4. Anthers. 5. Pollen masses.

## PLATE 1383.

PHEROSPH J3RA FITZGERALDI, *F. Muell.*

## CONIFERS, Tribe TAXEJI.

*P. Fitzgeraldi*; monoica, foliis ericoideis decurrenti-adnatis erecto-incurvis crasse subnatis obtusis v. mucronulatis dorso rotundatis v. obscure 3-gonis facie leviter conversis, staminum columna ovoidea sessili, connectivo oblongo apice rotundato loculis basilaribus circinatis, amentis 9 paucifloris erectis, squamis subulato-lanceolatis acutis facie exsculptis, semina ellipsoidea erecta paullo superantibus, testa coriacea obtuse 3-costata.

*P. Fitzgeraldi*, F. Muell, MS. *Dacrydium Fitzgeraldi*, F. Muell., *Fragm. Phytogr. Austral.*, xi. p. 102.

HAB. New South Wales, in densp woods of the Blue Mountains, near the Katoomba Falls, *B. Fitzgerald, &c.*

*Frutex* flaccidus, ad 9-pedalis, ramis infimis prostratis radicanibus. *Folia* laze imbricata, IVTV P<sup>0</sup>^- longa, pallide viridia, coriacea, enervia. *Oolumna staminum* j poll, longa; anther circinatis 12-16, laze imbricate, dorso connexae, loculis contiguis hiantibus. *Amenti squamre* 3-6, foliis paullo longiores, suberecte, laminae ovulifero 0. *Qndwn* facie squamre basin versus insertum, erectum.

In the total absence of an ovuliferous disk, this plant differs from *Dacrydium*, and agrees with *Pherosphcera*, of which a single Tasmanian species was previously known, thus tending to confirm this genus (which was considered as somewhat dubious in the 'Genera Plantarum') by the addition of a species from a widely distant locality. Baron von Mueller, to whom I am indebted for the specimen of *P. Fitzgeraldi* here figured, suggests ('Fragmenta,' *I.e.*) that *Dacrydium Kirkii* of New Zealand, having 'an often evanescent disk,' may be a congener; but this latter plant is so clearly a *Dacrydium* in habit and in the form of the scales and fruit that it rather tends to suppress *Pherosphera*, or to establish it on other characters, than to so enlarge it as to include *D. Kirkii*.—J. D. HOOKER.

Fig. 1« Leaves and staminal column. 2. Anther. 3. Leaves and V cone. Scale and young seed. 5. Vertical section of immature seed. *All enlarged.*

PLATE 1384.

CAMPYLOSIPHON PURPURASCENS, *Benth.*

BUEMANNUCEJ!

*Camphylsiphon*, *gen. nov.*, Char. gen. *Perianthii* tubus tennis, incurvus, exalatus; lobi 6, 2-seriati, omnes angusti, parum inaequales. *Antherae* 3, intra tubum infra lobos inferiores subsessiles, connectivo latiusculo supra loculos non producto, locali ad latera connectivi prominentes, transversim in valvas 2 superpositas dehiscentes. *Ovarium* inferum, elongatum, 3-loculare, 6-costatum; stylus perianthio inclusus, apice clavatus, in lobis 3 latis subdivisus; ovula in placenta axilibus numerosissima. *Capsula* angusta, incurva, exalata, perianthio marcescente coronata. *Semina* numerosissima, angustato-globosa, testa appressa.—*Herba* tennis succulenta, aphylla. *Flora* in racemo terminali simplici v. bifido breviter\* pedicellati.

*C. purpurascens*, *Benth.*, single species.

HAB. North Brazil and Venezuela, on tree-roots in moist Gatingas at Pannr6, on the Rio Uaupès and San Carlos on the Rio Negro, *R. Spruce*, n. 2492; forest behind Manaos on the Amazon, *J. W. H. Traill*, and apparently the same species, Poiaro river, British Guiana, *KF. W. Thum.*

*Herba* annua (v. rhizomate perennif), semipedalis v. paulo altior, pallide purpurascens, caulis simplici v. basi duplicato erecto, squamis sparsis concoloribus erectis breviter vaginantibus instructo, superioribus paulo longioribus in bracteis flores subtendentes abeuntibus. *Flores* in racemo pauci, breviter pedicellati, pallide purpurascens subeffluorescentes v. in planta Guianensi albi. *Perianthium* campanulatum 9-11 lin. longum, tenue, incurvum, limbi lobi lineari-lanceolati, acuti, ad 3 lin. longi, interiores exterioribus paulo angustiores. *Antherae* Burmannice, loculis insigniter prominentibus, valvis dehiscentia omnino discretis. *Styli* apex insigniter incrassatus, lobis latis crenatis. —Q. BENTHAM.

Fig. 1. Portion of the perianth-tube and four of the lobes, opened out showing two of the anthers. 2, 3. Anthers open, showing the two valves of each cell. 4. Apex of the style. 6. Ovary, transverse section. *Fig. 1 magnified.*

## PLATE 1385.

**HELIETTA PARVIFOLIA**, *Benth.*

RUTACEAE, Tribe TODDALIACE.

**H. parvifolia**\* *Benth.*, foliolis oblongis v. anguste obovatis obtusis, terminali 1-pollicari, lateralibus multo minoribus, panicula sessili petiolo foliorum terminalium vix excedente, floribus 4-meris.

HAB. Mexico, State of Nuevo Leon, near Monterey, *Berlandier*, n. 1404 (144); *E. Palmer*, n. 142; and State of Coahuila, 24 miles N.E. of Monolova, *Palmer*, n. 143, 144.

*Frutex* ramosissimus, glaber. *Folia* opposita, 3-foliolata; foliola ad apicem petioli 4-8 lin. longi sessilia, terminate nunc anguste oblongum 1-1½ pollicare basi longiuscule angustata, nunc obovatum vix semipollicare, lateralia saepius dimidio minora basi obliqua, omnia integerrima, punctis pellucidis parvis in folio juniorum minutis conspersa. *Panicula* v. cyma trichotoma inter folia parvis ultimis brevissime pedunculata, parva, pauciflora, rarius petiolo breviter superans. *Pedicelli* brevissimi, minute 2-bracteolati. *Sepala* 4; parva. *Petala* 4, sepalis 2-3-plo longiora, leviter imbricata. *Stamina* 4 circa discum cyathiformem truncatum affixa. *Ovarium* 4-lobum, 4-rioculare. *Ovula* in quoque loculo 2, collateralia. *Stylus* tenuiter columnaris, stigmate capitato 3-lobato. *Fructus* e carpellis 4 samaroidis ante maturitatem coherentibus radiatim patentibus maturitate solvendis indehiscentibus; samara singula nucleo oblongo erecto duro 3-5 lin. longo, in alam subsemipollicarem rigidulam late ovatam v. rotundatam a latere producta. *Semen* unicum, oblongum, lateraliter affixum; embryo in albumine carnosum axillis, rectus, radícula brevi supra.

This plant was originally sent by Asa Gray with loose fruits received as belonging to it, which proved to be those of a *Ptelea*, and induced Helmsley to describe it in the \* *Botany of Central America*,<sup>9</sup> i. 170, as *Ptelea parvifolia*, A. Gray. Palmer's specimens, however, both in flower and with the fruit attached, show that the real fruits as well as the flowers correspond in every respect with the detailed character of the genus *Helietta* given by Tulasne in the 'Ann. Sc. Nat.' ser. 3, vii. 280. Tulasne's original species, *Ptelea* from New Grenada, of which we have probably rather imperfect specimens gathered by Triana, differs chiefly in the thinner leaflet's fully twice the size of those of *S. parvifolia*, and the looser panicle with smaller flowers. A third species was gathered by Balansa in Paraguay and distributed under n. 2515, described as a small tree. It is near *S. parvifolia*, but

the leaflets are longer, remarkable for the rigid point terminating them, and with looser panicles, the flowers all 5-merous, but agreeing in all other respects as well as the fruits with those of the *H. parvifolia*. It may be thus characterised: *H. apiculata*, Benth., foliolis elliptico-oblongis ant lanceolatis (1<sup>^</sup>-2-pollicaribus) mucrone rigidulo apiculatis, panicula laxa floribunda folia subroqnante, floribus fructibusque 5-meris. ^ Asa Gray has thought that the whole genus might be united with *Ckoisya*, but, besides the stamens equal in number to and not double those of the parts of the flower, the small flowers in a divaricately trichotomous panicle give it a very different aspect, and the ripe fruit of *Ohoisya* is as yet unknown.—Q. BENTHAM.

Fig. 1. Flower. 2. Stamens, disk, and pistil. 3. Stamens. 4. Ripe carpel, longitudinal section, with the base of the wing. 6. Embryo. 6. Flower bud.

---

PLATE 1386.

NIEBUHRIA WOODII, *Oliv.*

CAPPAEIDACEIE.

^ *H. Woodii*, *Oliv. sp. nov.*, giabra, foliis 3-5-foliolatis, foliolis elliptico-lanceolatis lanceolatisve acutatis mucronuiatis coriaceis venulis subtns prominentibus, floribus in ramis annotinis fasciculatis, pedicellatis, ovario ellipsoideo v. obovoideo glabro longitudinaliter 4»costato, fructu subglobose.

HAB. Inanda, Natal, *J. M. Wood*, n. 930.

*Frutex* 5-8 pedalis, ramis virgatis teretibus cortice laevi. *Folia* aiterna petiolata; petiolis subteretibus 2-4 poll, longis; foliolis 4-7 poll, longis 1£-2£ poll, latis, lateralibus nrinoribus, basi plus minus angustatis breviter petiolulatis. *Fhres* fasciculati v. in racemis sessilibus umbelliformibus dispositi; pedicellis i-t-poll. longis; bracteis minutis subulatis. *Calyx* campanulatus profunde 4-fidus basi obtusus leviter intrusus, lobis ovato- v. oblongo-ellipticis obtusiusculis breviter apiculatis. *Petala* 0. *Stamina* circ. 13 in toro parum elevato inserta; filamentis gracilibus glabris, antheris Hasifixis ellipsoideis. *Ovarium* lonp stipitatum ezsertum, stylo brevissimo deinde incrassato, stigmate hemisphaerico bilobulato; ovula 10-12 vel pauciora. *Fructus* subglobosus sublaBvis, I poll. diam.; gynophoro fructifero 4-f poll. longo.-D. OLIVER. " \*

Fig. 1. Flower laid open. 2. Calyx, *enlarged*. 3, 4. Anthers. 6. Ovary and stigma. Transverse section of ovary. 7. Fruit and gjbophore.

---



*Petals are described here  
as 4 and stamens as 8.  
In the figure they  
are evidently 5 and  
which is correct?*

PLATE 1387.

SIMAETJBA MONOPHYLLA, OUV.

SIMARUBACEAE, Tribe SIMARUBEAE.

8. *monophylla*, OUV. *sp. nov.* Frutes 1-3 pedalis, glaberrimus, foliis simplicibus oblanceolato-oblongis obtusissimis integerrimis coriaceis tovis brevissime petiolatis, paniculis saepius pedunculatis terminalibus foliis brevioribus, floribus polygamis.

HAB. Kaieteur Savannah, Potaro river, British Guiana, G. & Jernan, Sept. and Oct. 1881.

*Frutex* cortice nigrescente sasse rimoso glaberrimo in ramulis ultimis nitente. *Folia* 1½-3 poll, longa, | - 1 f poll, lata, coriacea, costa supra leviter depressa, venis inconspicuis; petiolus brevissimus crassiusculus corticatus. *Flores* polygami breviter pedicellati, pedicelli flore sequilongi v. breviores. *Galtix* parvus 4-fidus, lobis deltoideis ovatisve actis. *Petala* 4 oblongo-elliptica minutissime puberula, aestivatione imbricata | - ^ poll, longa. *Stamina* 8, appendicula basilari truncata v. lobulataintus pilosula; filamenta glabra subulata; anthera dorso affix<sup>o</sup> late elliptic<sup>o</sup> basi profunde bifid<sup>o</sup>. *Ovarium* glabrum 4-lobatum, in toro breviter elevato impositum; ovulasolitaria pendula; stylus ovario 1-2 plo longior apice 4-dentatus.

I leave this plant in *Scmaruba* rather than in *Simaba* on the ground of the imbricate aestivation of the corolla. I find, however, in the unifoliate *Simaba obovata*, Spruce (Engler<sup>n</sup> *Mart. Fl. Bras. xii.* par. 2. p. 210), that the aestivation is also imbricate, and I cannot doubt the two plants are congeneric.—D. OLIVER.

Fig. 1. JBud. 2. Expanded flower. 3, 5. Stamens and appendage. 4, 6. Calyx and pistil. 7\* Ovule *in situ*.

PLATE 1388.

APODOLIRION BUOHANANI, Baker.

AMARYLLIDACEAE, Tribe AMARYLLIDEAE.

A. Buchanani, Baker *in* <sup>rimen</sup> *Journ.*, 1875, 75; foliis hysteranthiis, perianthii tubo limbo eequilongo, limbi segmentis oblanceolatis actis, antheris 3 *nd* tubi faucem insertis filamentis brevissimis, % ad segmentorum unguis adnatis filamentis longioribus.

**HAB.** Barren plains of Natal, *Rev. J. Buchanan.*

*Bulhus* globosus 1 poll, diam., tnnicis pallidis membranaceis circiter collam 1-2 poll, longnm productis. *Folia* ignota. *Peduncuhis* brevissimus. *SpatJia* membranacea cylindrica 1 poll, longa apice fissa. *PeriantJiii* tubus gracilis cylindricus 1<sup>^</sup>-2-pollicaris : limbi segmenta pallide rubella 18 lin. longa 2-3 lin. lata subtiliter multinervata supra medium ad basin sensira attenuata. *Anthem* albidas lanceolate 3 lin. longs, 3 ad tubi faucem sessiles, 3 supra basin segmentorum-insertge, filamentis filiformibus antheris subcequiloDgis. *Stylus* filiformia ex tmbi fauce breviter exsertus, stigmatē capitato, obscure trilobate—J. G. BAITER.

Fig. 1. Flower cut open, shewing segments and upper half of tube, *not. site.*  
2. Anthers. 3. Stigma and upper part of style, *enlarged.*

---

PLATE 1389.

LEONTOCHIR OVALLEI, *Phil.*

AMARYLLIDEJE, tribe ALSTRCEMEBIEJB.

I. Ovallei, *Philippi, Descr. Nuev. PI* ii. (1873), 69, single species.

**HAB.** Chili, rather common about El Huasco, Carrizal and other parts of the province of Atacames, where it is known by the name of *Mano de Leon* (via <sup>CLAYTONIA</sup> <sup>AND</sup> <sup>WY</sup>), ~~Atacama~~ the generic name, *Philippi, T. King*; also Concepcion, *Bridges*, n. 1377.

*FibrB* radicales fasciculatae, irregulariter tuberculosao. *Caulis* erectus, subflexuosus, simplex, sub-2-pedalis, undique foliatus, uti tota planta glaber. *Folia* sparsa, quaquaversa,\* approximata, patentia v. renexa, oblongo-lanceolata, acuminata, basi in petiolum brevissimum tortum contracta, majora 3-4-pollicaria, suppriora gradatim minora, summa interdum ad squamas<sup>1</sup> breves reducta. *Umbella* terminalis, <sup>^</sup><sup>®</sup> <sup>^</sup><sup>n</sup> capitulum condensata, floribus in receptaculo crassiusculo 20-30 breviter pedicellatis v. interioribus sessilibus, bracteis parvis subtēnsis. <sup>^</sup> *Perianthii* segmenta 6, subsSqualia, persistentia, usque ad oyanum discreta sed cum glandula epigyna parum prominente continua, spatbulata, J poll, longa, in unguem longiusculum erectum contracta, lamina lata erecto-patente. *Stamina* 6, glandulcB epigjTue affixa, segmentis opposita iisque triente breviora, filamentis filiformibus alternis paullo latioribus. *Stylus* subulatus, stigmatibus 3 brevibus patentibue. *Ovarium* inferum, 1-locilare, placentis 3 parie-

talibus. *Outda* mtmerosa, 2-seriata. *Capsula* coriacea, triquetroturbinata, 4-5 lin. longa et lata, apice breviter connata et reliquiis glanduto epigynae sub segmentis persistentibus annulata, demum in valvas 3 medio placentiferas dehiscens. *Semina* parva, subglobosa, testa appressa; embryo in albimine dnrinsculo parvus.

The genus is closely allied to *Bomcvrea*, but is well distinguished by the dense inflorescence, the shape of the perianth segments (said by Philippi to be fleshy) and especially by the one-celled ovary and capsule.—O. BENTHAM.

Fig. 1. Flower. 2. Ovary and style. 3. Ovary, transverse section. 4. Capsule. 5. Seed. 6. Vertical section of the seed, showing the embryo.

---

PLATE 1390.

COLA NATALENSIS, *Oliv.*

STERCULIACEAE, Tribe STERCULTEAE.

*C. Natalensis*, *Oliv. sp. nov.*, foliis integris oblongo-oblongatis obtuse acuminatis basi angustatis saepe obtusis longe petiolatis, floribus  $\$$  axillaribus pedicellatis fasciculatis v. solitariis, calyce 5-(6-) partito v. profunde lobato lobis oblongo-ellipticis extns et intus apicem versus stellato-hirsutis, androphoro glabro calyce brevioris, antheris annulatis capitatis locellis parallelis uniseriatis: fl.  $\$$  carpellis dense hirsutis, stylis apice recurvis stigmatibus papilloso antice leviter decurrente; carpellis fructiferis obovoideis basi breviter angustatis breviter cinnamomeo-tomentosis.

HAB. Inanda, Natal, /. *M. Wood*, n. 321.

*Arbor*; ramulisteretibus glabris. *Folia* 3J-7 poll, longa f-2 poll, lata, costa venisque subtus prominulis: petiolus  $\wedge$ -2 poll, longus apice leviter incrassatus. *Mores*  $\wedge$ - $\$$  poll, diametro. *Cwrpella* fructifera 4-5, | - 1 poll, longa,  $\$$  - } P<sup>o</sup>IL 1\*<sup>ta</sup>"

Allied to two or three species, occurring in tropical Africa, but with good specific distinctions. It differs from the common Kola Nut, *C. acuminata*, in the uniserial parallel anther-cells. It is another of the interesting discoveries made by Mr. Wood in Natal.—D. OLIVER.

Fig. 1. Staminate flower. 2. Androphore and anthers. 3. Detached anthers. 4. Pistillate flower. 5. Pistil. 6. Three carpels of fruit.

---

## PLATE 1391.

**PETEBMAHNTA CIRROSA, *F. Muell***

DIOSCOBEACEIS AFFINIS.

**P. cirrosa**, *F. Muell in Bmtk Fl Austral*, vi. 462, single species.HAB. Australia, Macleay river, New South Wales, *O. Moore*; Clarence river, *Beckler*.

*Gaules* scandentes, 15-20-pedales, ramosi, obtusanguli, aculeolis minimis ssepe scabri. *Folia* oblongo-lanceolata v. ovato-lanceolata, 2-4-pollicaria, acuminata, basi cuneata, petiolo brevi interdum torto, rigidule membranacea, scabriudbula, venis primariis plurimis subtus elevatis basi cum costa plus minus confluentibus. *Panicuhs* v. cymute laxcB, pauciflorce, breviter pedunculatro, foliis oppositee iisque s»pius breviores, inferiores ssepe steriles in cirros tortuosos ramosos mutates. *Pedicelli* secus ramulos infloresceftisa solitaries v. gemin©, recurve, 1-8.1lineares. *Bractea* primariifB parvee, adnataB, bracteote minimae. *Flores* hermaphroditi. *Perianthium* supra ovarium fere ad basin 6-partitum, segmentis oblongis petaloideis patentibus reflexis subcqualibus v. interioribus vix angustioribus ad 2 lin. longis. *Stamina* 6, basi perianthii affixa, filamentis erectis brevibus^ anthe™ oblongce, erect©, looulis extrorsum dehiscentibus. *Ovarium* inferum, ovoideum, 1-loculare, placentis 3 parietalibus; stylus W uiter columnaris, stigmata capitate, ovula in quaque placenta plurima, 2-seriata (anatropa?). *Fructus* (vix maturus) baccatus, 2 lin. diametro. *Bemina* plurima.

The excellent flowering specimens feceived from Mr. Moore, of Sydney, since the publication of the sixth volume of 'Flora Australiensis,' have enabled me to complete the generic character, but the natural order to which the plant should be referred remains very doubtful. The habit is rather that of fimitoceoB, with the inferior ovary of DiW^racece, and the unilocular ovary with parietal placentation is anomalous in both orders.—Gr. BENTHAM.

FSg. 1. Hower-bud. 2. Open flower. 3. Stamens. 4. Style. 5. Ovaivy, transverse section.

## PLATE 1392.

## BAJANIA HASTATA, Linn.

## DIOSGOBEACEJ).

**It. hastata**, Linn. *Spec. PL* 1461, foliis hastatis v. triangulari-lanceolatis, floribus masculis subsossilibus, samaris parvulis.—*Plum. Beset. Pl. Amer.*, i. 98.

HAB. West Indies, San Domingo, Plumier; Cuba, Poeppig, Wright, n. 1712, and apparently the same, Bahamas, L. Brace.

*Gflahra*, dioica. *Gaulis* tennis, alte volubilis. *Folia* variant, nunc anguste hastata 1-1<sup>^</sup>-pollicaria, nunc lute hastato-deltaidea 3-4-pollicaria, 5-7-nervia. *Bacemi* ntrinque sexns axillares, tenues, 1-11-pollicares, simplices v. parce ramosi, solitarii v. 2-3-fasciculati, masculi fere a basi floribundi, floribus subconfertis brevissime pedicellatis v. sessilibus; fbaminei lotfgiores -floribus distinctius pedicellatis. Fl. & : *Perianthium* late campanulatum, expansum 1<sup>^</sup> Jin. diametro, ad medium 6-fidum. *Stamina* 6, subsequalia, tubo infra lobos annexa iisque multo breviora. *Pistilli* rudimentum in centro floris pulvinatum. PI. \$ : *Perianthium* supra ovarium masculino, 6-partitus, persistens. *Staminodia* 0 v. minuta. *Stylus* breviter columnaris, apice in stigmata 3 2-fida patentia divisus. *Samara* cum ala oblique ovata, 5-7 lin. longa, 2-3 lin. lata, uno latere prope basin carpellorum abortivorum rudimentis quasi articulata. *Semen* (*Dioscorece*) planum, latum; embryo pterivus inter albuminis laminae arete inclusus, a hilo parum remotus.

Three species of *Bajania* have been well figured by Plumier as to the general outline, but the details of structure have never been since represented. The male flowers are precisely those of the typical forms of *Dioscorea*, and from male specimens alone two or three Brazilian true *Dioscorea* have been published as *Bajanias*. This genus appears to be strictly limited to the West Indian Islands.—G. BENTHAM.

Fig. 1. Male flower. 2. The same opened out. 3. Stamens. 4. Female flower. 5. Style. 6. Fruit (samara). 7. Seed. 8. The same, longitudinal section showing one lamina of the albumen and the embryo.

PLATE 1393.

SOYAUXIA GABONENSIS, *OUv.*

PASSIFLORACEJE.

*Soyauxia*, *OUv. gen. ww. Floras* hermaphrodite, spicati. *Calyx* tubo brevissimo ovarium arete cingente, limbo 5-partito patente, lobis rotundatis obtusis concavis. *Fetala* 5 perigyna obovata calyce paullo longiora. *Stamina* numerosissima libera perigyna calycis fauce inserta; filamenta filiformia; anthers rotundato-quadratae 4-locellatæ. *Corona* disciformis brevissima tubo calycis inserta faucem ejusdem leviter superans truncata subintegra. *Ovarium* liberum hirsutum truncatum 1-loculare; ovula 6 (9 x 2) pendula. *Styli* 3, a basi liberi filiformes divergentes-, stigmata minuta. *Fructus* 0.—*Arbor* 15-17 ped. *Folia* alterna oblongo-elliptica acuminata breviter petiolata, stipitata. *Spicm* axillares sæpius geminatae folio breviores 8-15-floras, ferrugineo-hirte.

*S. gabonensis*, *OUv.*, sp. ~~unica~~.

HAB. Gaboon, *H. Soyaux*, n. 48, 1879.

*Limbi* subteretes ferrugineo-birtelli v. pilosuli. *Folia* 3<sup>^</sup>-5<sup>J</sup> poll, longa, 1<sup>^</sup>-2<sup>^</sup> poll, lata, integerrima membranacea supra glabrescens subtus pilosula v. pubescens costa venulisque secundariis conspicuis: petiolus 1/2—1/3 poll, longus: stipules caducæ. *Spicæ* floriferæ 2<sup>^</sup>-3<sup>^</sup> poll, longæ pilosulæ. *Flores* subsessiles; bractæe caducæ; calyx extus appresse sericeo-hirsutis; petala dense sericea.

Fruit I have not seen. This interesting novelty belongs to a group of erect *Passifloree* almost confined to West Tropical Africa, and I suppose may be regarded as connecting these with *Samydaceæ* through *Diosmeria*.

Mons. Soyaux, now settled in the Gaboon, well deserves that his name should be associated with one of his interesting discoveries in that region. If he can supply fruiting specimens to his Berlin correspondents, who most liberally allow us to share his collections, it would enable us to complete the description of *Soyauxia*.—  
D. OLIVEE.

Fig. 1. Flower, from above, after removal of petals and stamens. 2. Calyx-tube. 3. Fetal, back of. 4. Anther, back and front\* & Transverse section of ovary, showing 5 of the ovules suspended in its cavity. 6. Longitudinal section of ovary; 2 styles remaining.

## PLATE 1394.

## EPALLAGE DENTATA, DC.

COMPOSITE, Tribe HELIANTHOIDEI, Sub-tribe VERBESINEI.

**E. dentata**, DC. *Prod.* vi. 4, herbacea, caule erecto ramoso pubescente, foliis alternis petiolatis ovato-deltoidibus lanceolatisve inaequaliter et saepe grosse dentatis acutiusculis, basi late cuneatis truncatisve, involucri squamis ovali-oblongis hirtis acutis interioribus paullo longioribus.

HAB. Madagascar, central region. Received recently from Rev. B. Baron and Dr. O. W. Parker.

*Herba* annua saepe ramosa 1-2 pedalis, interdum depauperata caule subsimplici in ped. *Folia* sparse villosula, lamina 1-1.5 poll, longa; petiolus 1-1.5 poll, longus. *Capitula* hemisphaerica 1-1.5 poll. diam. pedunculata cymosa laxe paniculata; involucrium hirtum, squamis paniculatis; receptaculum paleis oblongis oblanceolatisve acuminatis trinque dentatis v. incis. *Corolla* ligulata flavas lamina obovata v. elliptica, interdum parva inconspicua, disci tubus parce glandulosus basi breviter amplatus. *Antherae* basi bidentatae. *Achosnia* basi angustata, costis primariis 5, appresse setulosa; pappus aristis paucis cum squamellis intermediis incis.—D. OLIVER.

Fig. 1. Ray floret. 2. Scale of receptacle. 3. Disc floret. 4. Anther. 5. Style-branches. 6. Achene.

## PLATE 1395.

## BHIPOGONUM SCANDENS, Forst.

SILLACEAE.

R. **Scandens**, Forst., *Poir. Did.* vi. 212, floribus paniculatis, perianthii segmentis quam stamina multo brevioribus, stylo vix ovario brevioribus, ovarii loculis (an semper?) 2-ovulatis.—A. DC. *Monogr.* i. 213, *Hook. & Thunb. N. Zeal. Fl.* 281.

HAB. New Zealand; northern and middle islands abundant, J. D. Hooker and others; Chatham Island, F. Mueller.





sigillatim v. per 2-3 dissiti, subsessiles. *Perianthii* segmenta anguste oblonga, patentia, ad 3 lin. longa. *Stamina* triente v. fere dimidio breviora, filamentis brevissimis. *Ovarium* laxe villosum, stigmatibus 3<sup>^</sup> subsessilibus recurvis; ovula in quoque loculo semper solitaria videntur, lateraliter medifixa. *Fructus* adhuc ignotus.

In all the species of *BMPogonum* I find the ovules laterally attached about the middle and amphitropous, not pendulous and orthotropous as in *Smilax*, and as given in the general character of the order. The etymology of the generic name was given by Forster himself (*JGhar. Gen.* 50), not first indicated by Hooker, as supposed by A. De Gandolle.—G. BENTHAM.

Fig. 1. Flower. 2. Stamens. 3. Pistil. 4. Ovary, transverse section. 5. The same, vertical section.

---

## PLATES 1397, 13!>8.

### DIOSCOREA BUCHANANI, *Benth.*

#### DIOSCOREAOEJS.

*D. Buchanani*, *Benth. sp. nov.*, foliis alternis late ovato-triangularibus late subcordatis integris v. utrinque basi lobo brevi rotundato auctis 7-nerviis, racemis axillaribus simplicibus, masculis brevibus densis, perianthio subherbaceo lobis acutis, staminibus 6, femineis elongatis dissitifloris, capsulis (cum alis) obovatis, seminibus orbiculatis ala undique circumdatis.

**HAB.** Tropical Africa, Shiré Highlands, Zambesia, *BucJianan*.

*Dioica*, alte volubilis, glabra. *Folia* membranacea, 2-5 poll, longa, basi 1<sup>^</sup>-3 poll, lata, apice suftacumine brevi rotundata, auriculis basalibus rotundatis, membranacea, venulis inter venas transversis subreticulata, pefciolo 1-1<sup>^</sup>-pollicari basissBpiustorto. *M. &: Bacemi* 1<sup>^</sup>-2-pollicares, a basi densiflori, pedicellis 1-1<sup>^</sup> lin. longis minute bracteolatis. *Perianthium* quam in oxnni genere majus, campanulatum, fere ad basin <sup>^</sup>-fidum, lobis lato-lanceolatis qpntis fere 3 lin. longis (ex sicco) tenuiter herbaceis insigniter purpureo-maculatis. *Stamina* 6, prope basin segmentorum affixa iisque paullo breviora; anthereo ovato, dorsifixflB. *Pistilli* rudimentum 0. *El. \$: Bacemi* sub anthesi 3-4-pollicares, floribus sessilibus dissitis. *Perianthvum* supra ovarium 6-partitusj segmentis angustis acutis ad 2 lin. longis. *Staminodia* minuta. *Ovarium* lineare, 3-4 liu<sub>4</sub> longum, 3r-loculare, ovulis in quoque loculo 2 superpositis pendulis. *Stylus* columnaris, stigmatibus 3 brevibus

recurvis apice papillois. *Cap&ula* omnino *Dioscorearwm* typicarum, 1-1<sup>^</sup> poll, longa, vix 1 poll. lata. *Semen* cum ala late ovale, 6-8 lin. longum, 4-5 lin. latum, albumine 2-lamellato et embryo omnino generis.

The male perianths are at least twice as large as those of any species known to me, the female flowers and fruits are like those of several others.—G. BENTHAM.

Plate 1397: Male specimen. Fig. 1. Flower. 2. Stamens. Plate 1398: Female specimen. Fig. 1. Flower. 2. The same, longitudinal section. 3. Style. 4. Seed. 5. The same, longitudinal section, showing one lamina of the albumen and the embryo.

---

PLATE 1399.

INULA SfiIBENSIS, *Oliv.*

COMPOSITE, Tribe INULOIDEJ:.

I. <sup>^</sup>hirensis, *Oliv. sp. nov!> herbacea erecta, canle fere a basi simplici patentim hirsuto-piloso v. glabrato, foliis inferioribns amplis longe petiolatis ellipticis v. oblongo, ellipticis snperne gradatim minoribas sessilibns pilosis, capitulis heterogamis majusculis pednnculatis in cymis 3-5-cephalis terminalibns dispositis, involncris dense flavido-pilosis sqnamis exterioribns herbaceis ovato-lanceolatis acuminatis, mteripribuB linearibns acuminatis, acheniis glabris longitudinaliter striatis, pappo nniseriato.*

HAB. Shiré Highlands, Zambesia.—*Mr. Buchanan.*

*Caulis* 3-5-pedalis teres longitndinaliter striatns pins minns f ulvo- v. flavido-hirsutus v. pilosns. *Folia* inferiora 1<sup>^</sup>-1<sup>^</sup> ped. longa <sup>^</sup>-f ped. lata obtnsjuscnla basi in petiolum angastata crenato-sinnata ntrinque prrocipue in venis paginsa inferioris hirsute pilosa, membranacea; folia snperiora lanceolata sessilia snbamplezicanlia. *Capitula* 1J-2 poll, lata, pedunculata, pednnculis bracteatis den<sup>e</sup> pilosis, bracteis lanceolatis v. ovato-lanceolatis; iffvolacri sqnamsB pluriseriatsB iutei-iores angustiores longiores laze imbricata? 1-1J poll, longas. *Receptaculum* foveolatnm. *Flores* radii flavi breves ligula trifida; disci anguste cylndrici; antheno basi caudat© caiidis laxe cellulosis. *Achamia* (immatura) angnste oblonga circ. 15-costata glabra; pappus nniaeriatns, setis 30-34 simplicibns.—D. OLIVER.

Fig. 1. Capitulum, section. 2. Ray floret, d. Disk floret. 4. Anther. 5. Style branches. 6. Seta of pappus.

---

## PLATE 1400.

NOTOBUXUS NATALENSIS, *Oliv.*EUPHORBIACEJ., Tribe **BUXEA.**

*Notobuxus*, *Oliv. gen. novum*. Flores monoici, axillares, fasciculati. Fl. ♂: *Perianthium* 4-phyllum, segmentis per paria decussatis lateralibus cymbiformibus cestivatione exterioribus. *Stamina* 6, 4 per paria segmentis anterioribus posterioribusque antepositis, 2 singillatim segmentis lateralibus oppositis; filamenta brevissima; anthero ovato-y. oblongo-elliptice, longitudinaliter dehiscentibus. *Ovarii* rudimentum nullum. Fl. ♀: *Perianthium* 4-phyllum. *Ovarium* ovoideum glabrum triloculare, ovula geminata pendula; styli 3 divergentes intus longitudinaliter stigmatosi. *Fructus* capsularis loculicide 3-valvis, valvis bicornutis. *Semina* nitida nigra.—*Frutex glaberrima*. *Folia* opposita tenuiter coriacea elliptica.

HAB. Inanda, Natal, *Mr. J. M. Wood*, n. 1357; previously collected without expanded flowers by *Mr. T. Cooper* (1862): Tongaat, n. 346.

*N. natalensis*, *Oliv. sp. tunica*.

*Folia* 2-4<sup>^</sup> poll, longa, 1-2 poll, lata, obtusa v. obtusiuscule acuminata, basi in petiolum brevem angustata, integerrima, laevia, glabra. *Inflorescentia* fasciculata, axillaris petiolum paullo superans; flores ♂ v. cum flore ♀ centrali; bractea lanceolata coriacea.

This plant is entirely *Buxus* excepting in the two additional stamens, and total absence of any rudiment of a gynoeceum in the male flowers, forming thus a transition to the genera *Simmondsia* and *Styloceras*.—

D. OLIVER.

Fig. 1. Staminate flower, bud. 2. Same, laid open. 3. Anther, back and front. 4. Pistillate flower and bracts. 5. Vertical section of ovary. 6. Seed and dry arilliform integument.

PLATJS 1360.\*

SCHEDONNARDUS TEXANUS, *Steud.*

GRAMINEJ, Tribe CHLORIDES.

*S. texanus*, *Steud. Syn. Pl. Glum.* i. 146. *Lepturus\* imvinilatns*<sup>^</sup>  
Nutt. Gen. K Amer. Pl. i. 81.

HAB. North America, from Texas and New Mexico to California and eastward to Illinois, *numerous collectors.*

*Gravnen* tenue, dense caespitosam, cum panicula <sup>^-1^</sup>-pedali. *Folia* radicalia v. ad basin caulis angusto linearia v. fere subulata, flaccida, vagina longiascula striata, lamina sropius 1-2-pollicari, lignla hyalina longiuscula seepe lacera. *Oaulis* infra inflorescentiam 1-4-pollicaris, vaginis paucis lamina brevitermiimis fere obtectns. *Panicula* seepius canle 2-3-plo longior, ramis paucis simplicibus longe dissitis tenuibus rigidulis 1-3-pollicaribus, primum erectis secundis mox patentissimis unilateralibus. *Spiculce* 1-floro, fcenues, acuminate, 1-1<sup>^</sup> lin. longaB, secus rhachin tenuem alternatim sessiles, secundse, rhachi arete appresssB, exaristatflB. *Ehachilia* brevissima, supra glumas inferiores articulata, ultra florem non producta, flore hermaphrodito. *Qlumce* 2 inferiores vacua, parum inaeqnales, infra afficulationem persistentes, angusteB, membranace89v, acuminatee; florens longior, membranaoea, demum rigidula, mucronulata, paleam angustam brevioram floremque amplectens. *Lodicuke* 0. *Stamina* 3. \* *Styli* distincti, stigmatibus plnmosis. *Garyopm* linearis, gluma paleaque rigidulis inclusa, libera.

When Nuttall referred this plant to *Lepturus* he was evidently unacquainted with the typical European species, and in the endeavour to include them with his American plant drew up a generic character which will not apply to either. His description of the species is, however, very accurate. Steudel, meeting with Drummond's Texan specimens, proposed them as a new genus withouttaiy reference to Nuttall's well-known plant. The genus appears to me to be nearer allied to *Qymnopogon* than to any other.—G. BENTHAM.

o \*SS: <sup>in ?ortion</sup> of the rimchis with the porsiiient outer glumes of two apikelets.  
a. <sup>unff</sup> Slume and palea from the upper spikelet. 3, 4. Outer empty glumes.  
5. Flowering glume. 6. Palea. 7. Flower. 8. Stamens. 9. Caryopsis.

Accidentally omitted above (p. 43).

## INDEX OF SPECIES AND SYNONYMS.

	Page	Plate
Abrophyllum ornane, <i>Hook. f.</i>	16	1323
Acacia Hunteri, <i>Oliv.</i>	36	1350
Adnchne pulvinata, <i>Benth.</i>	44	1362
<i>Aetinoscytium chinensis</i> , <i>Benth.</i>	33	
— filiform, <i>Benth.</i>	33	1346
— Thouarm, <i>Benth.</i>	33	
<i>Amomum pidchellum</i> , <i>Thw.</i>	61	
Amphidoxa <b>enophalode*</b> , <i>DC.</i>	36	13:i9«
Anthochloa lclpda, <i>Neett</i>	45	1363 A.
Apodolirion Buchfinni, <i>Baker.</i>	68	1388
Amgoa Tyoopodioides, <i>Benih.</i>	18	1325
Arthrostyles aphylla, <i>R. Br.</i>	32	1345
— chinensU, <i>Benth.</i>	33	
— Thouarm, <i>Kth.</i>	33	
<i>Arlkmslylia filiformis</i> , <i>Thw.</i>	33	
Astrostorama spartioides, <i>Benth.</i>	7	1311
<i>AtA-bmonia ligustrina</i> , <i>F.3I.</i>	13	
Begfmicila Kalbreyeri, <i>OUv.</i>	38	1352
<i>Jirachynema omatts</i> , <i>FJL.</i>	16	
<i>Brachyategia fioribunda</i> , <i>Benth.</i>	43	
<i>Brachyshyia yluhijlom</i> , <i>Benth.</i>	43	
<i>Uraehystegialongifolia</i> , <i>Zfr7ifA.</i>	42	1359
<i>Brunniehia africarm</i> , <i>Wclw.</i>	21	1328
<i>Burmanna Kulbroyori</i> , <i>OUv.</i>	41	1357
<i>Cimpylosiphon purpurascens</i> , <i>BetUh,</i>	C 5	1884
<i>Carmichaelii Kirkii</i> , <i>Hook. f.</i>	23	1332
<i>Carpha clandestina</i> , <i>R. IJr.</i>	31	
<i>CephaUnthusnatnlensis</i> , <i>Wu'.</i>	22	1331
<i>Cleistachne sorghoides</i> , <i>Benth.</i>	60	1379
<i>Ccelachynim brevifolium</i> , <i>Necs</i>	51	
<i>Cola natiUensis</i> , <i>OUv.</i>	70	1390
<i>Courtoisiacyperoides</i> , <i>JVce8</i>	29	1341
<i>Craspedorh:ichis africrtna</i> , <i>Bentk.</i>	f8	1377
<i>Cryptochloris spathncea</i> , <i>Benth.</i>	57	137fi
<i>Cyathochsete clandestina</i> , <i>Benth.</i>	31	1343
<i>Cyphostigma pulchellura</i> , <i>Bmth.</i>	CI	1380
<i>Dacrydium Filsgeraldi</i> , <i>F.M.</i>	64	
<i>DaciyUx breri/olia</i> , <i>Roem..</i>	51	
<i>Dimorphodilamys Mannii</i> , <i>Hookf.</i>	15	1322
<i>DioBCorea Buchanan!</i> , <i>Benth..</i>	76	1397-8
<i>Diplorhynchus moasambicen-</i> <i>sis</i> , <i>Benth.</i>	40	1356
<i>Dissant helium cslifornicum</i> , <i>Benih.</i>	56	137-J
— <i>sclerochloides</i> , <i>Fourn.</i>	65	
— <i>supimim</i> , <i>Trin,</i>	55	1374
<i>Ekklonia capensis</i> , <i>Stead.</i>	34	
<i>Elettsine brevifolia</i> , <i>Hoehst, A:</i> <i>St</i>	51	
<i>Epallage dentata</i> , <i>DC.</i>	7»	W394
<i>Sraaroatit brmfolia</i> , <i>Benth.</i>	51	
• — <i>ccelachyrum</i> , <i>Benih.</i>	»/i	13G8
— <i>Picrcii</i> , <i>Benth.</i>	52	1370
— <i>Bchimperi</i> , <i>Benth.</i>	53	1371
— <i>^iglimna</i> , <i>Benth.</i>	62	1381
<i>Eriospora pilosa</i> , <i>Benth.</i>	3U	1342
<i>Krvthrosperinmv polyandmm</i> , <i>OUv.</i>	24	1333
<i>guphorhin anubesiauii. lintlh.</i>	3	1305
<i>BteroechitHUtJaicattts</i> , <i>Hook. f. i&gt;</i>		
<i>FnrKotia Burtor.;e. OUv.</i>	7	1310
<i>yimhruttyfis pluiiculmis</i> , • <i>Boeck.</i>	S2	
<i>l'iiigerhuthiii africann</i> , <i>Is-hm.</i>	VI	1-7^
— <i>cilia"</i> , <i>Nues</i>	54	
— <i>sesleriaf im</i> , <i>Nees</i>	64	

ISI'KX OP SPECIES AND SYNONYMS.

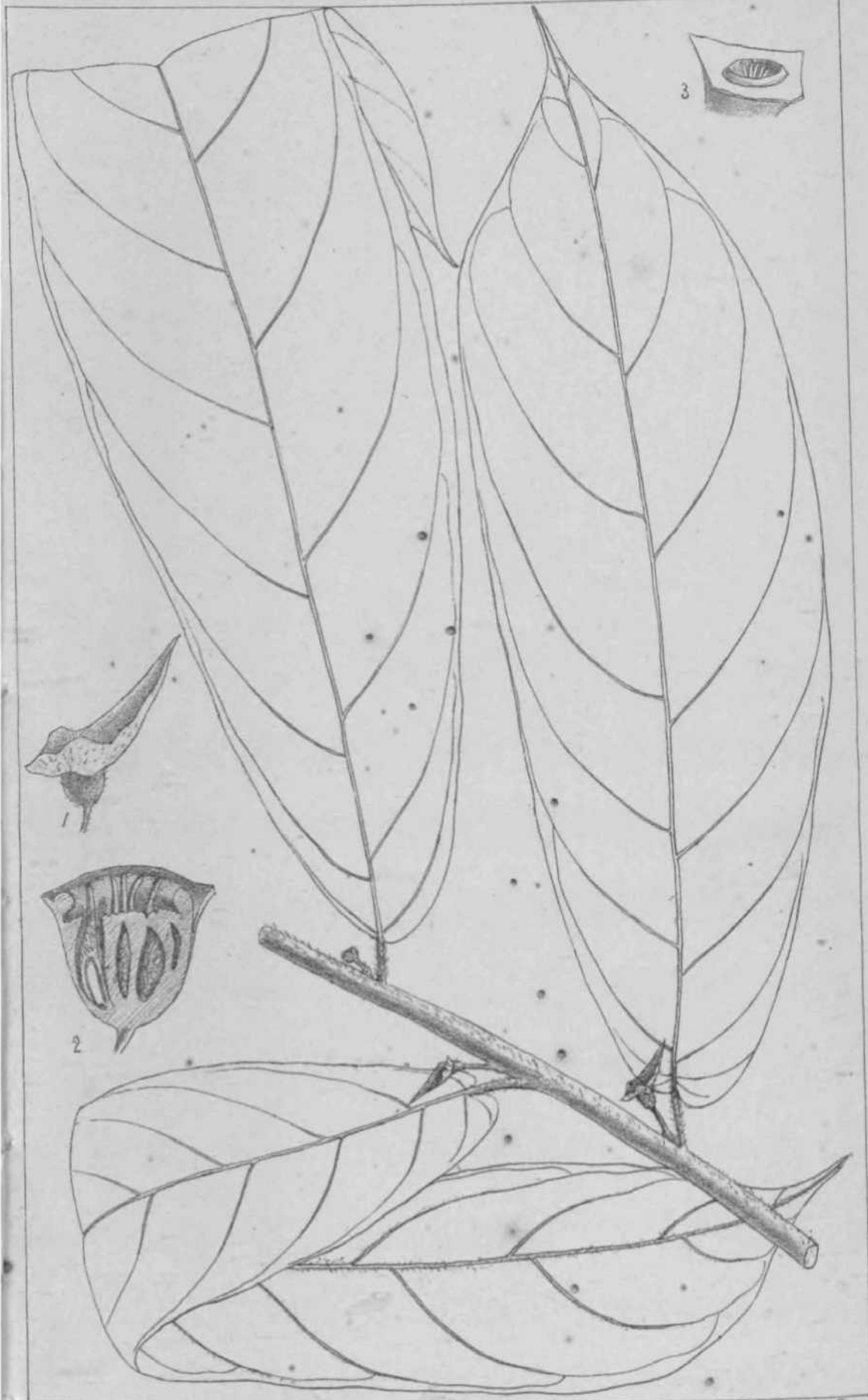
	r.i;r	Hate		Page	Phye
Gambusia cilLitn. (L. B. Cl.	. 27	V-VM		55	
Ganupbvlilim fa lea-turn, Bl.	. 6	1888		54	1383
Glossocalyx brevipes, Benth.	. \$	1302			
____. longicarpis, Benth.	. , 1	1301		38	1353
<i>tfcrpackfte Scftimperi</i> , Hodhst.	53				
<i>ficlietta apicutatti</i> , Benth.	. . (17			41	1358
____pamfolia, Benth.	. . (ffi	1385		49	1366 it.
Indigofera. trafhyphylla,				63	1382
/toW#.	. . 39	1354		1/1 • lea • purvfoliti, A. Gr.	
Inula shironsis, O*id.	. . . 77	1899		Vu msdtfria loigifulia, Grtsef/.	33 13(7
[^fitiMitnia trrbuiata, BaiU.	. . 19	1326		Quercus Iteccartaim, Iknth,	. 10 1814
Lanium Avieula, JAndt.	. . 2.J	1335		____.fi'ikinsii, Benth.	. . . 8 1312-3
____microphyllum, Lhidt,	. . 24	1334		____Maiigayi, Beutk.	. . . 9 1314
L^ontochir Ovalki, Phil.	. . . 69	1389		<b>Rajania</b> hastaUi, h.	. . . 72 1392
IjgptoiMou Wight'mna, Ne«s	. . 62			liimlia Hi'haiittiii, Oliv.	. . . 40 1366
Leptogonum domingense,				Bhqpterium epapposum, Oliv,	50 1367
Benth.	. . . 14	1320		Khipgonum Fh B f a f %/.	n 1: (dtj
Ispturtw pankuhitws, Nutt.	. . 79			____»CHndoa8, Forst.	. . . 74 1395
ULMutlius Atkinson*, Benth.	13	t319		Khyiu'liuspora ruppioides,	
____curviflorus, Benth.	. . . 3	1304		Berth.	. . . 31 1344
____Kirkii, Oliv.	. . . . 6	1309		Rosa Ecæ, Aitch,	. . . 21 1329
____Mannii, Oliv.	. . . . 2	1303		Schaffnera gniolis, Benth.	. . 59 1878
Mi-raini subulifolia, F. M.	. 43	1361		Schedonnardus t«:xaiuu, St.	. . 79 1380*
<b>Microocyto</b> ^agt^carien-				Scyphenyce jVlunnimiii, Baiti,	20 1: i^7
				Simaruba monophylla; O/.,	68 1387
					73 1393
					66
Musanga Sraithii, It. IV.	. . . 4	1300 7		stcUuUrm >>gn««w_p Benth.	. . 12 1318
Noplielwhloa onentiilis, Bow.	51	1369		,r. . . J . . n ; . . * *	37 1351
Niebuhna Woodu, Oltv.	. . (07	1380		TrianoDtilM eaieiiiiw * >«- /	26 1336
Nomnhia Bruomeuia, /forTif	. 48	1365		r / P ' ^ ^ 1	III 1348
Sotubuxu. Datalenm, Oliv.	. 78	1400			30
Oxygonum alatum, i?«r*.	. 14	1321		*"lept* pilosa, BtBck.	. . . 46 1363ii.
Peniantlms longifoliiiB. Mien'.	22	1330		Uroehlwna pusilU, Nets	. . . 35 13 jy H.
Pentziu pinnatihMa, Oliv.	. . 28	134(t		Vermmia XyaSBte, OUv.	. . . 36 1349 A.
<b>Pdnm</b> Niiniiii. 6*«.	. . . 10	1316		____Htciiim-ephala, Olfp.	. . . 48 ISM \.
Pcterraannia cirtN»;i, Ji'. W.	. . 71	1391		V.TonicaCheesemni, J5orM.,	
Pliiu-ellaria ripidula, Smth.	. . 17	W24		Yoania japonica, Maxim.	. . 17 1364



A.M.C. del.

Vinc<nt.Br o cfltsl; ^ tSoaimp

*Grosso calyx longicuspis*, Benth.



AM C Hi

Vincent Brooks Day & Son Imp

Glossocalyx orevipes, Benth. ♀





A.M.C. del.

Vincent, Brooks Day & Son Imp.

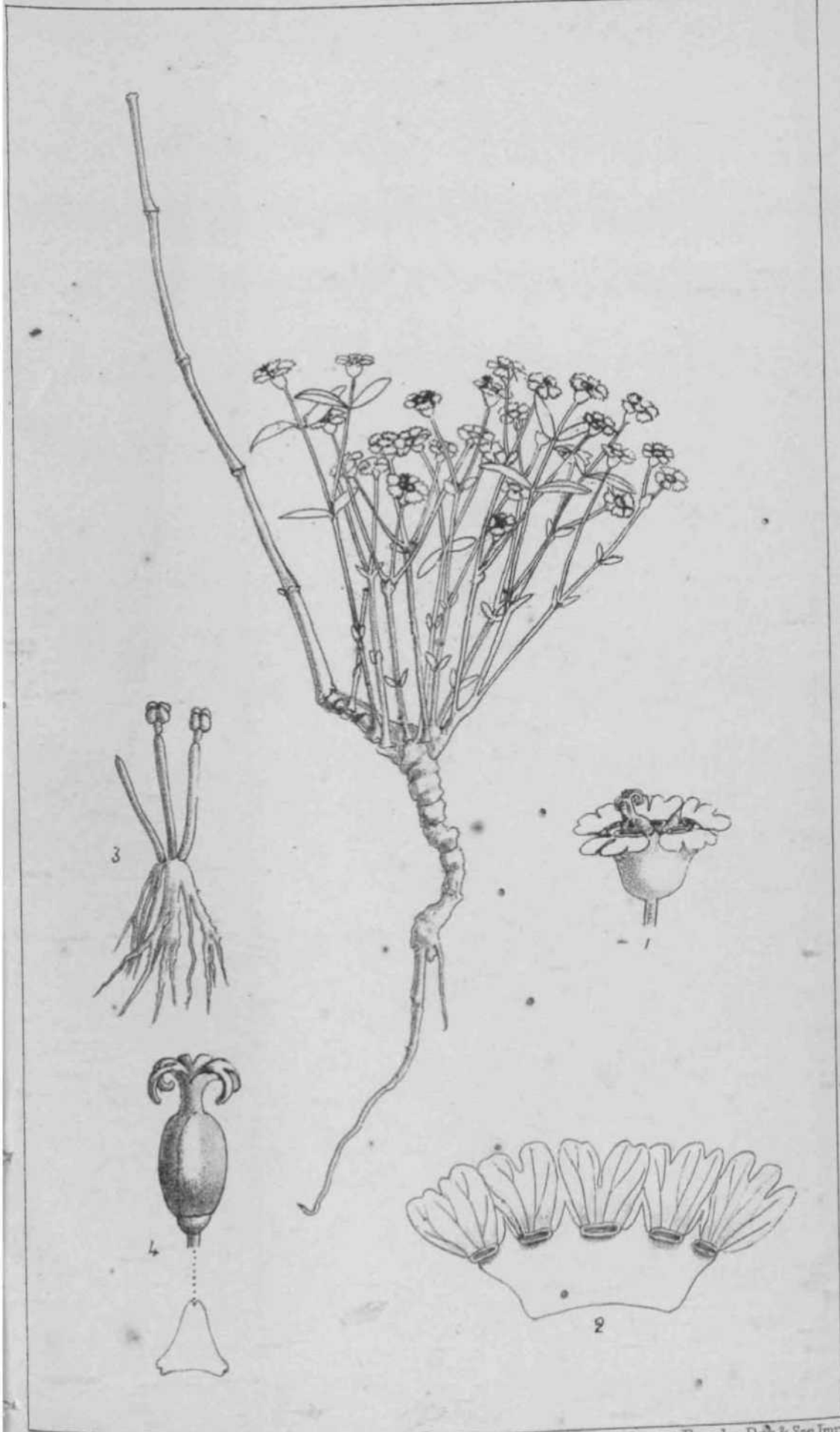
Loranthus Marmii. Ohv.



A.M.C del.

Vincent Brooks Day & Son Imp

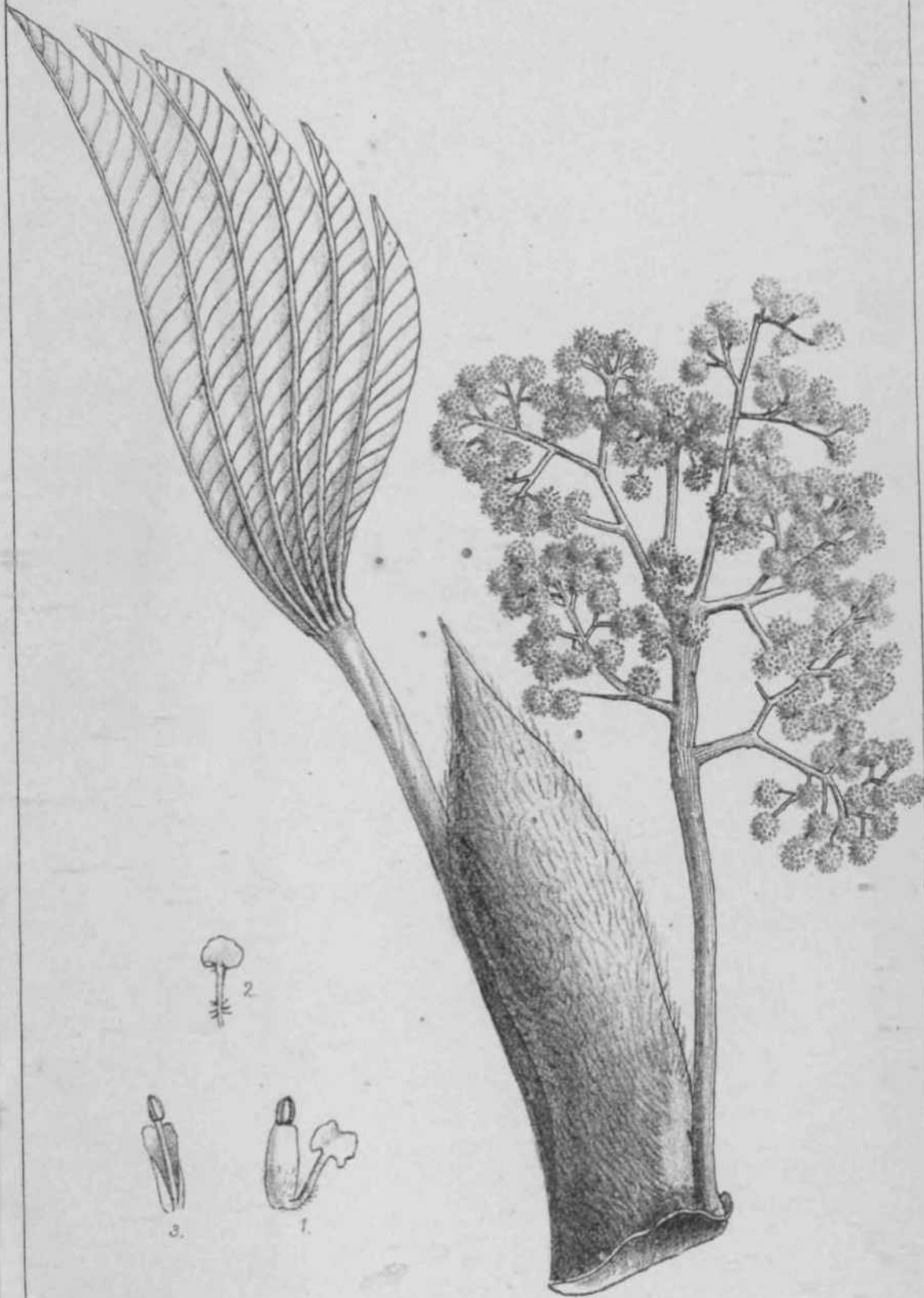
*Loranthus' curviflorus*. Benth.



AM C.dtl

Vincent Books Day & Ses Imp

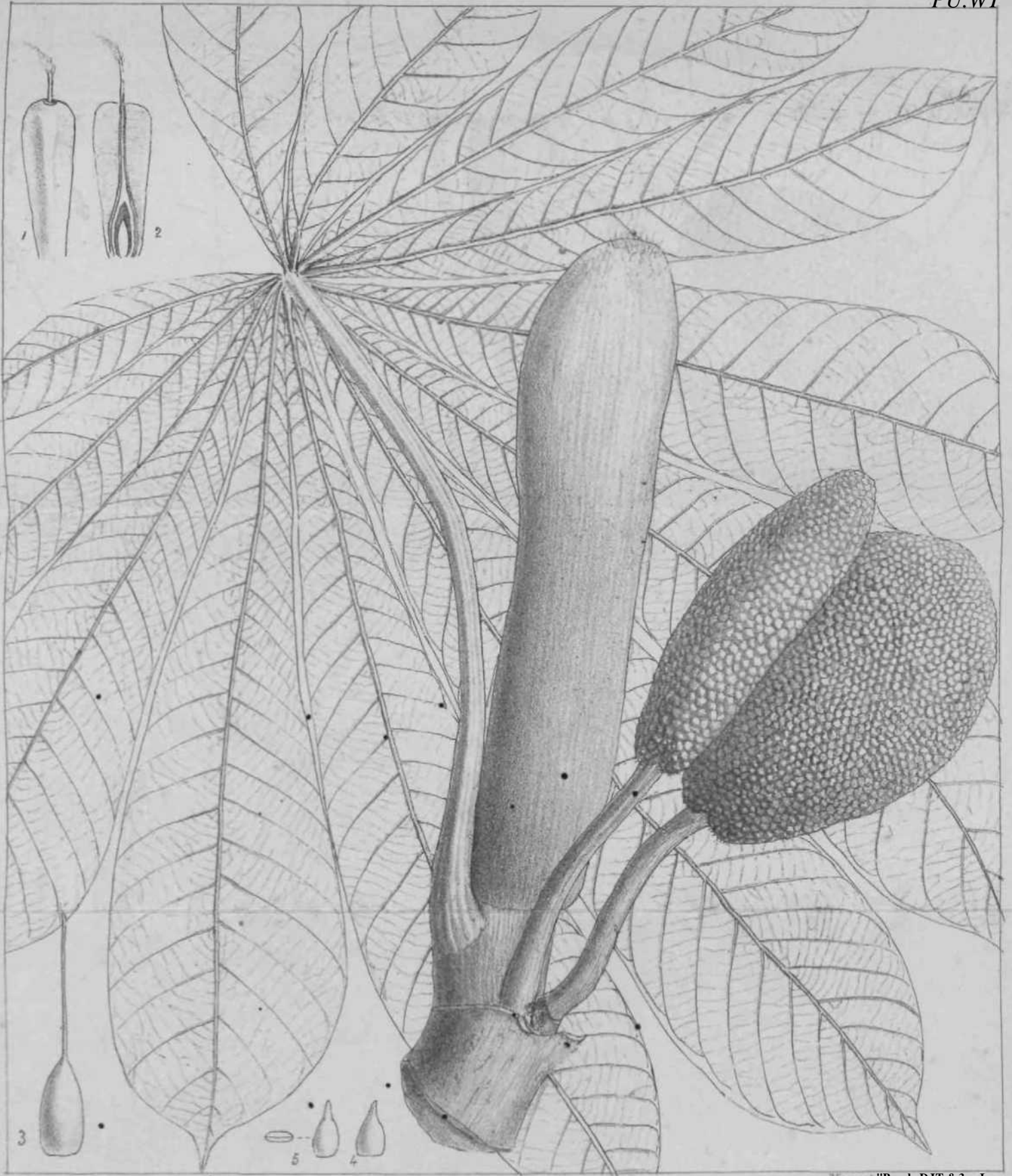
Euphorbia zambesiana Ber 10x.



AM.C del

Vincent Brooks Day !<Son Imp

Musanfa Smifhu, R. Br ♂



AMV. del.

Vincent "Broola DJT & 3un Imp

*Mus ariga* Smithii, R.Br. ♀.





A.M.C. del.

Vincent Brooks Day & Son Imp

Ganophyllum.falOalum, Bl



A.M.C del.

Vincent Brooks Day & Son hup

Loranthus Kirkil Ohv.

fr

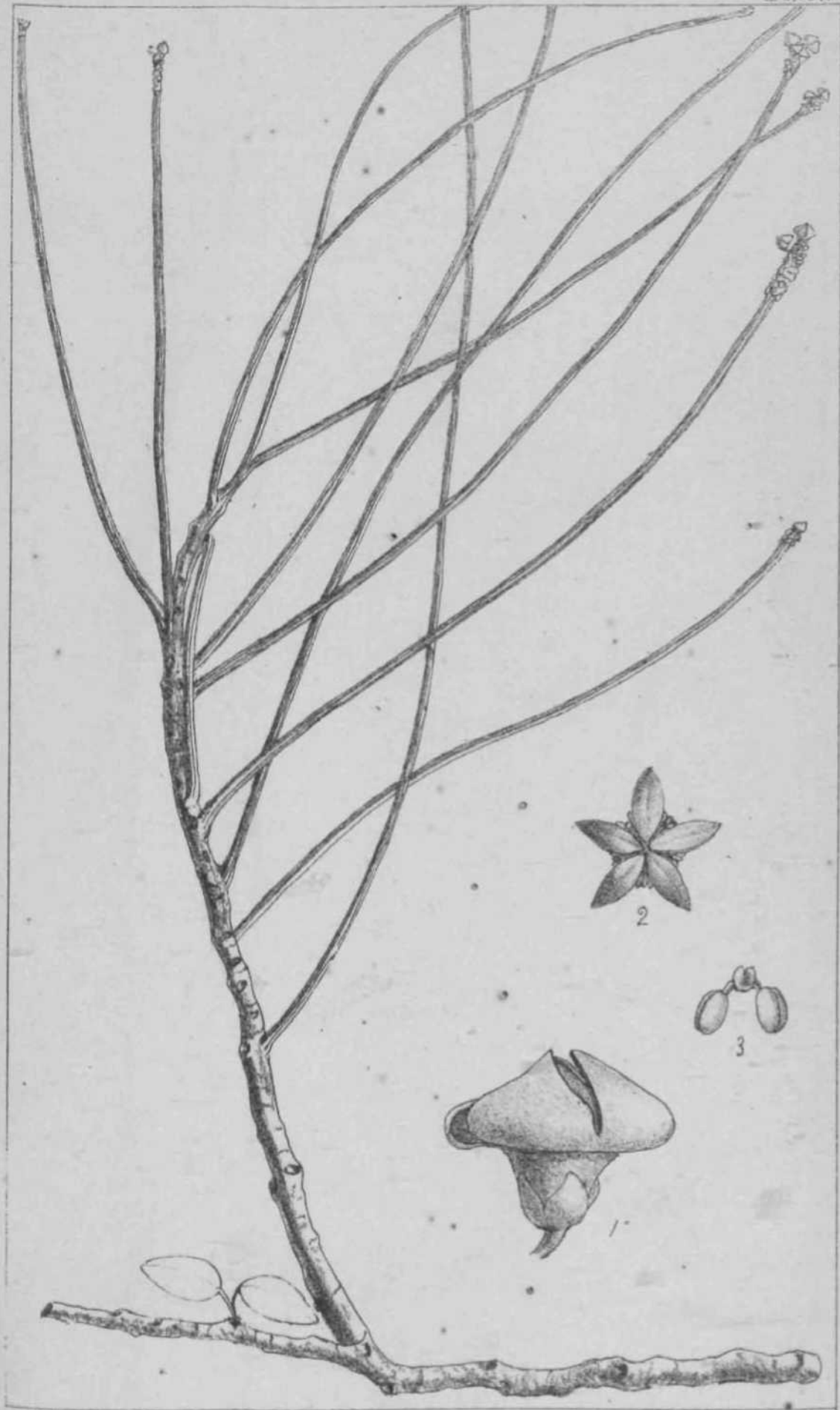


A. M. C. del

Vincent Brook • i. l. y. h. Son imp

*Farsetia burtonae* Oliv.

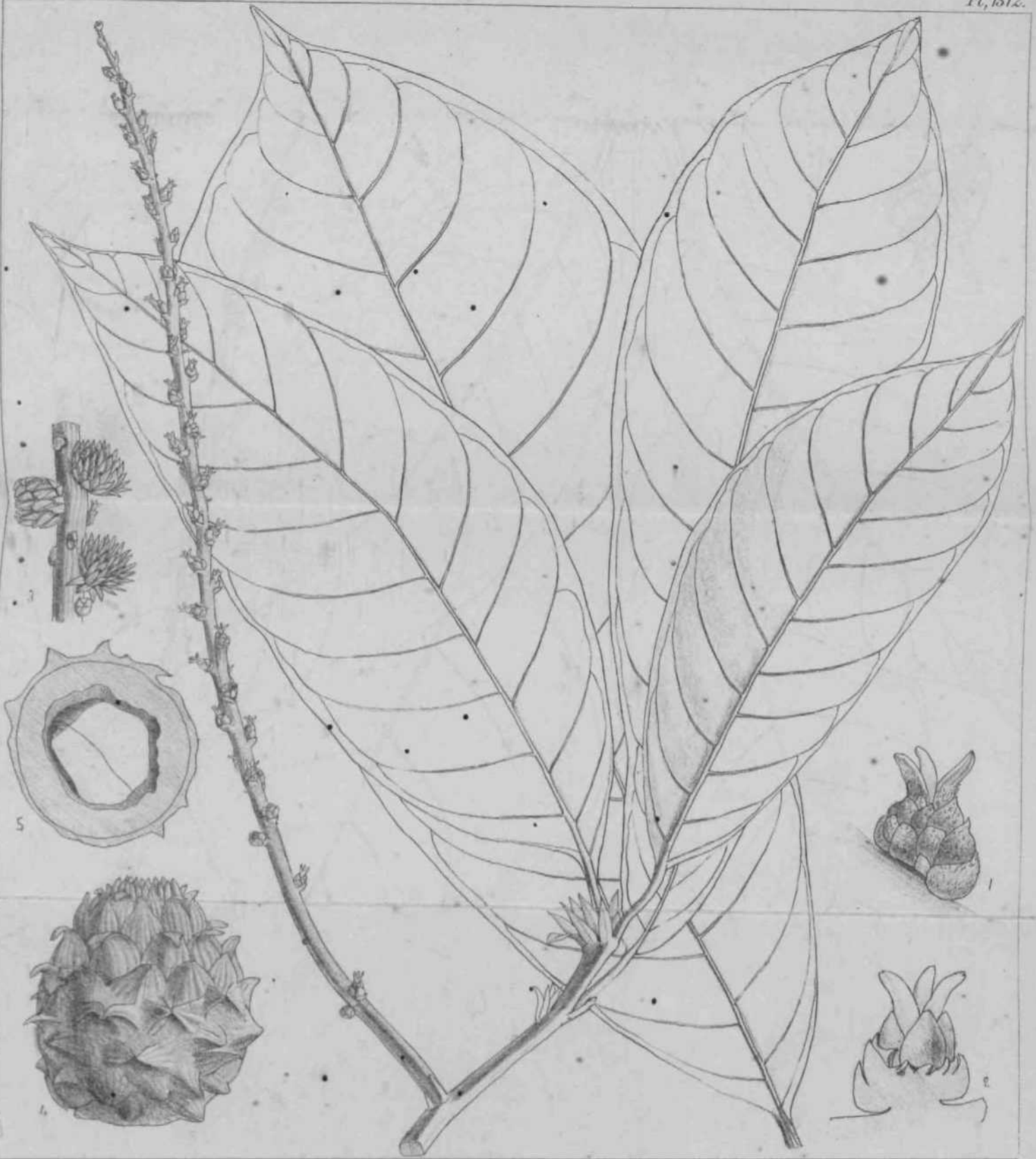




A.M.C. del.

Vincent Brooks Day & Son Imp

*Astrolemma spaiioides*. Benth.



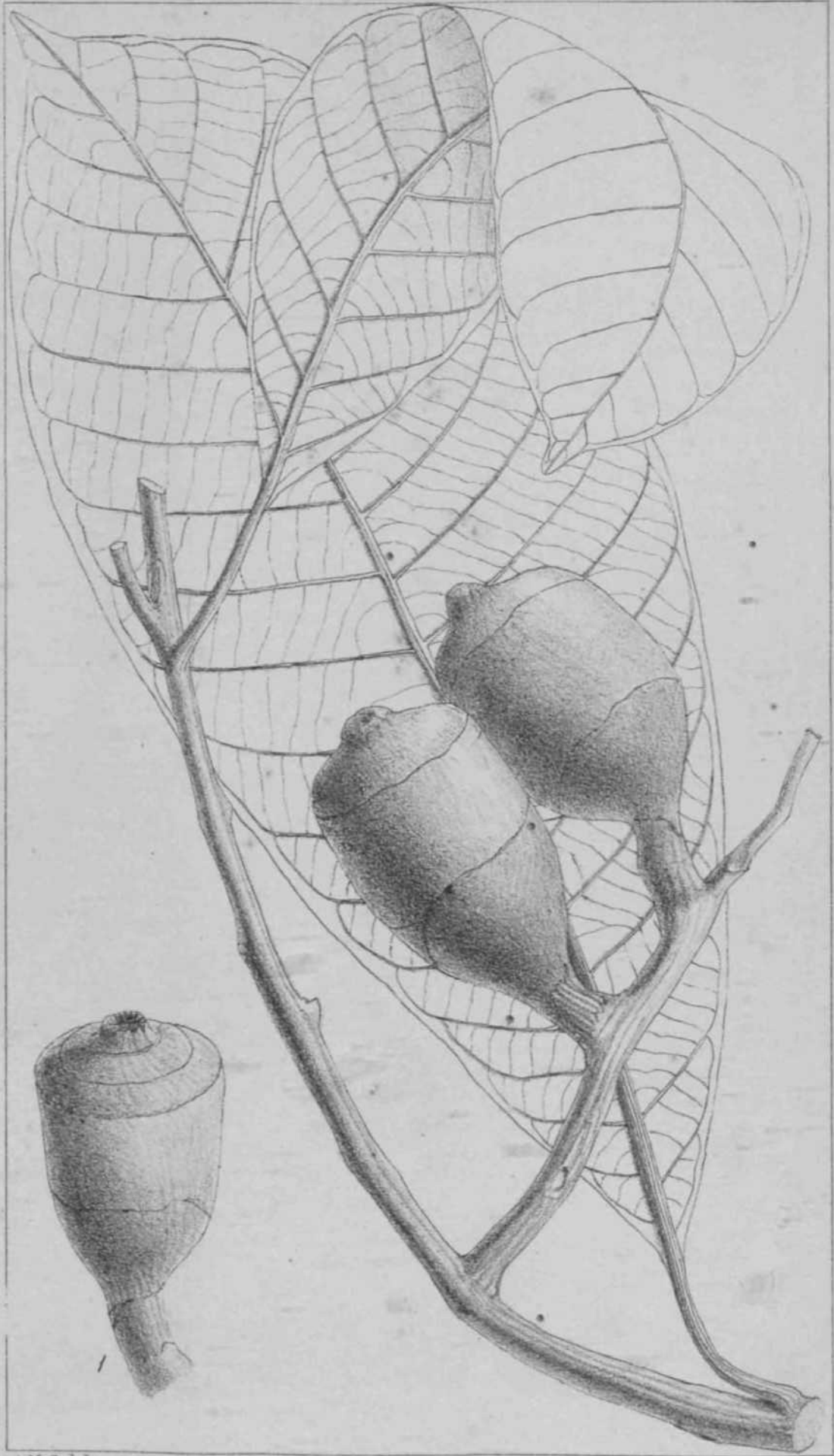
A.M. C.J.dd

*Quercus Jenkinsii*, Benlh



A.M.C. del.

*Quercus Jenkinsii*, Benth.



A.M.C del.

*Quercus Majngayi*, Benth.



A.M.C. del.

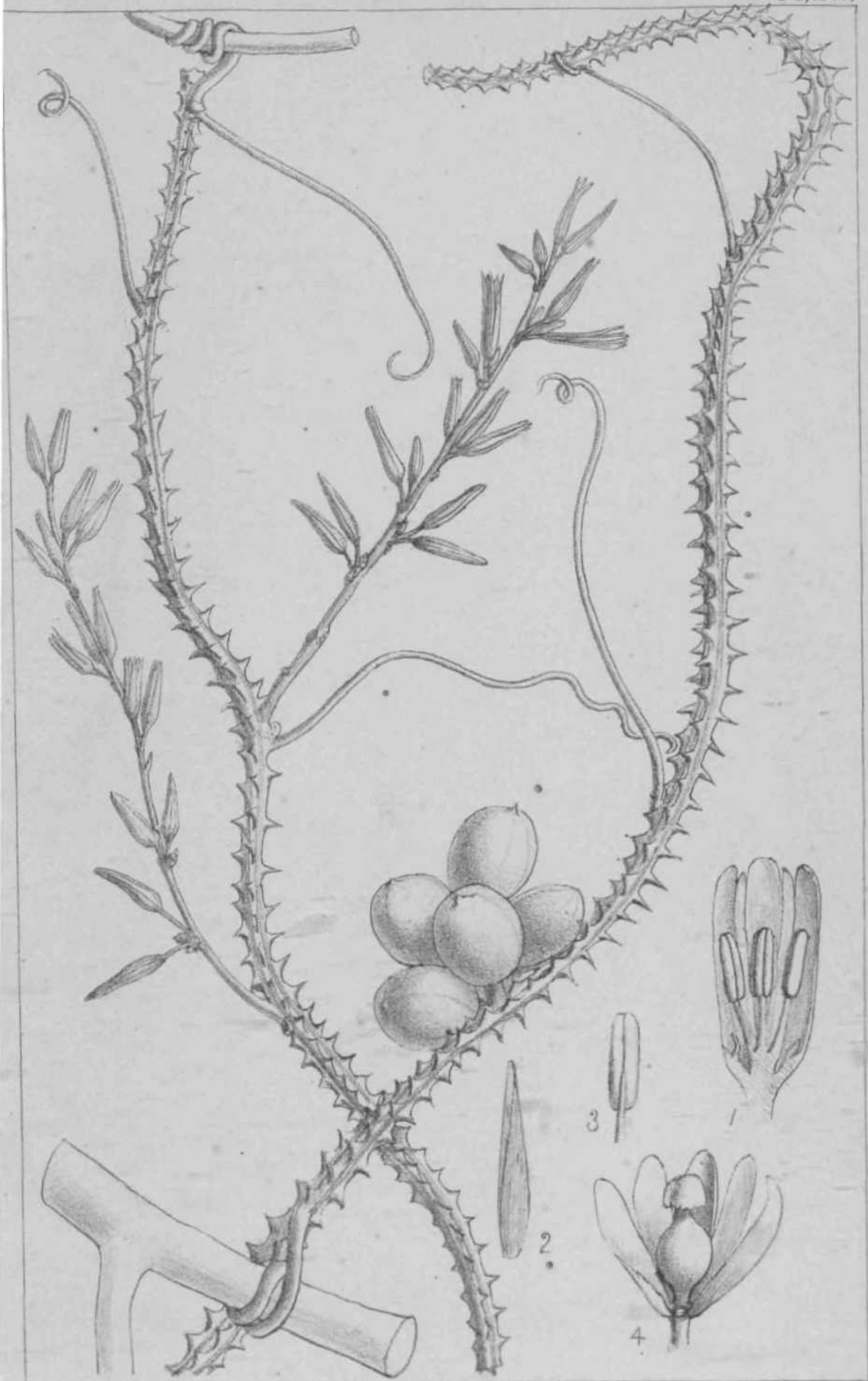
*Quercus Beccariina* Benth.





A.M.C. del.

Persea Kannm. Ohv.



A M C dot

Modecca aculeala.,01iv.



1 .  
 || Si  
 i

A.M.C. del.

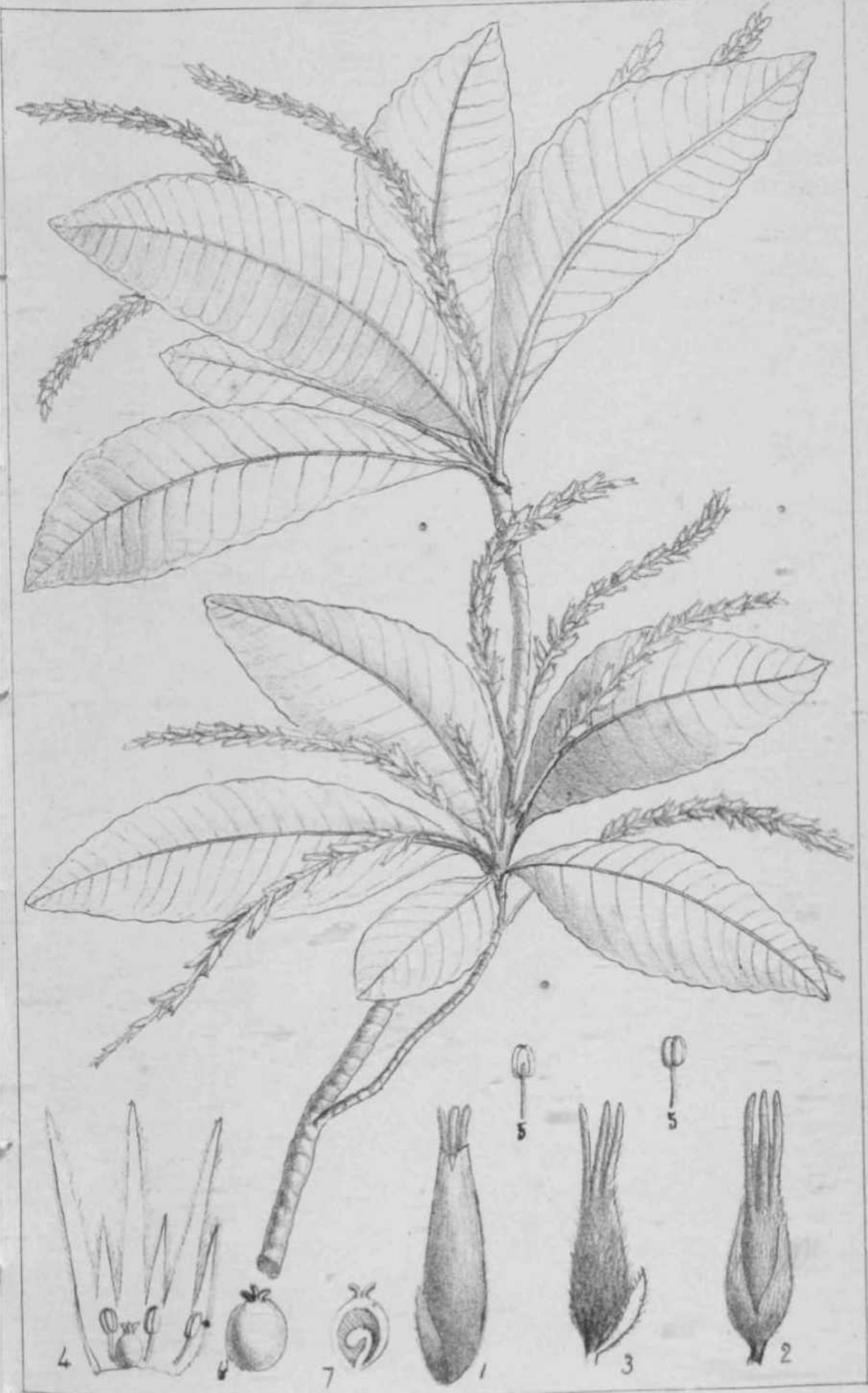
*StelluUna nigricans Beni h.*





A.M.C. del.

*Loranthus Atkinsonæ*, Benth.



A.M.C. del.

*leptogonum dommgense*. Eer. t. fc.



A.M.C. del.

*Oxygonum alatum*, Burch.



A.M.C del.

*Dimorphochlaris Mannii*, Hk. f.



A.M.C. del.

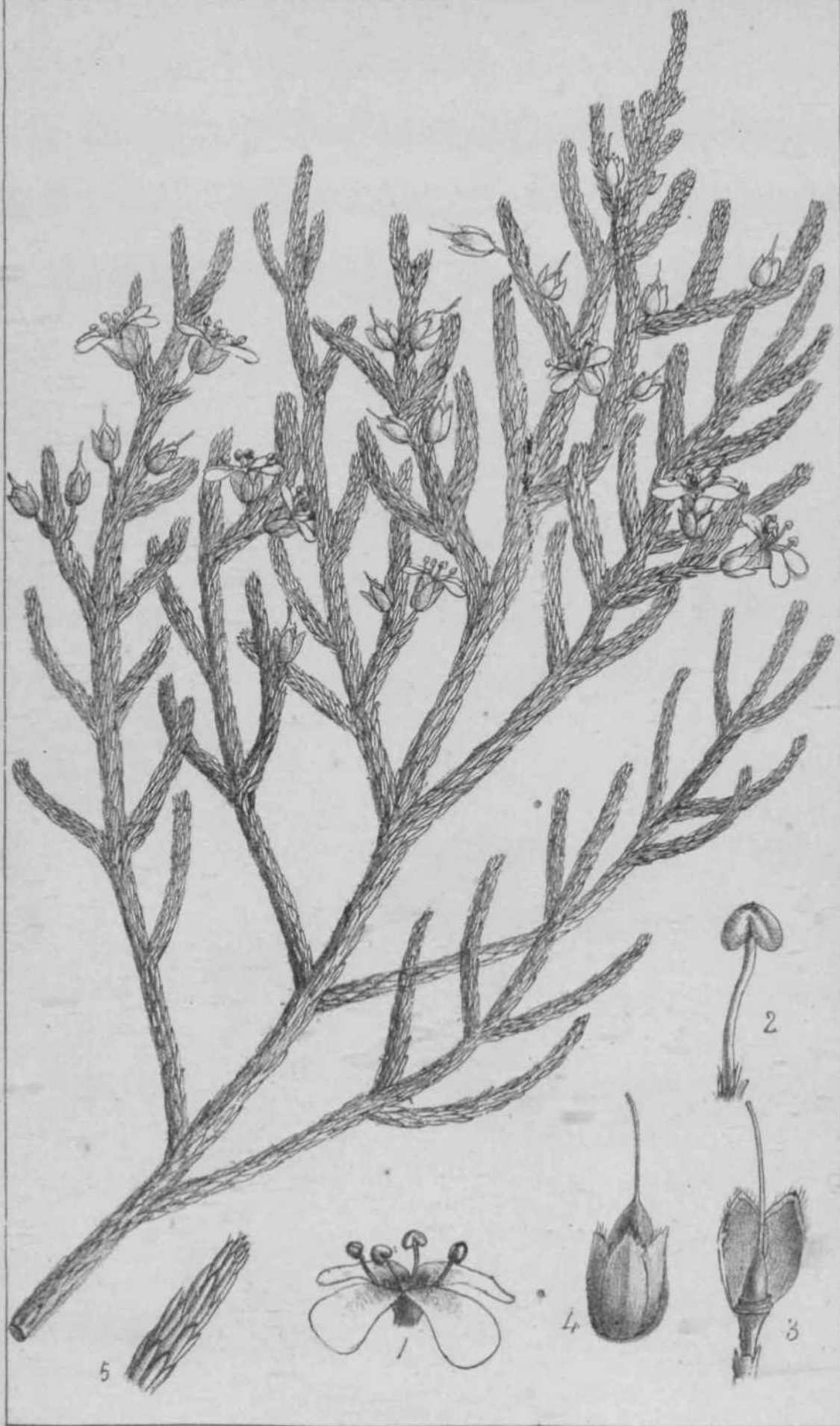
*Abrophyllum ornans*, Hk. f.





A.M.C. del

Phacellana ngidula, ?enth.



A MX.del.

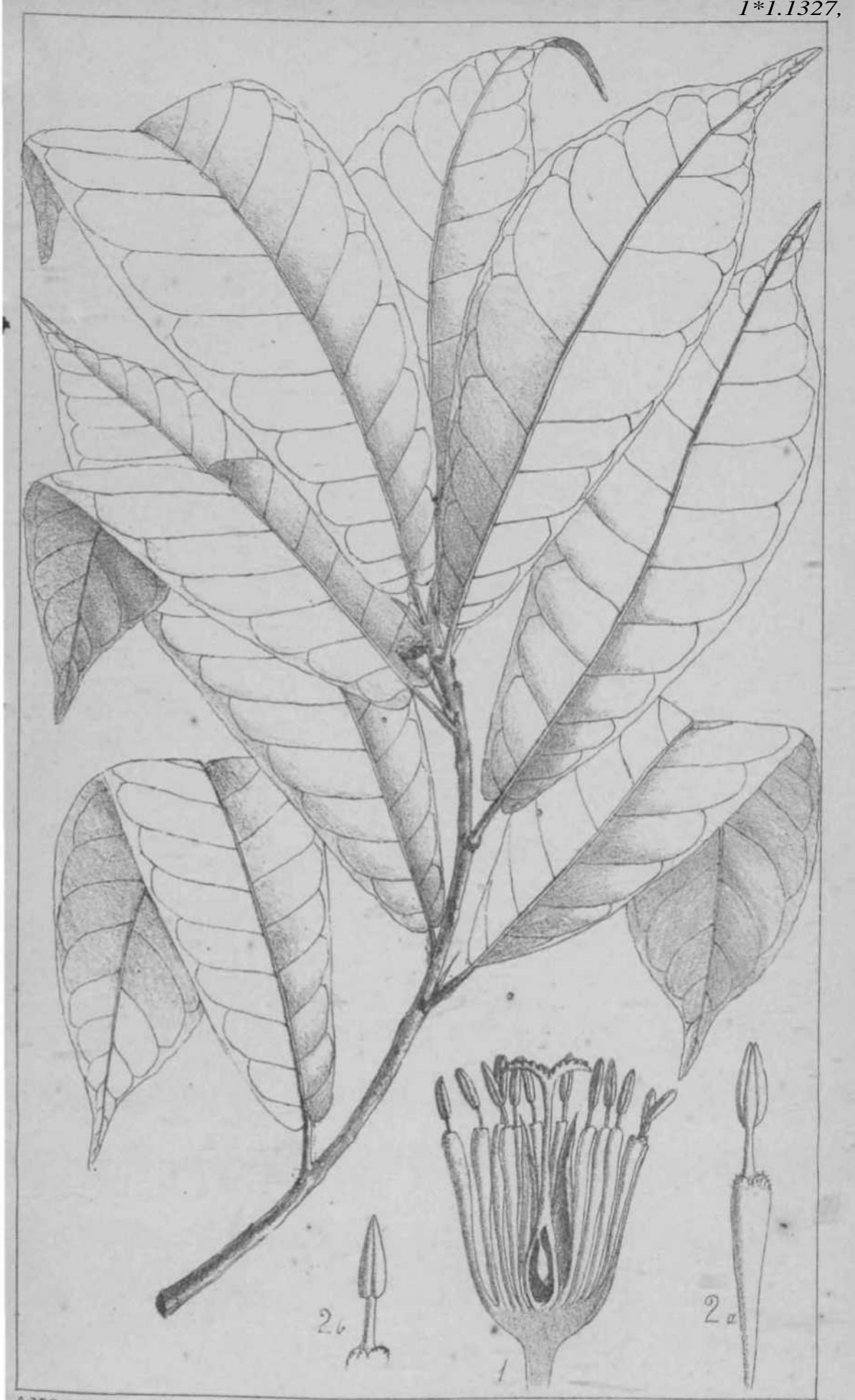
*Aragoa lycopodioides*, Benth.



A.M.C. del.

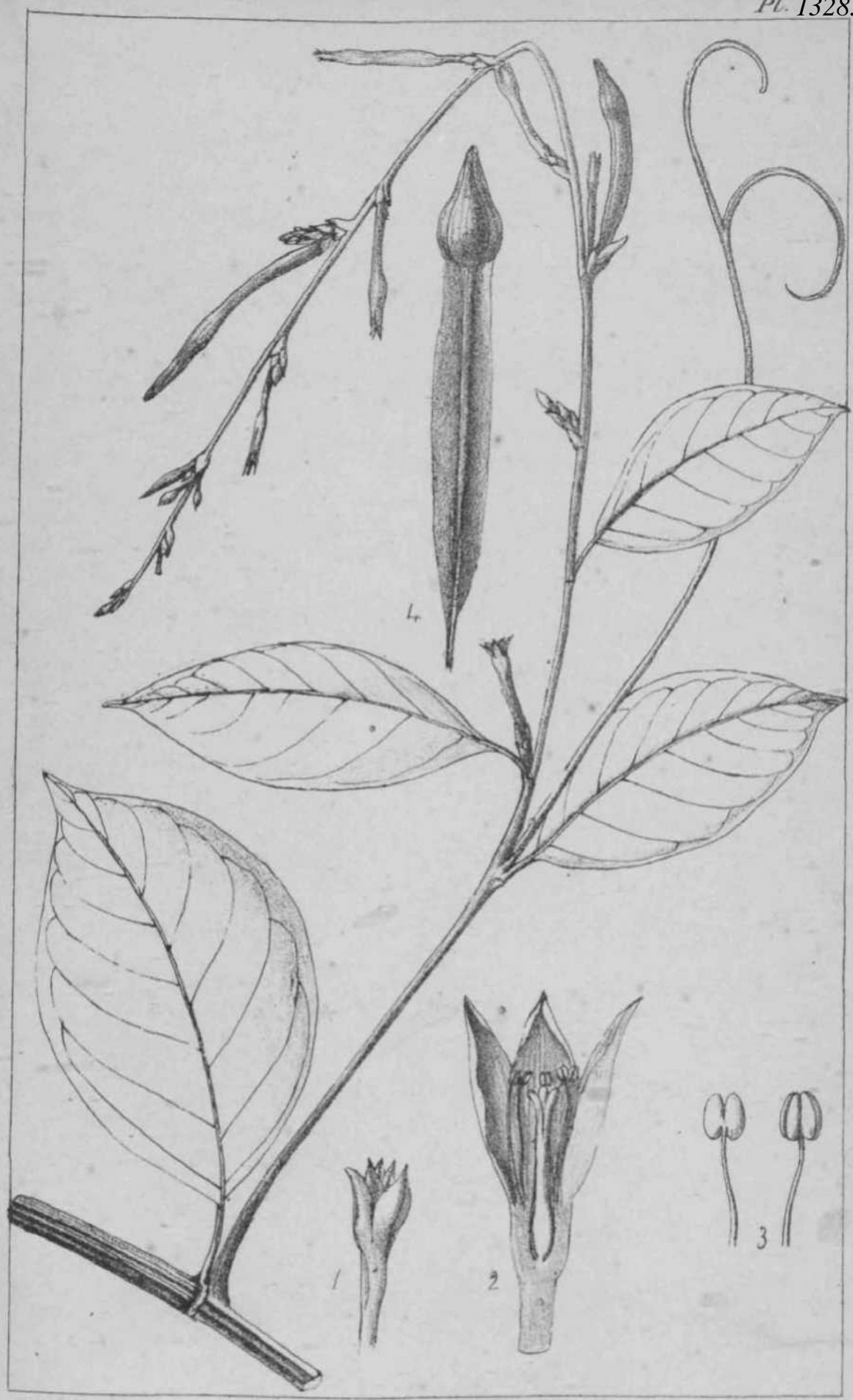
Lanessania turbinata, Baill.





A.M.C. del.

Scyphosyce Manniana, Bail.



A.W.C.del

Bruimichia alhcana, Welw



A.M.C. del.

Rosa Ecae, Aitch



A.M.C. del.

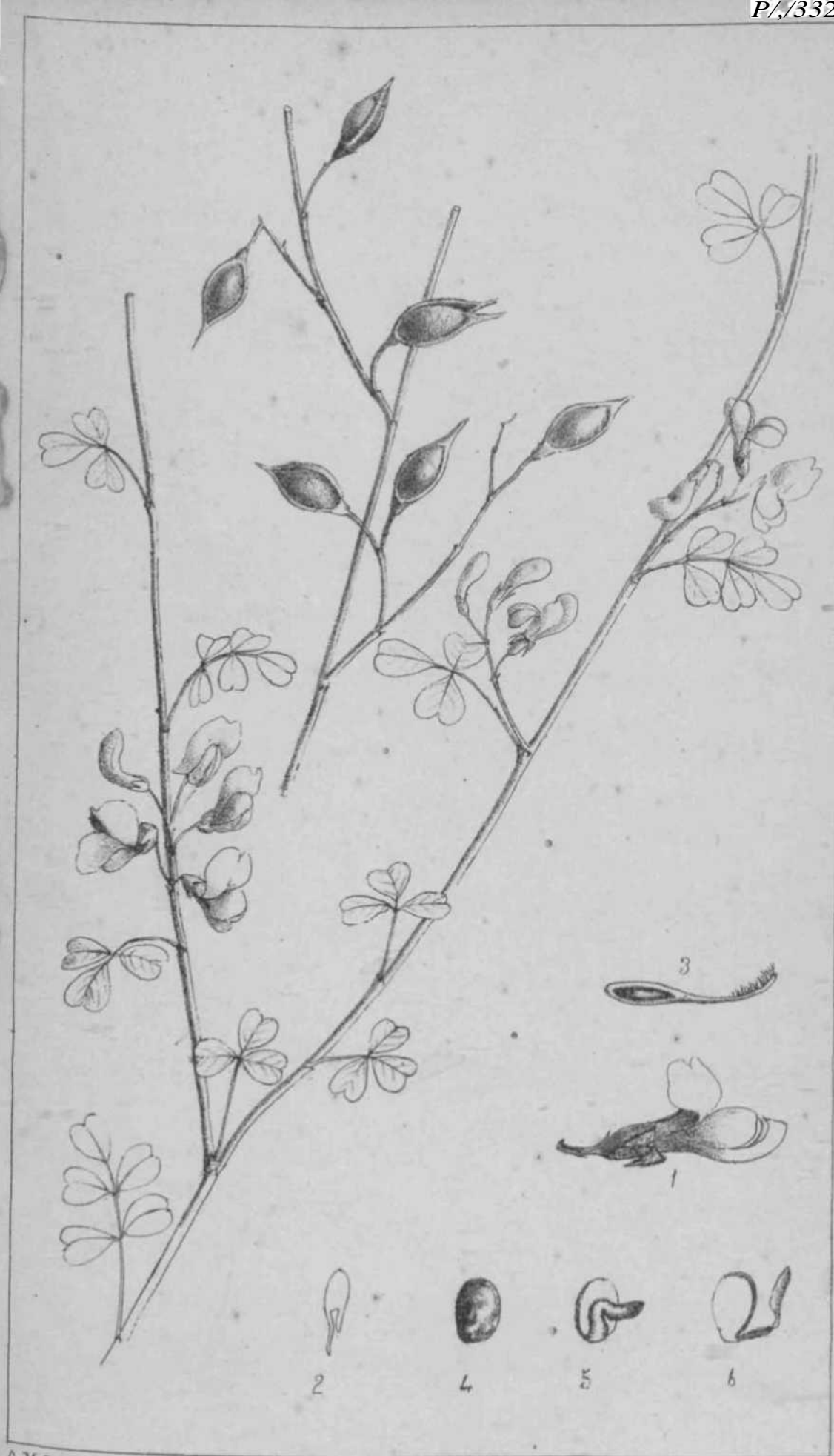
*Penianthus longifolius*, Miers ♂



A.M.C. del.

*Cephalanthus natalensis*, Oliv.





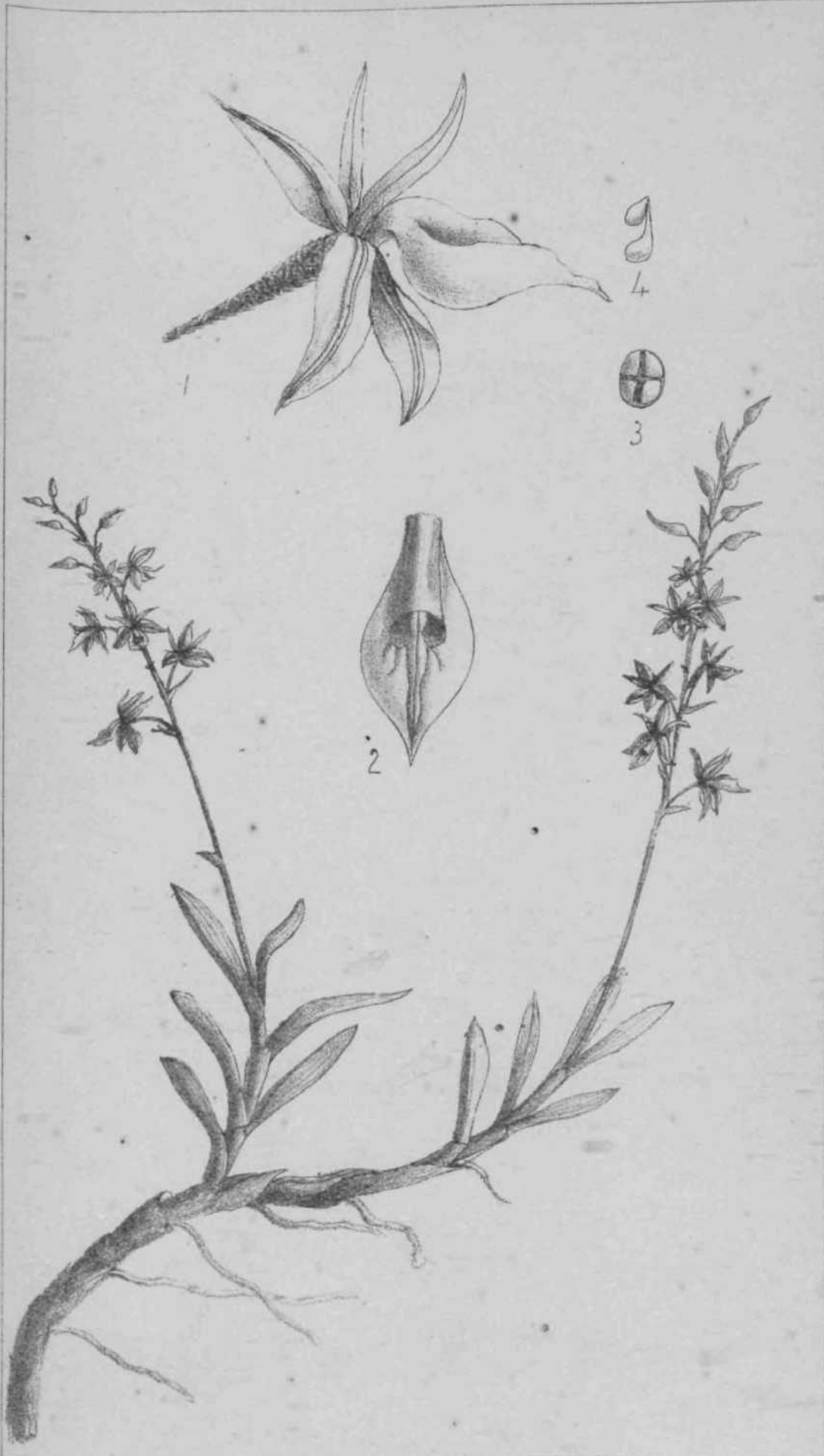
A.M.C. del.

Carmichaelia Kirkii, Hk.f.



A.M.C. del.

Erythrospermum polyanthum, Oliv.



A.M.C. del.

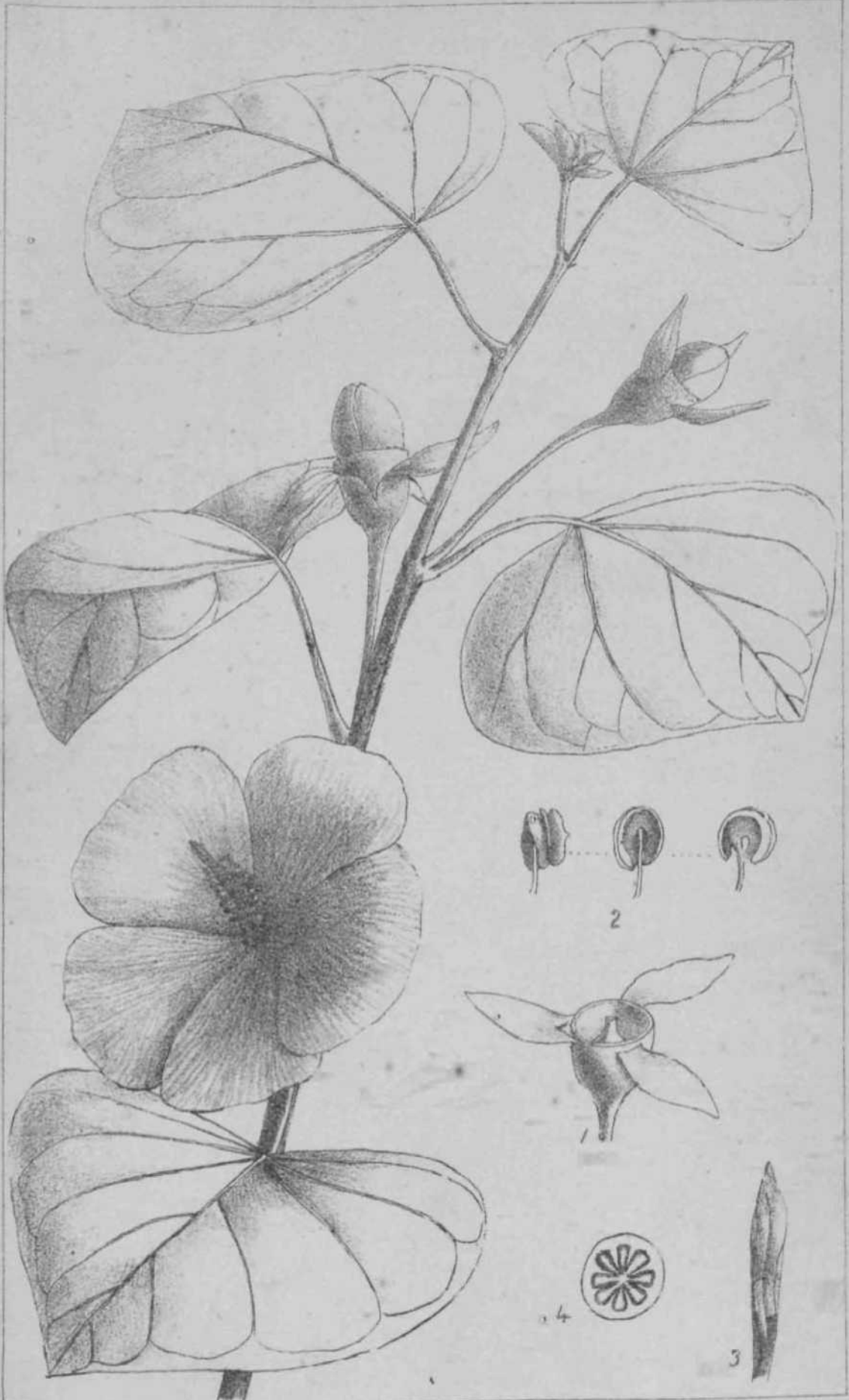
Lanium nucrophyllum, **Lin** dl.





A.M.C. del.

Laxium Avicula, Lindl.



A. J. G. del.

*Thespesia Danis*, Ohv.



A.M.C. del.

*Micronychia madagascariensis*, Oliv.



A.M.C. del

*Gamblea ciliata* C.B.Cl.



A.M.C del.

*Amphidoxa gnaphalodes*, D C





A.M.C. del.

*Pentzia pinnatifida* Oliv.



A.M.C. del.

*Courtoisia cyperoides*, Kees



AMC del.

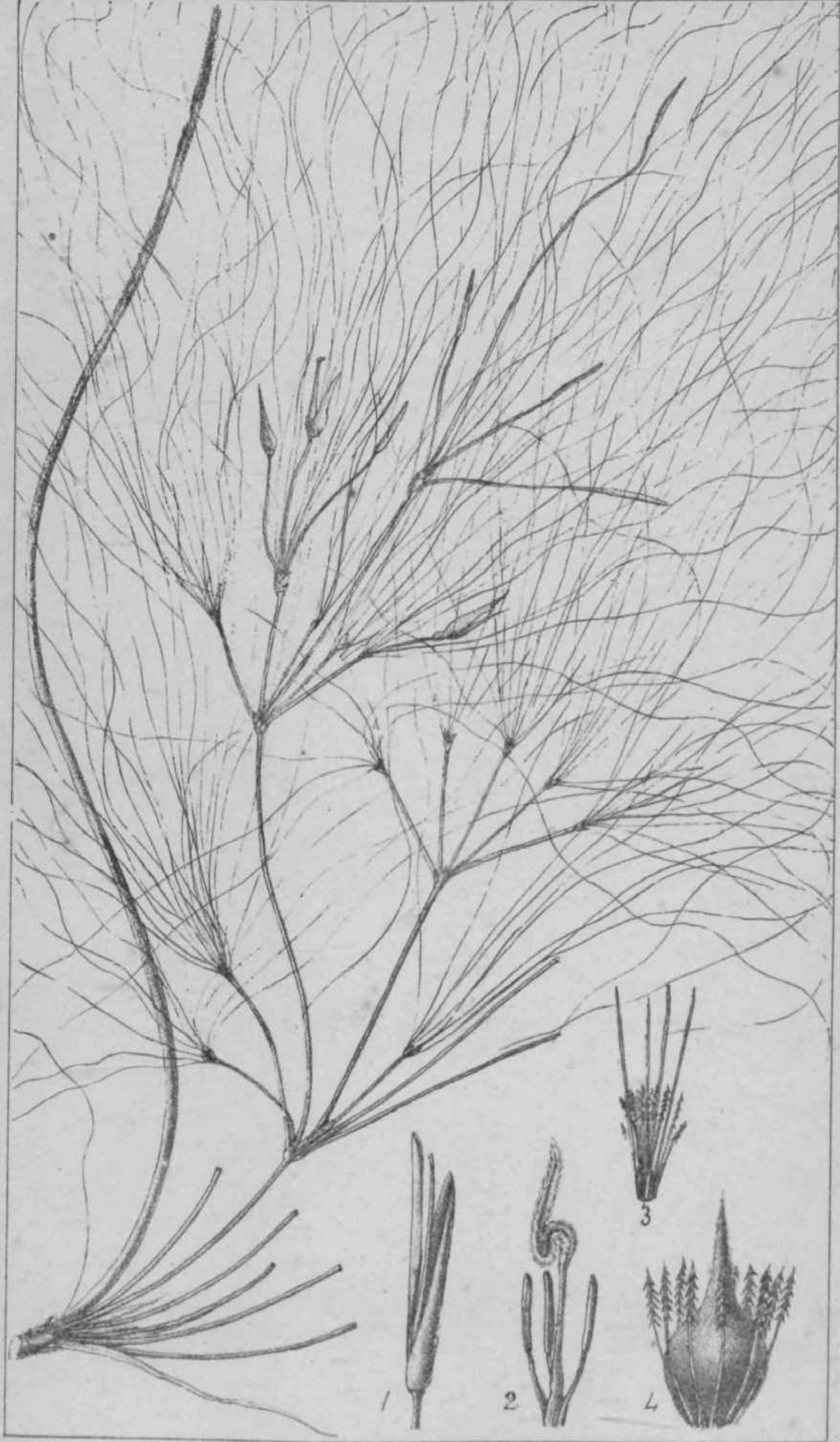
*Eriospora pilosa* Benth.





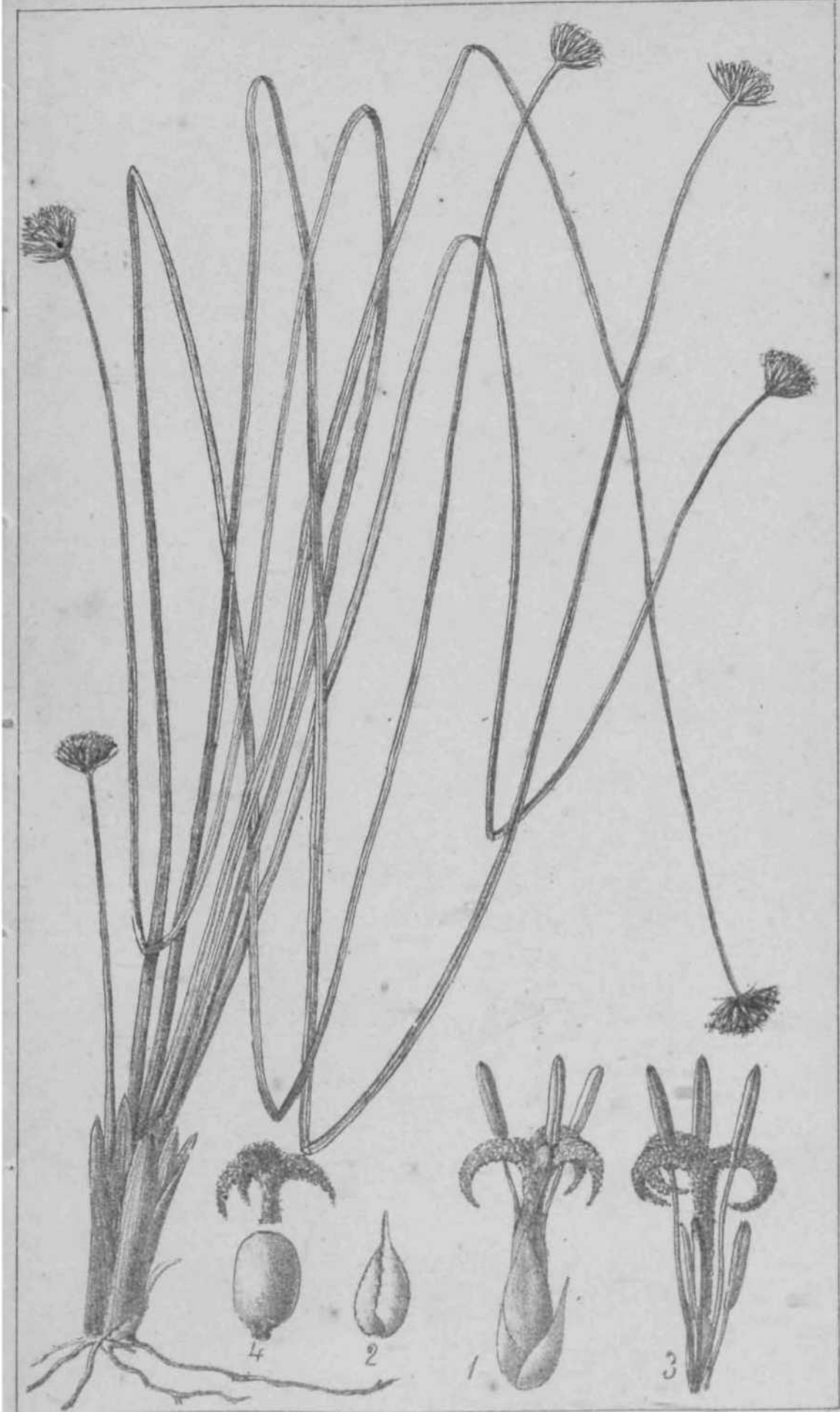
A.M.C. del.

*Cyathochaste clandestina*, Benth.



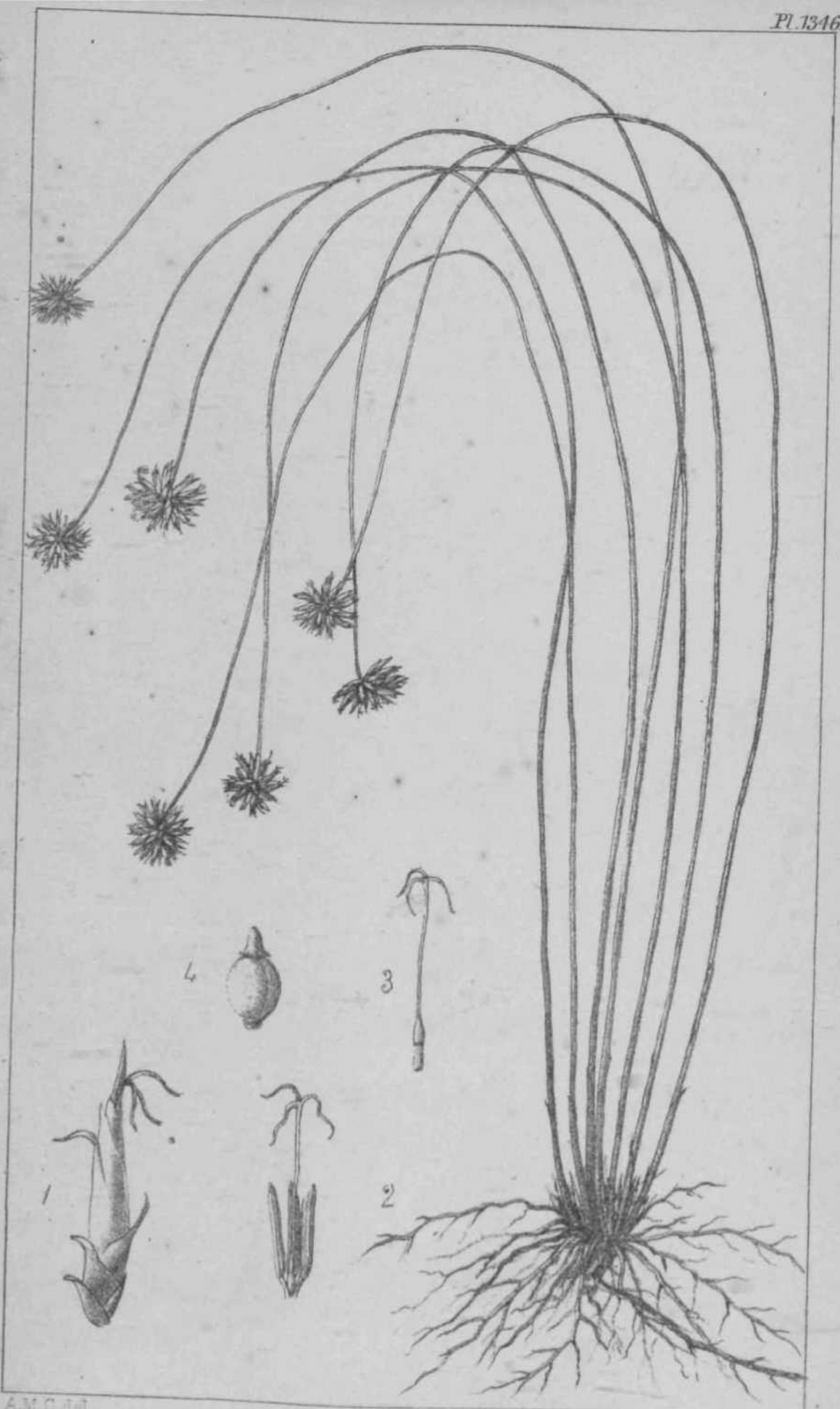
A. M. C. del.

*Rhytidocarpus rufipolius* Benth.



A.M. Udel

*Arthrostylis aphylla* R.Br



A.M.C. del.

*Actinoschoenus filiformis*, Benth.



A.M.C del

*Pteroscleria longifolia*, Criseb





1



2



3



4

A.M.C. del

Tnanoptiles cap em-Fenzl



A



B



3a



2a



1a



2b

t m



1b

AM. C del

A. Vernonia sLenocephala. Oliv.  
B. Vernonia Nyassas Oliv



A.M.C. del

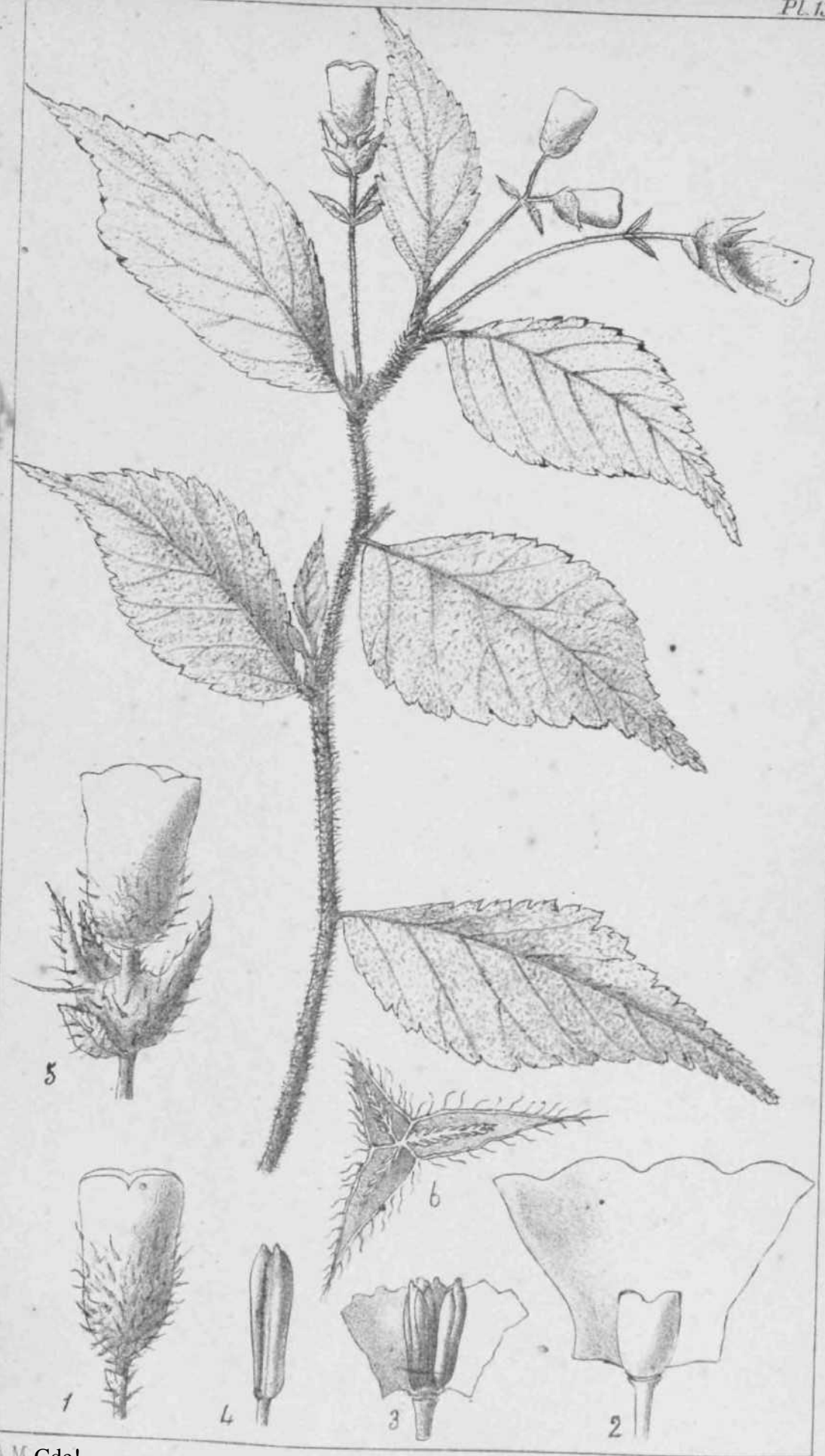
Acacia Hunter., 0!iv.





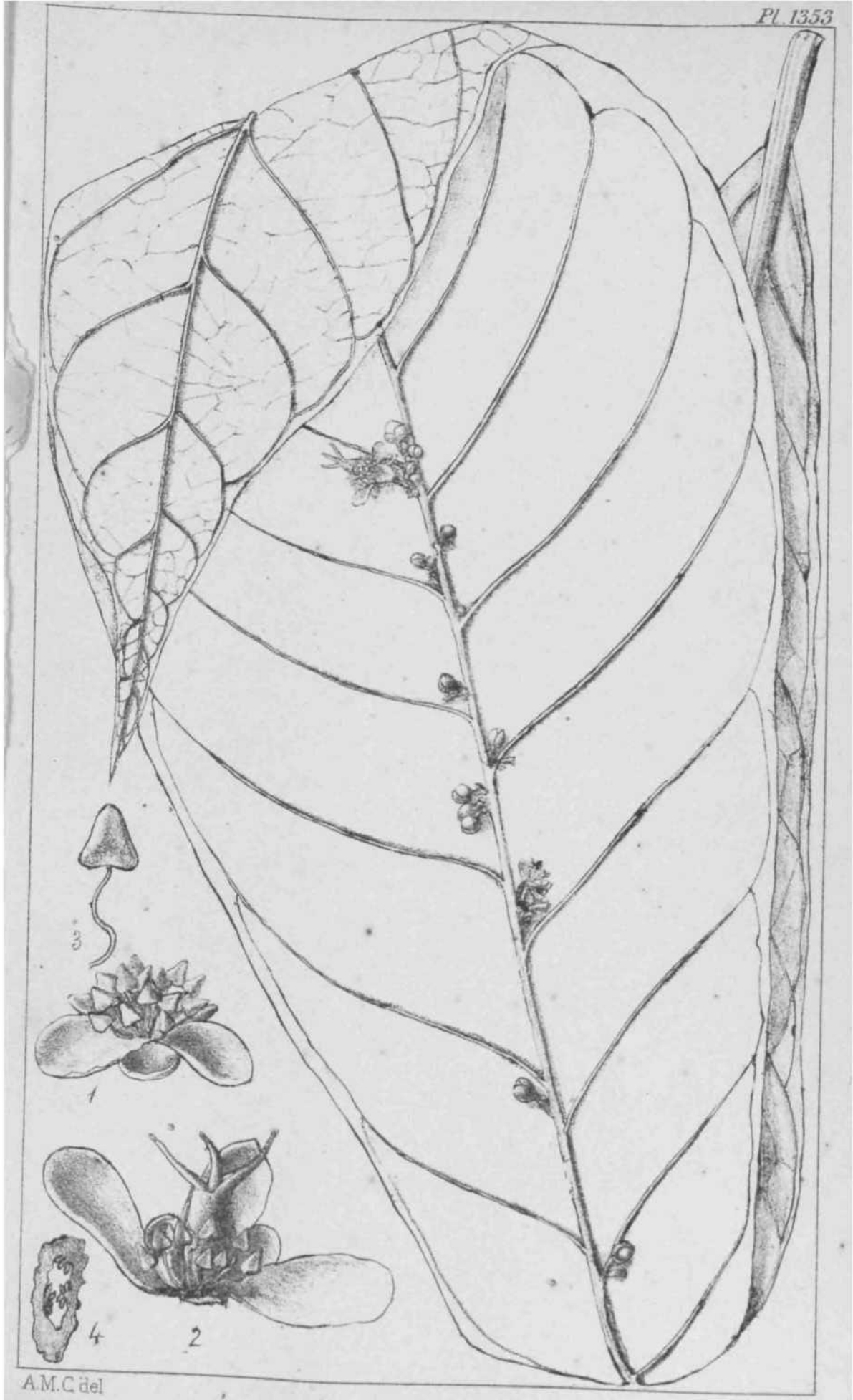
A.M.C. del

Tecoma Nyassae, C. liv.



A.M. Cde!

Begoniella 'albreyeri'. 01iv.



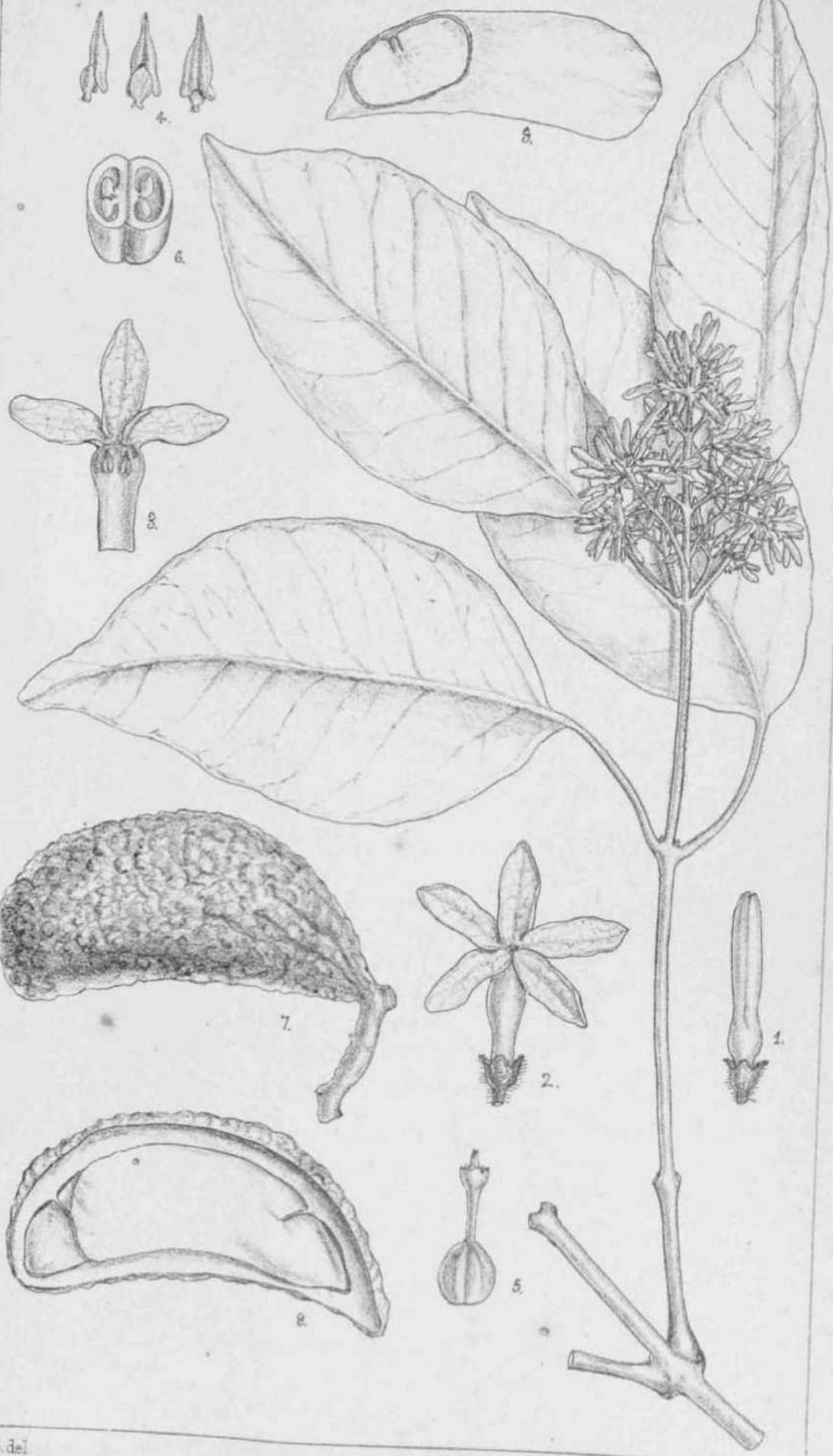
A.M.C del

*Phyllobolryum spalhulatu* Tn. Muell, Arg.



M.S. del

*indigofera trachyphylla*, Benth.



*Diplorhynchus Mossambicensis*, Benlh.





M.S. del.

*Randia Buchanani*. Oliv.



M.S. del.

Buernannia Kalbreyeri Oliv.



M.S. del

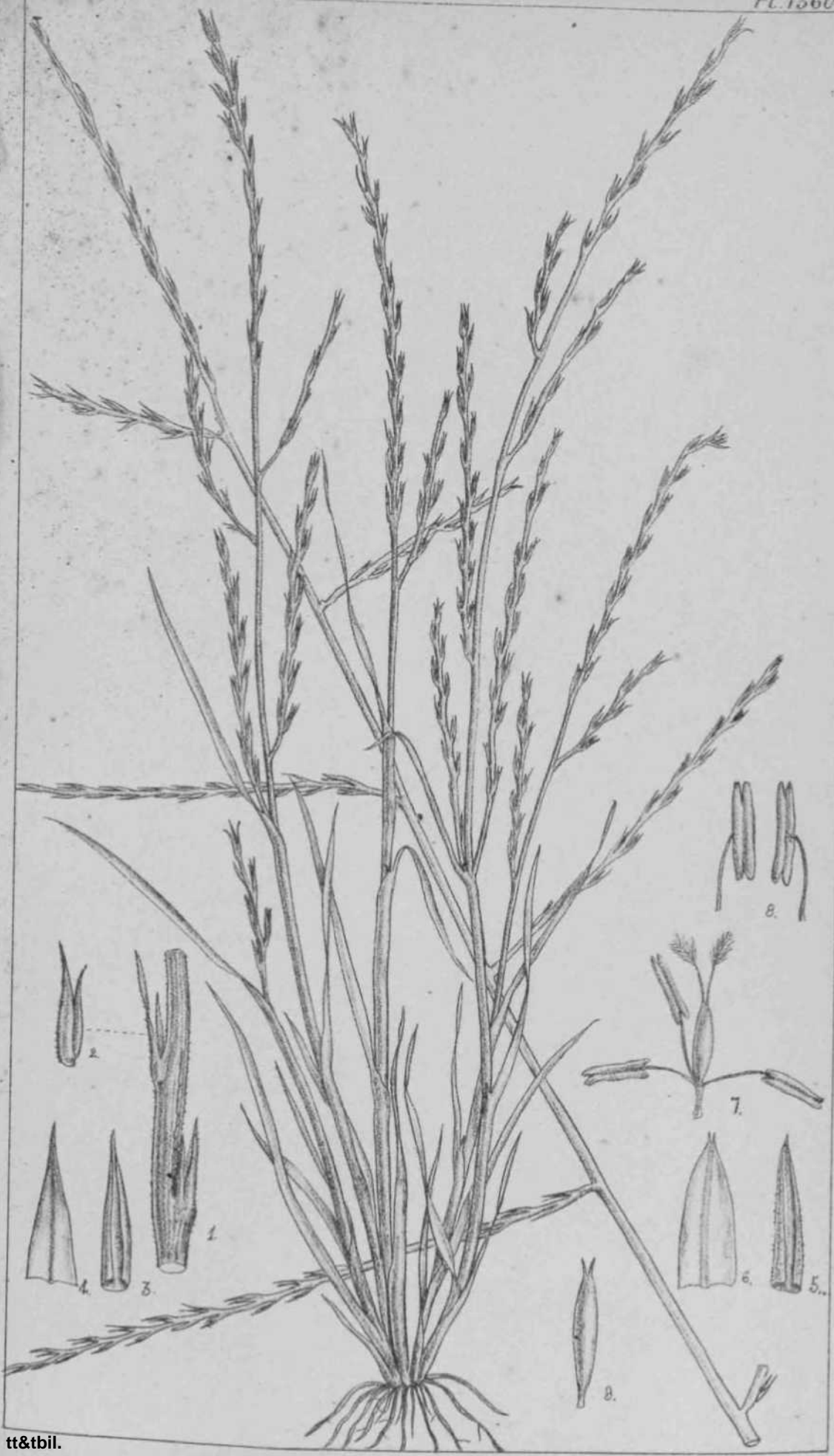
*Physotrichia Buchanani*, Benth.





MS. det.

*Brachystegia longifolia*, Benth.



tt&tbl.

Schedonorus texanus Sleud



M.S. del

Mlc; ai ra sufauhfoha F Muell

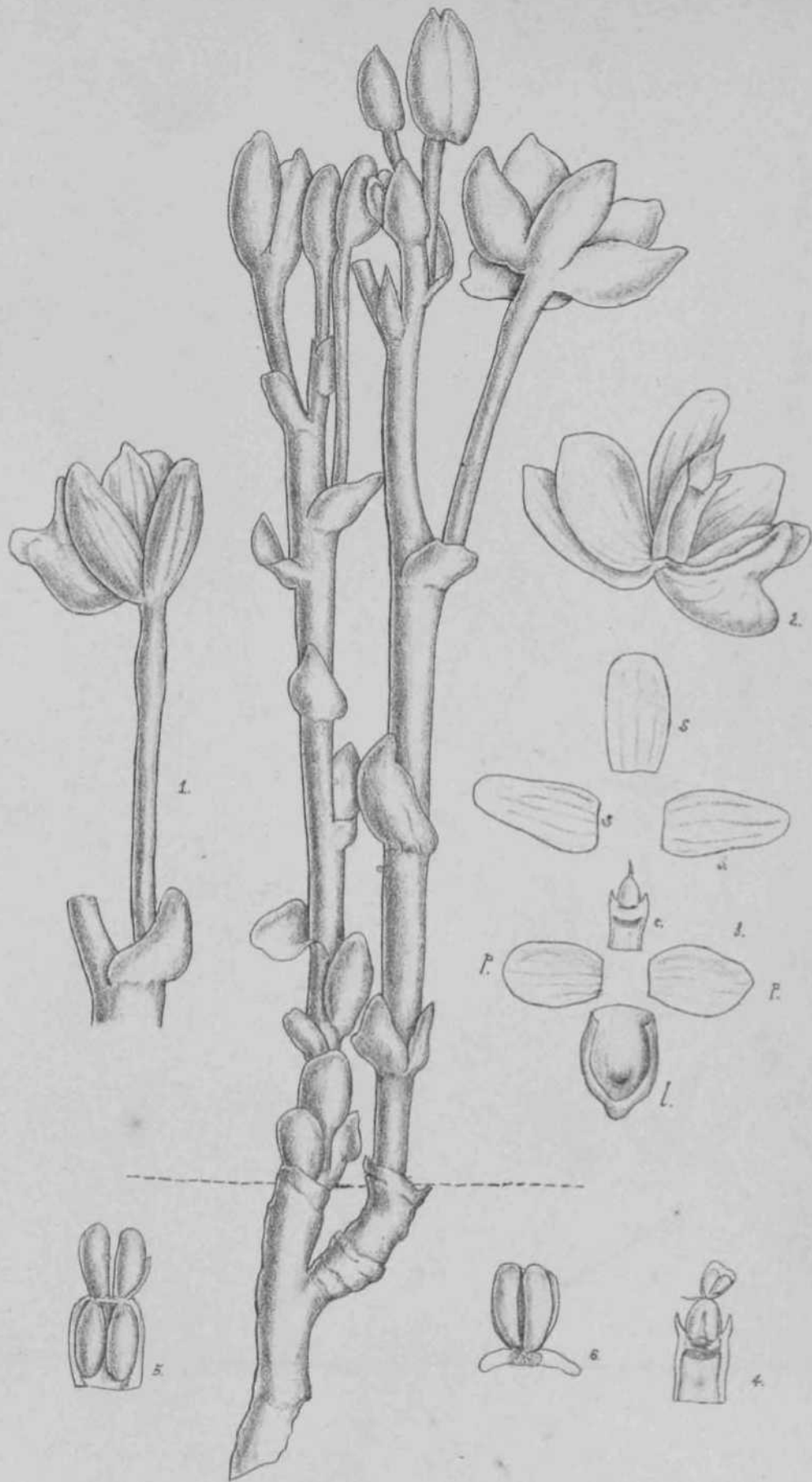


M.S. del.

*Aciachne pulvinata* Benth.

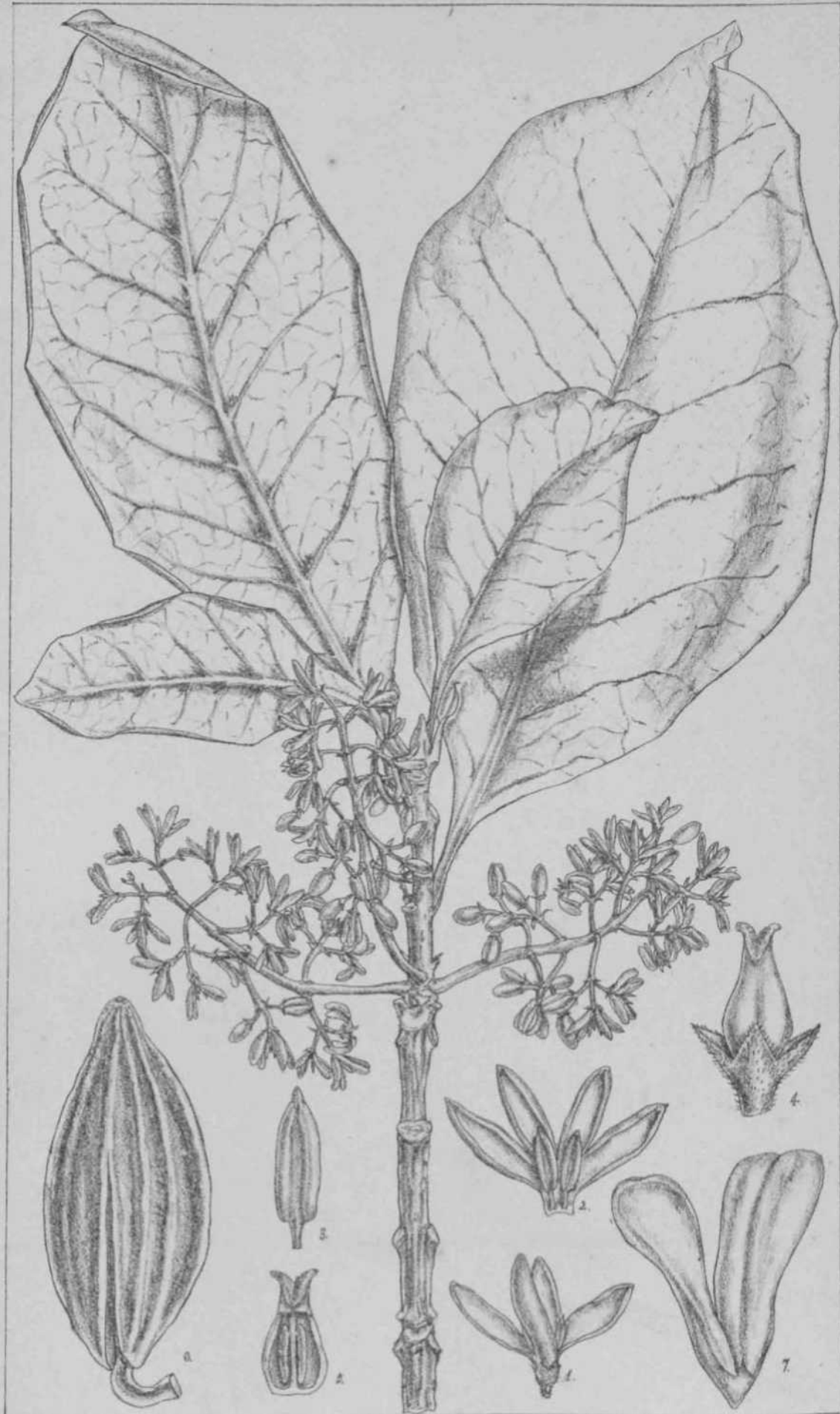






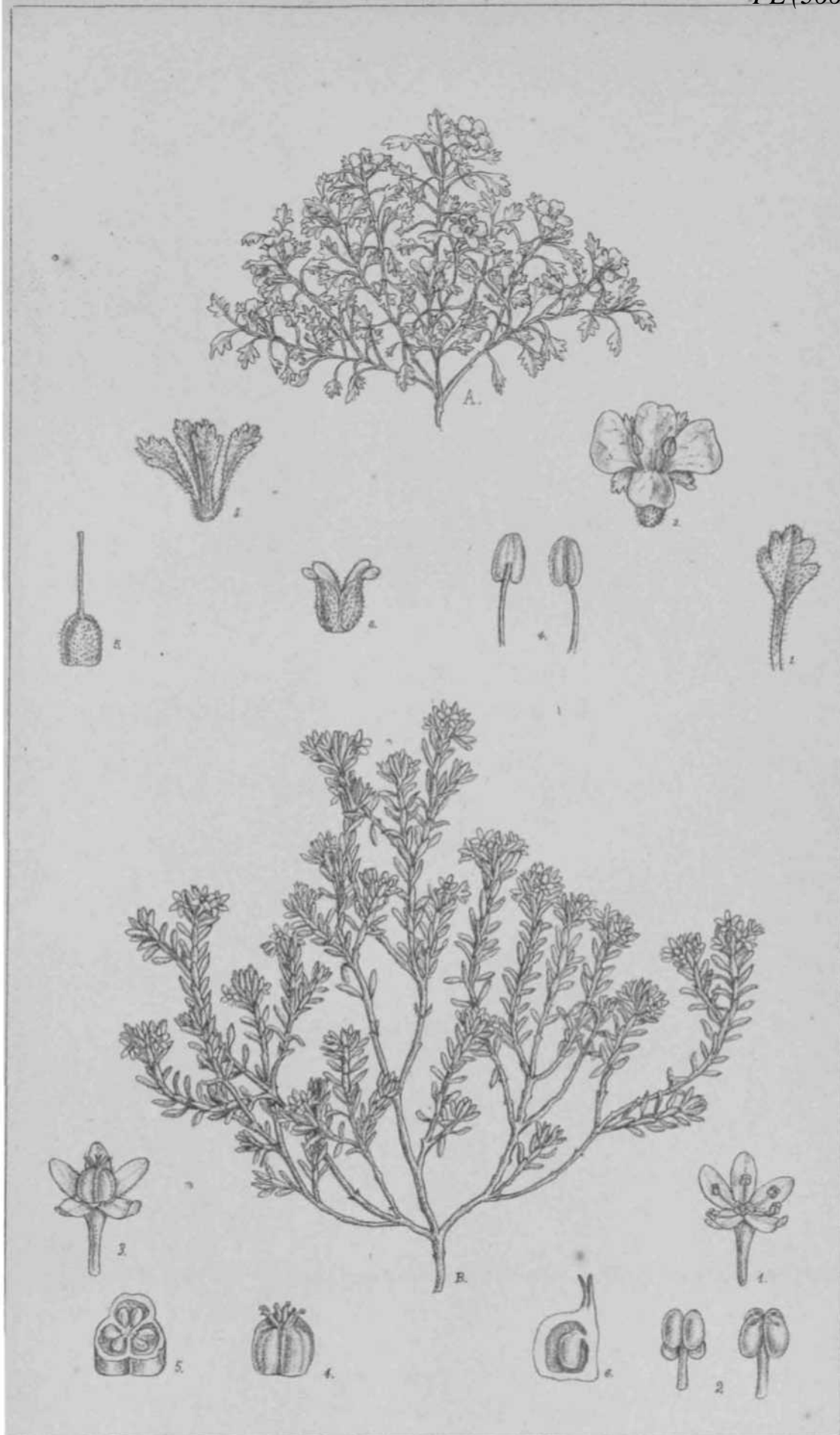
M.S. del.

*Yeania japonica* Max.



MC d.l.

Koronhia Broomeana, Home.



MS.dal

A. *Veronica Cheesemani*. Beinh.  
 B. *Poranthera almna* Cheesem.





M.S. del.

Rhanterium epapposum Oliv.

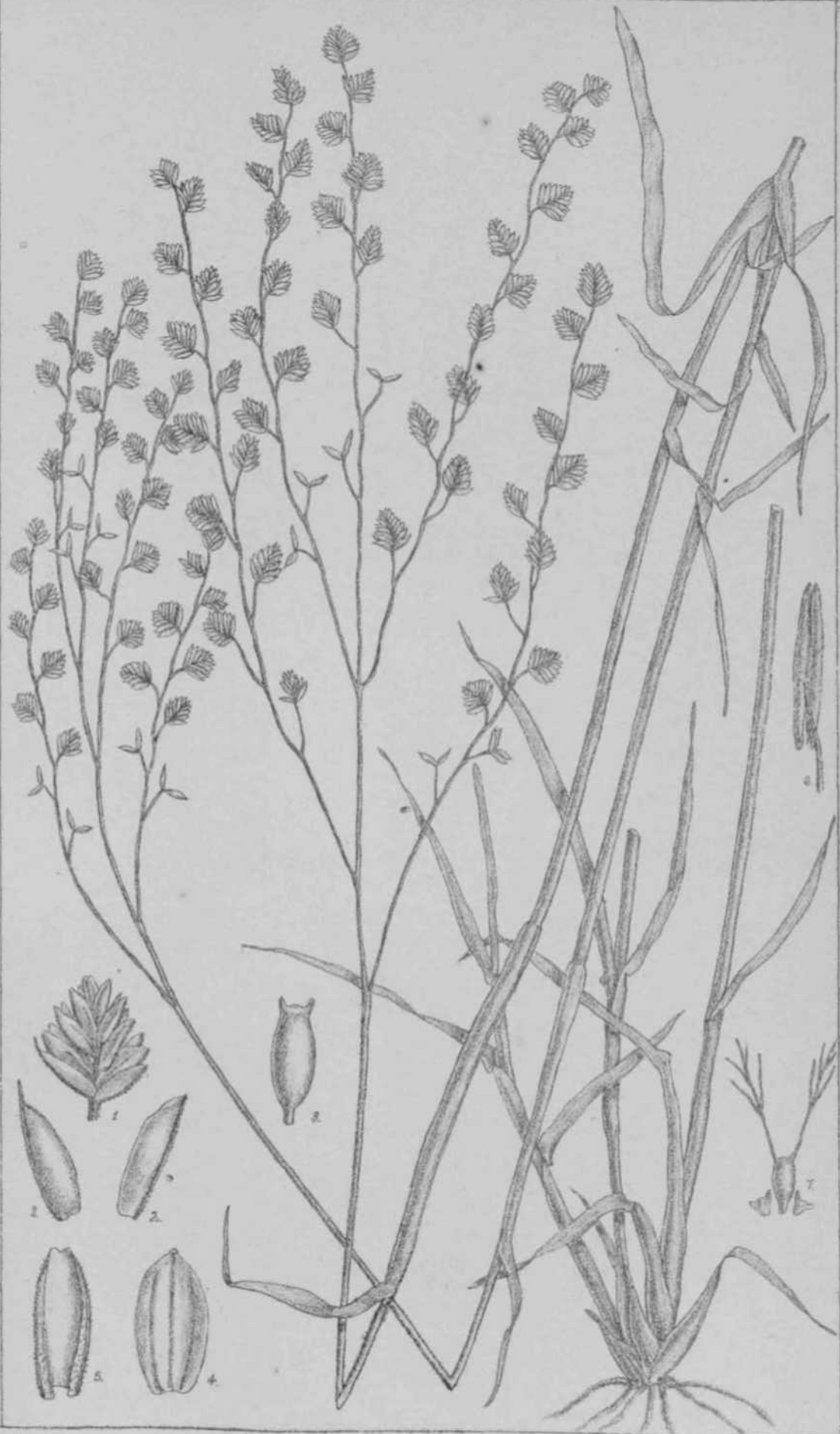


M.S. del

*Eragrostis Coelaehyruia* Beith



Nephelochloa **orientalis** Boiss.



x: dd

Eragrostis Piei • ei Benth.



M.S. del.

*Eragrostis Schimper Benth.*



Munroa squarrosa Torr





M.S. del

Y i nfe rh uth i a afri r tun



M aa

Lissanthelium supininn, Trm.





M.S. del

*Dissanhelium cdlifbrincum*, Benth



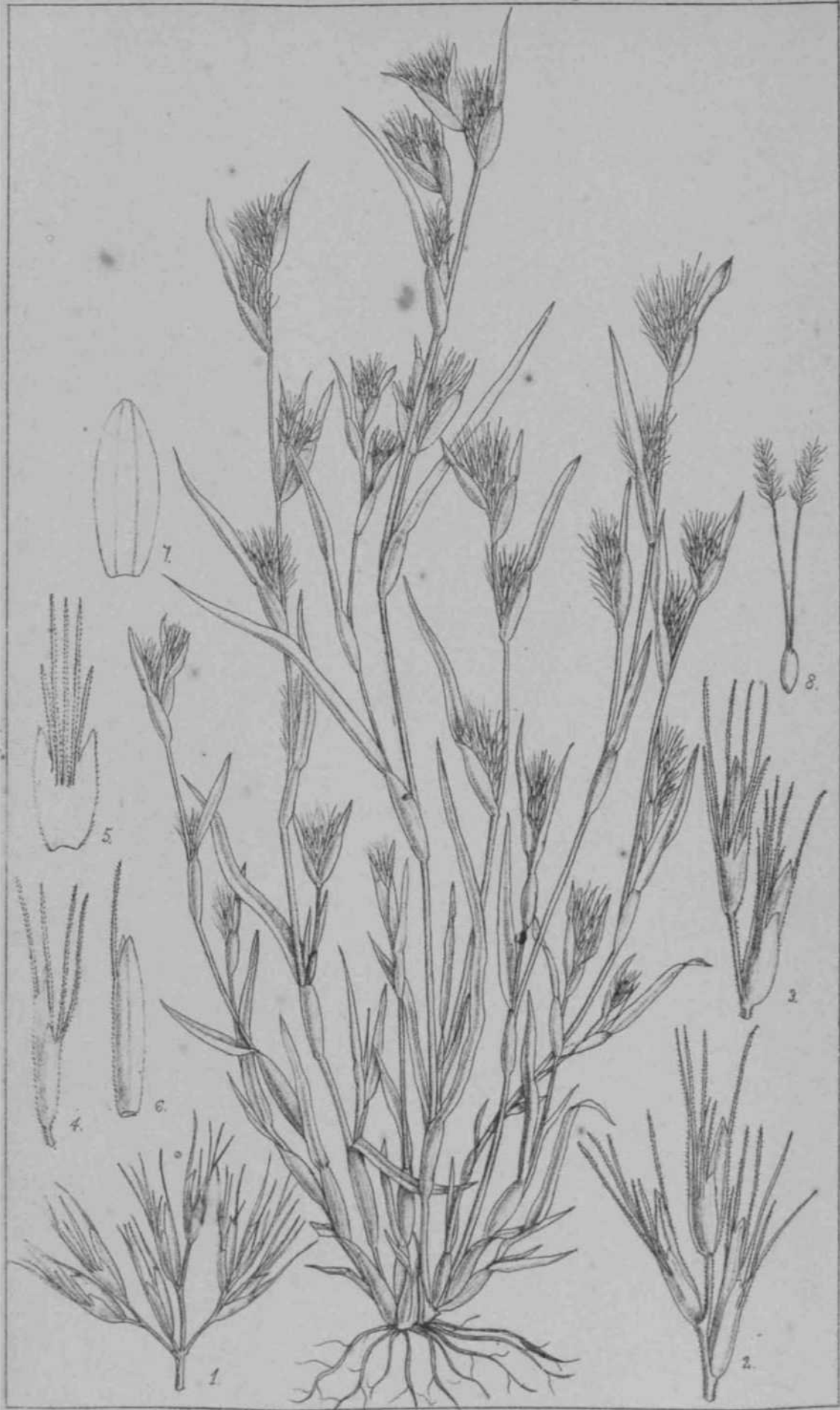
US Ad.

*Cryptochlons spalhacea*. Bentix



M.S. del.

*Craspedorhachis americana*, Benth.



M. S.&L

Schaffnera" gracilis, Benth



M.S. 3a.

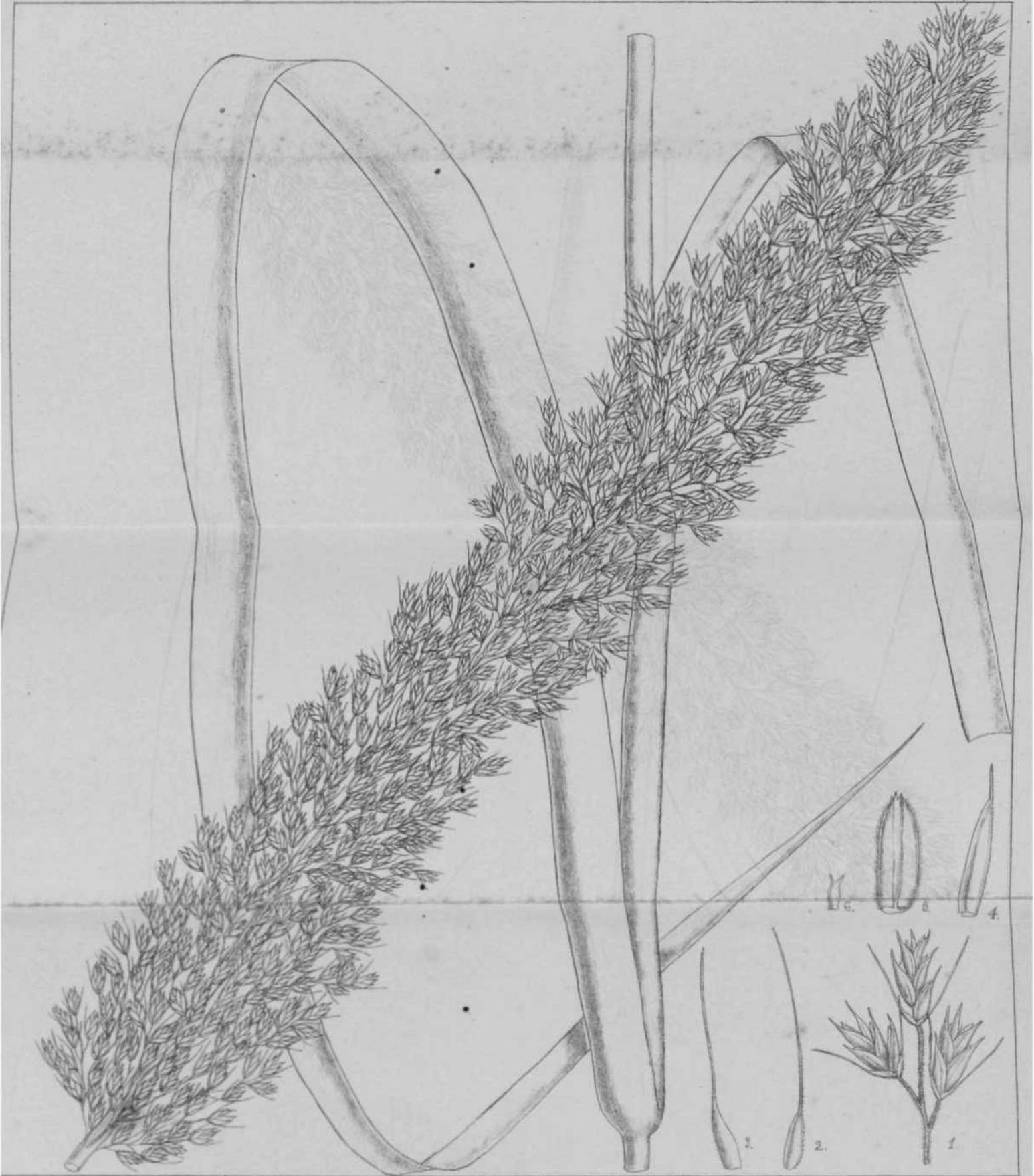
Cleista'chne sorghoides, Benth.





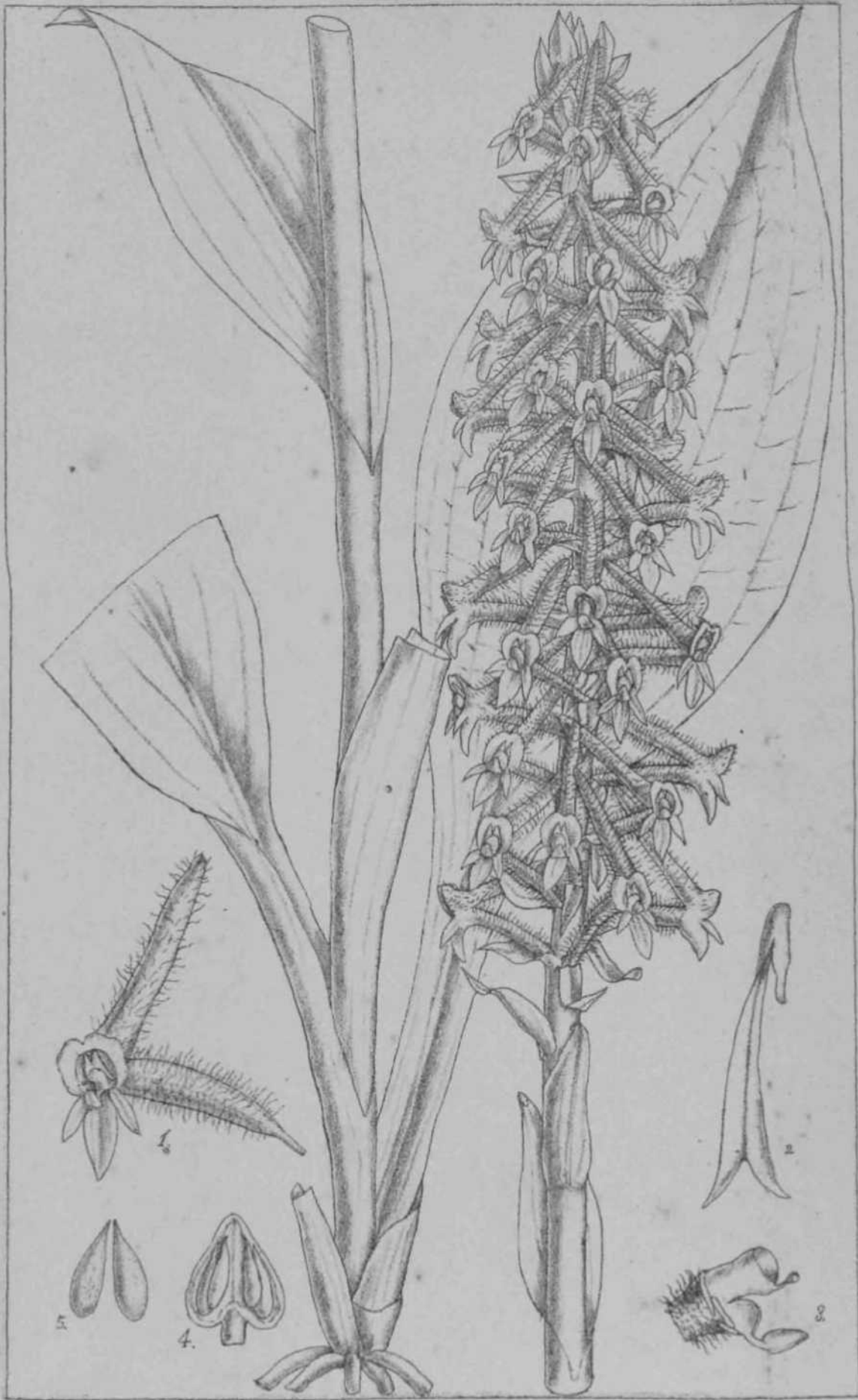
MSdfil.

*Cyphostigma pulchellum*, Be-ith



M.S. del

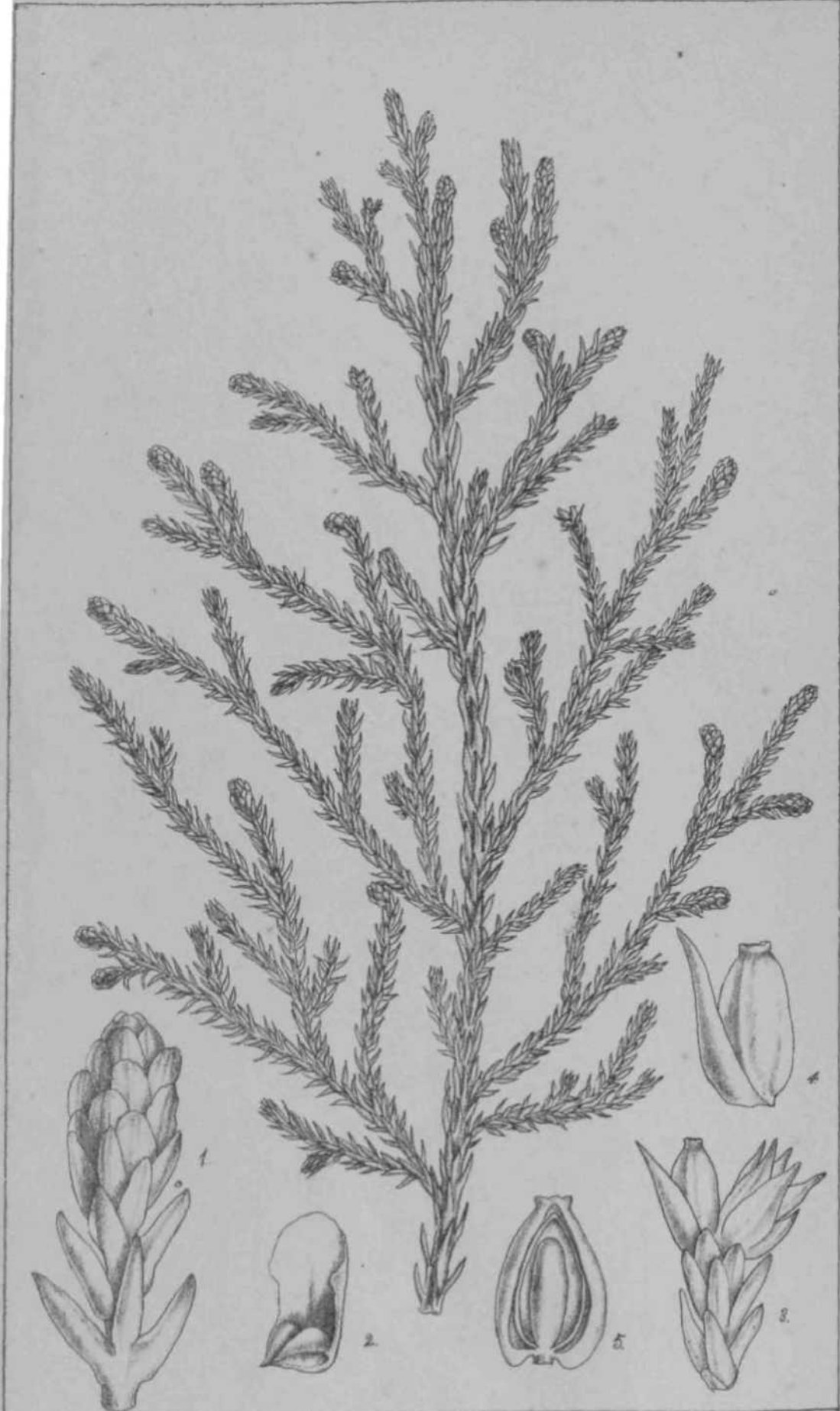
*Eragrostis Wightiana*, Benth.



M.S. del.

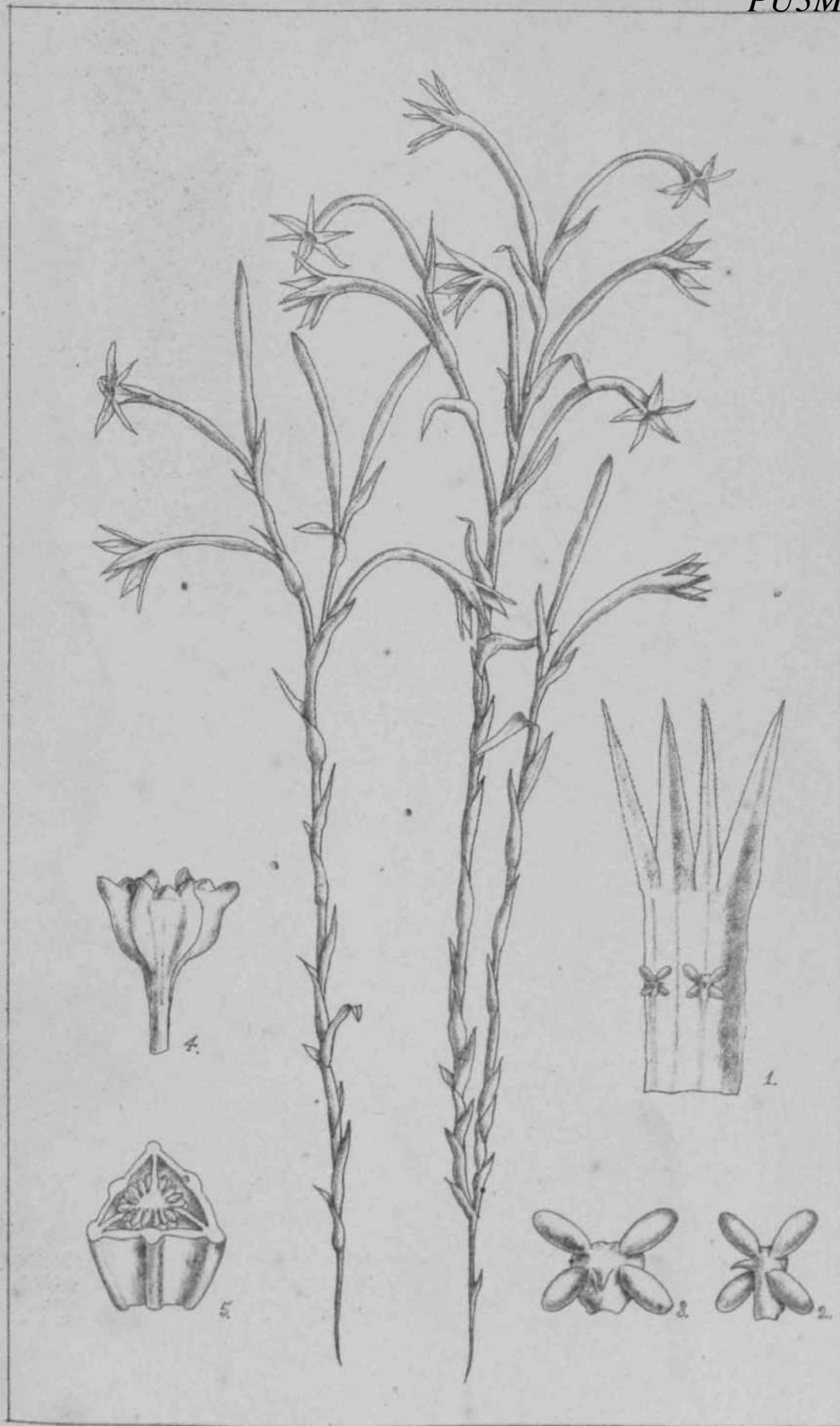
*Pseudocentrum minus*, Benth





M.S. del.

*Pterospora fergusonii* F.v Muell.



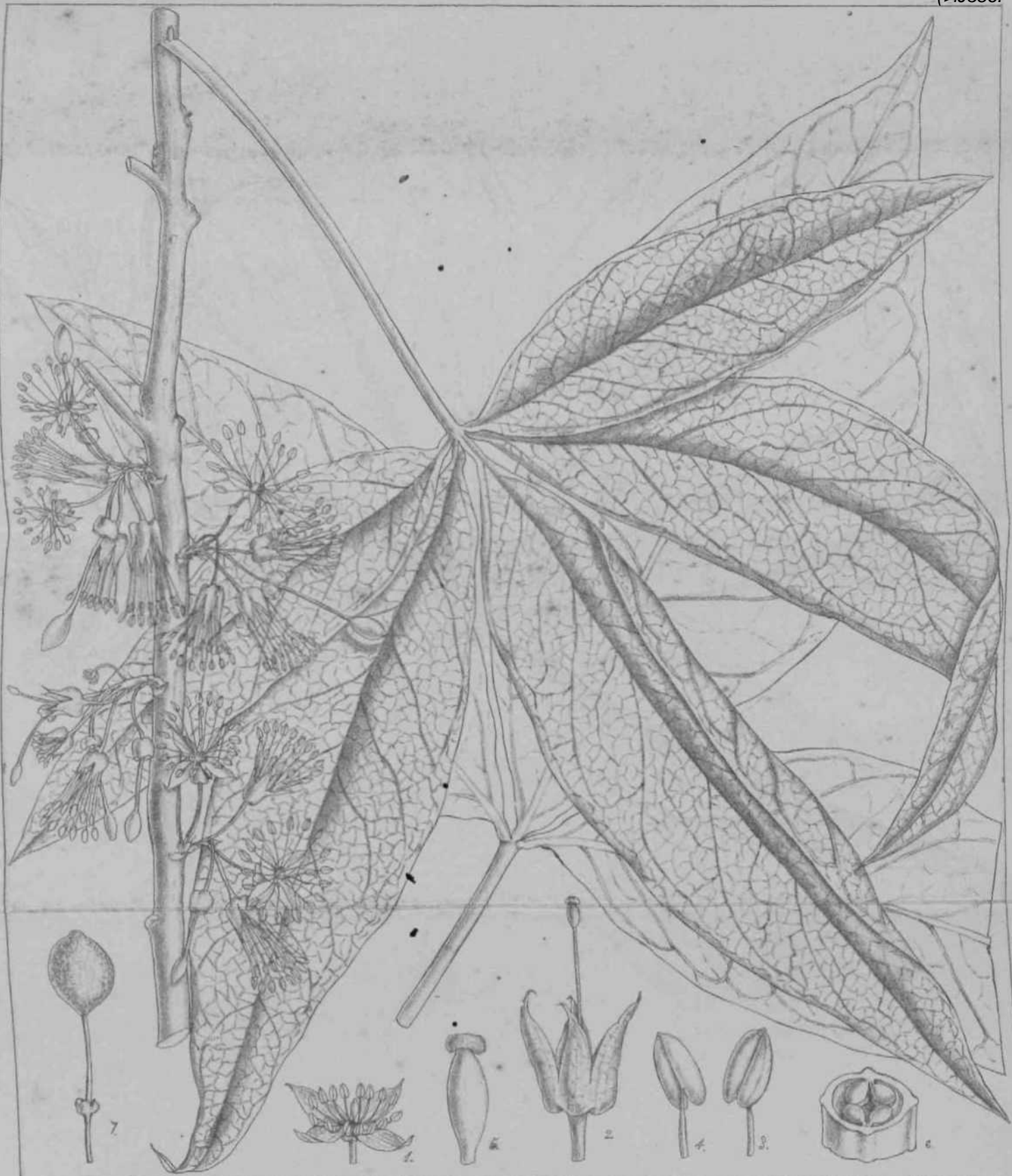
MS. del.

*Carapylsiphon purpurascens* Benlh.



M.S.del

*Melieita parvifolia*, Benth.



M. S. del.

Niebuhna Woodn, Ohv.



M.S. del.

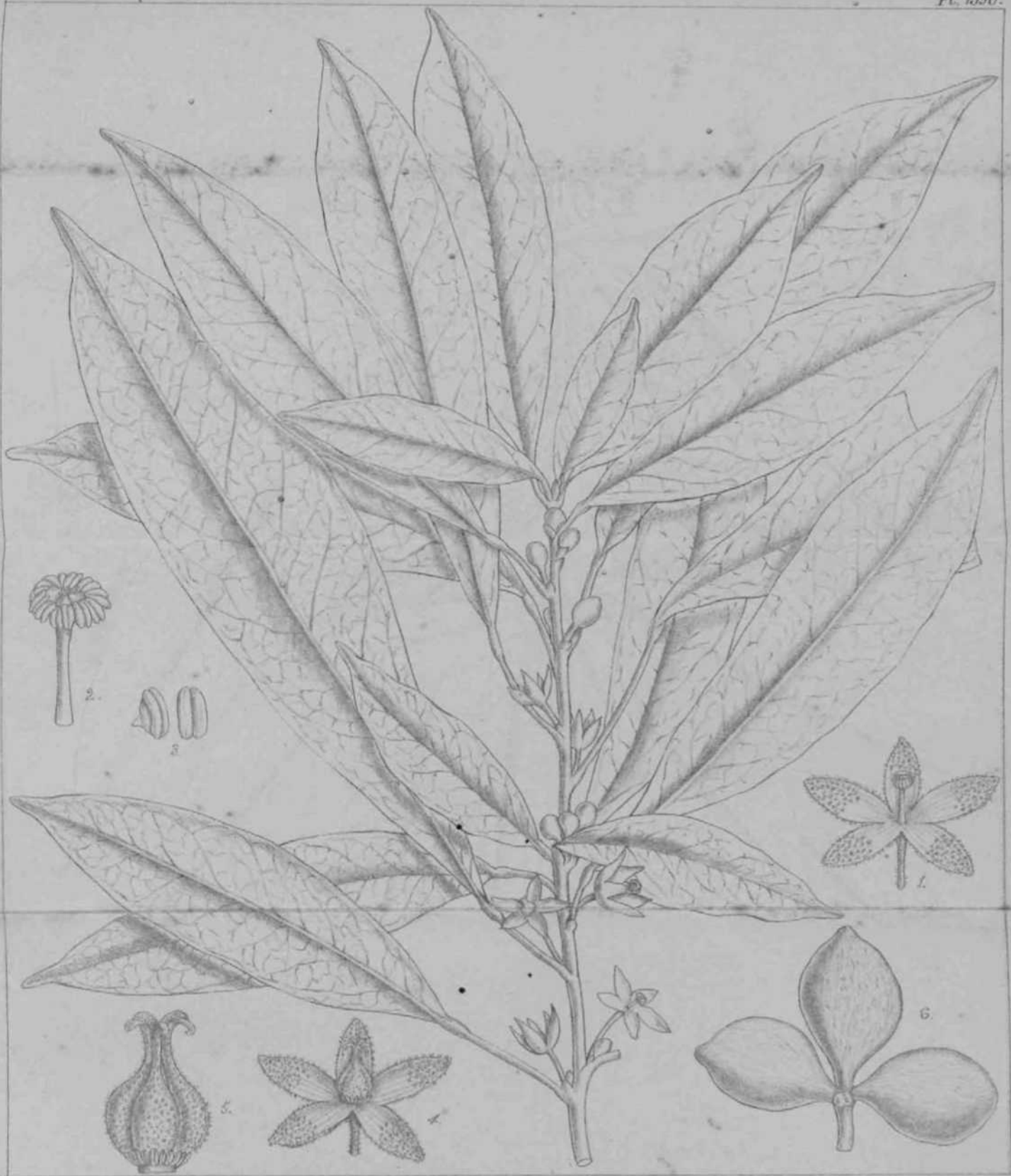
Simaruba Tnonophylla.Oliv





M.S. 1389

Leonlochir Ovallei, Phil.



M.S. del.

*Cola natalensis*, Ohv.



M.S. del

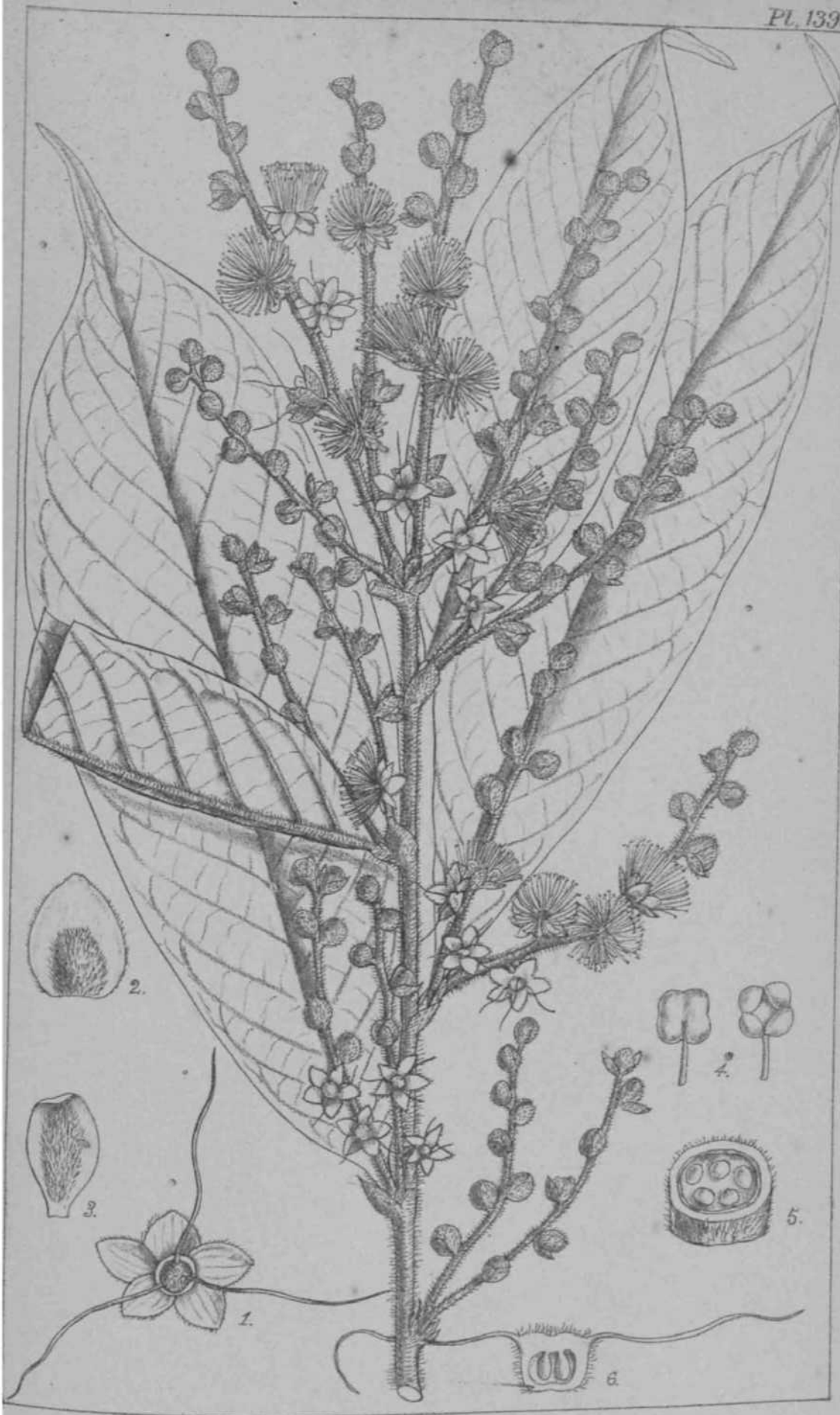
Petermannia cirrosa, F.M.





M.S. del,

*Rajania hastata*, L.



M.S.del.

*Soyauxia gabonensis*, Oliv.



M.S.del.

Epallage dentata.D.C.



M.S. del.

*Khipofonum scandens* Forst,



M.S. del.

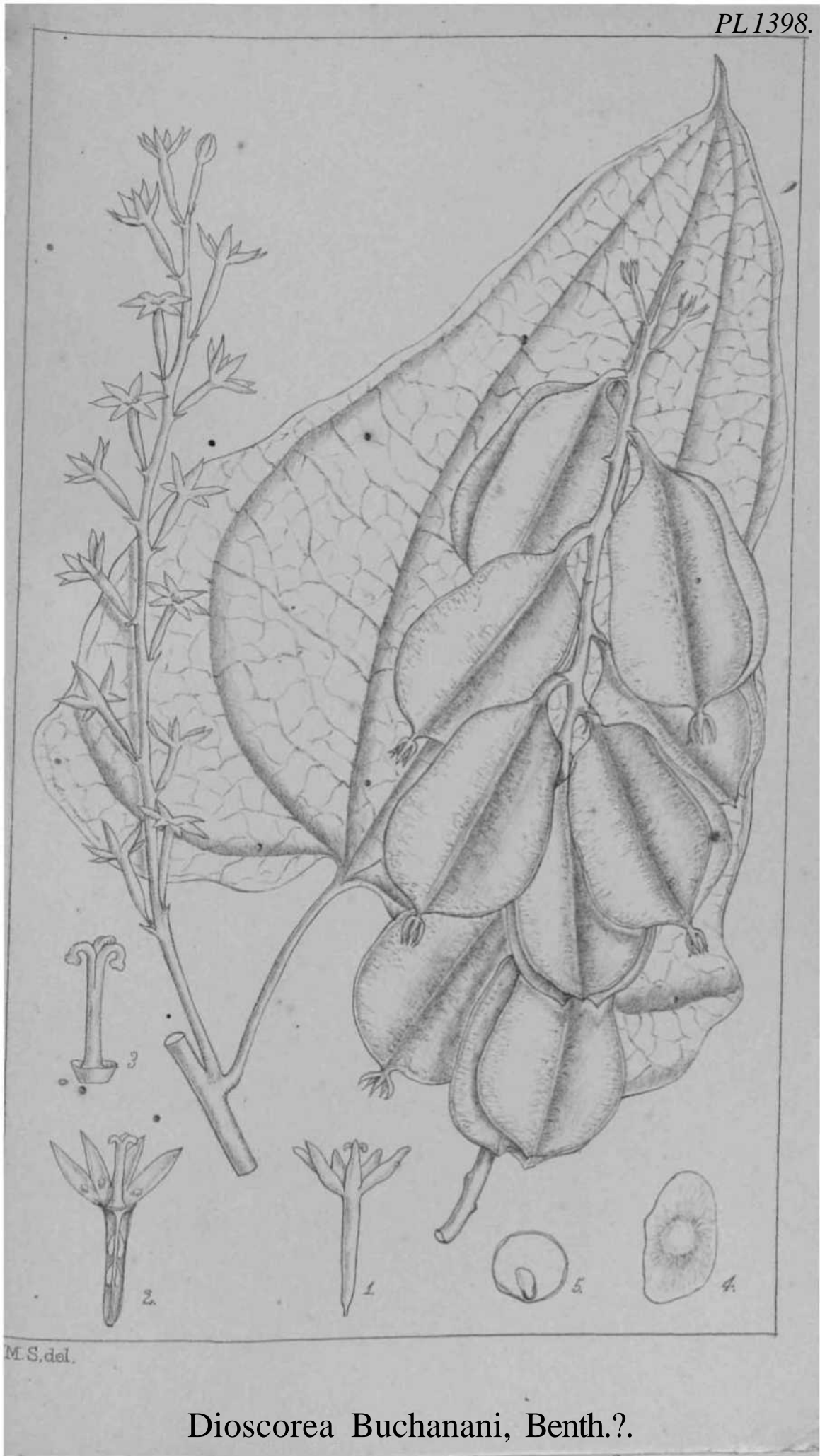
*Rhipogonum Zlseyanum*. F. Muell.





M.S. del.

*Dioscorea buchenani*, Benth.\*\*



M.S.del.

*Dioscorea Buchanani*, Benth.?





r

M.S.del.

*Inula shirensis* Oliv.