'. \\\ niibtukc written " Llcmidictyon" in the

INDEX

TO THE

PLANTS CONTAINED IN VOLUME VI.;

(OR VOLUME X. OP THE ENTIRE WORK),

ABRASTQED ACCOBDrNQ TO TIIEIll NAT0BAL OBDRBS.

FILICES.

POLYPODIACEiE.

PLATE 1002.

TRAVEBSIA BACCHAROIDES, *Hook.fi*

COMPOSITE, § SENECIONIDE.E.

T. baccharoides, *Eook.f.* *llandb. N. Zeal. 1$.* 164.

HAB. New **Zealand, mountains** of the Middle Island, Upper Awatere and **Wairau** valley, alt. 5000 ft., *Sinclair,* lluiumui Mountains, **Discovery** Peaks, alt. 5500 ft., *Trovers.* Gorge of the Poulter, alt 2200 ft., *Haad.*

Fndcx parvus, gtaberriinus,parce ramosus, **aubglutinosus,** raniulis **teret' sulcatis** flexuosis, **inferne angulatis.** *Fdtta* **sparea, sessilia, decurrentia,** 1^-poll- loiiga, obovato-spathulata, subacuta, obtuse serrata-, basin versus **ini gemma, coriacea,** nervis **temribus** subflabellatis, ***Capitula*** **homogama, ii. eorymbos Uxos terminales disposita, gracile** pedunculata, **pedunculia** 2-cho-**tomia, bracteia paacia** sparsis **lioesribas** auetis, ad ⊣]>oll. diainctro, erecta, **flava.** ***fteceptaeulum*** **planiusculuin, alveolatum, marginibus alveolorum fimbrilliferis.** ***fnvolucrum*** **siibhemispfasericqm, ba«i** srepe glutinosum, bractois 1-seriatis li-neari-oblongis obtusis ciliolatis **rigidis** puberulis, **siccatione sulcatis,** basi sub-**incrassatis,** additis paucis **ezterioribiis linearibus.** ***Mores*** **12** ad **15, tubulosi,** *iU*, 5-lobi, lobis linearibus revolutis. ***Stamina*** exserta; anthertc lineares, (caiidatBC. *Styli* raini 1 Scares, truncati, apice papillosi. ***Achemum*** breve, **eylindricura,** suleatum v. cost aturn. *Ptippuft* 1-serial is, rigid us, scaber, albus.

A **remarkable** plant, of obscure affinity, di Her ins: from *Smecio* in the very rigid **gpttbrid pappus,** ami resembling- in certain points the curious Juan **Fer-nandez** genera *Balbma* and *Ruhhtwnia.* **The** aehenium is immature, and 1 can not hence determine whetber the **cotyledons** are involute, as in **those** gene**rat 1 find** a **minute** cordiform embryo in the cavity of the **balf-cnature** 3eed.—J. D. HOOKER.

Fig. **1. Floret. 2. Hair of** pappus. **3.** Single stamen. 4. Style-bram-lies.

PLATE 1003.

HAASTIA PULTINAEJS, *Ilook.f.*

COMPOSIT/E, \ SRNECIONIDEJE-

H. pulvinaria, *Hoole.f. llandb. N. Zeal. Ft.* 156.

HAB. New Zealand, **mountains 6f tbe** Middle Island, Kaikora **range,** and Mowatt's Mountains, alt. 5000 ft., *Sinclair.* Discovery Peaks, alt, **5800 ft., *Tracers,***

Plania **densissime** caespitosa, pulvinos depressos futvos v. albidos, Ji **p**ed. din metro, in moulilius **scopulosis eSbrmans,** *Canles* densissime compact i, **ramosi,** cum **fpliis arctissinae imbricatia** -f-2 poJI.' **diametro, ramulorum** apicibus uKiinnciMor"' ' *Eolia* subborizontaliter palentia, late **obconeata,**

ICONES PLANTARUM.

PLATE 1001.

HERMAS VILLOSA, *Thtmh.*

i. KBBLLIFEB .E.

H. villosa, *Thunb.; DC. Prodr.* iv. 24.2 ; *Harv. el Sond. M.* ***Cay.*** ii. 566.

IIAB. **Mountains** near Cape Town, S. Africa.

Herha dura, 2-3-pedalis, caule basi perenni crasso sublignoso, foliornm vetustorum vaginibus obtecto tomentoso-lauato, superne **glabrato.** ***Folia*** prope basin caul is **eonferta,** ex ovato **oblongs, 2-4-pollicaria, sinnato-d.** ntata, basi supra petiolum brevem rotunda ta *v.* cord at a, **raring** sessilia, **crassinscnla,** supra **demum glabra oitidaqne,** subtus **tomentosa** et reticulato-venosa. *Urn-hellm* ixjnJ'ertffi, ruultiradiativ, ad apiceni eaulis paucse longe **peduncolatse.** *Iiivolucri* bractese lanceolutaj, acurainniir, basi subconnatae, radiis **dimidio** breviores; involucellorum bractese solitariffi v. paucse, angusta;, pedicel los **eeqnantes.** *Fiores* in umbellula centrales 1-3 perfect], cselcri masculi. *toiy-cis segvienta* ovata, petaloidea, semilinea paullo longiora. *Petala* lineari-subu-latn, apice inflexa, calycis segmentis longiora. *Fritclus* 2 lin. longus.

Thunberg's **original error** in **describing** the calycine segments of the **flowers** ***of Hennas*** as petals has been followed by most subsequent **writers,** by De Candolle, by Endlicher (Gen. PI. 75)0), tty **Sondei** and others, whilst tlie same organs have been made to do duty **again** as **petals, I** he **true** subultile petals having been overlooked, or mistaken for filaments. **Fenzl'a amended** character in the fourth **Supplement** to Kmlliuher's • **Genera,**[1] **part** iii. p. 2, is the only one 1 have met with **where** the parts of the flower are correctly described, and the real affinities of the genus **with the** *Mulinea* ascertained. **It** is in order to call attention to **this** peculiar **structure that we** have hei e introduced an otherwi»e wcll-knowu **nl.sst,** long !in-a fa hrlj figured as to **external habit** by **Burmann** ***(VI*** Afr. **t. 71. f. 2).—G. BENTHAM,**

Fig. **1. Umbellulc. 2. Hcnutt])brodite flower. 3. The same, more open. 4: Petal. 5. Two stamens. 6. Ovary crowned bj the calycine Begmeiits, pctnls an styles a jin-iln: stamens have fallen off. 7- Fruit. 8, Tranftu«"f* *axMim* of We same**

in petiolum late linearem angustata, apicc irregulariter crenulata, apicibus recurvis, lana adempta membranacea, ecostata, subflabellatim nervosa, ultra medium dense lanuginosn. *Capitula* in apicibus ramulorum subsolitaria, sesBilia, ad ·\ poll, diametr. *Involucrum* subhemisphaericum, lieterogamum; foliola 1-2-seriata, numerosa, anguste linearia, libera. *Receptaculum* angustum, papillosum. *Fl. radii* $, sub-2-seriales, corolla breviter tubulosa, cylindracea, 5-dentata. *Pappus* 1-serialis, setis basi liberis, sequilongis tenuibus rigidis scaberulis, superne^ubclavellatis. *Stylus* longc exsertus, ramis elongatis linearibus obtusis papillosis. *Fl. disci $,* numerosi, corolla iiifundibuliformi 5-dentata. *Stamina* 5, filamentis sub apice dilatatis; -anthers connatae, lineares, breviter 2-auriculatse. *Pappus* et *styli* rami ut in A. ? . *Achenium* lineari-oblongum, glabrum, compressum, ecostatum.

Fig. 1. Leaf with the wool removed. 2. Flower of ray. 3. Pappus hair. 4. Ray corolla and style. 5. Flower of disk. 6. Stamen.

HAASTIA SINCLAIRII, *Hook.f. I. c.*

HAB. New Zealand, Middle Island, on shingle beds, Wairau and Awatere Mountains, alt. 4-6000 ft., *Sinclair.* Mounts Darwin and Cook, *Haast.* Mounts Alta and Brewster, alt. 6000 ft., *Hector and Buchanan.*

Decumbcns, laxe caespitosa, ramulis ndscendcutibus foliosis. *Folia* \-*i* poll, longa, obovato-oblonga v. -rotundata, obtusa, integerrima, plana, 5 ·7-nervia, lana sordide albida dense obsita. *Capitula* in apices ramulorum sessilia v. breviter pedunculata, -^-1 poll, diametro. *Involucri* bractese exteriores breves, lanuginosae, intcriores lineari-obovatse, acutae, longe ciliatae. Cetera fere ut in *H. pulvinari.*

The genus *Haastia* was named after that most indefatigable explorer of the geology, geography, and botany of the Middle Island of New Zealand, Julius Haast, F.R.S. It consists of three New Zealand plants, the two species here figured, and the *H. recurva,* which is distinguished by its obovate-spathujate, recurved, laxly-imbricating leaves and pappus hairs combined at the base. ' £ts affinities are with *Helichrysum, Gnaphalium,* and *Raoulia,* differing from all by its remarkable habit and the absence of tails at **the** base of the anthers.—J. D. HOOKEK.

Fig. 1. Involucral scale. 2. Flower of ray. 3. Cprolla and style of the same. 4. Anns of style of the same. 5. Flower of disk. 6. Pappus hair. 7. Stamen. 8. Arms of style of the same.

PLATE 1004.

ALLANBLACKIA FLOBIBUNDA, *Oliv.*

GUTTIFEKiB.

A. floribunda, *Oliv. in Journ. Linn. Soc.* x. 42.

HAH. Cameroon*? River, *G. Mann.*

Arbor 40-pedalis (Mann, in sched.), glaberrimn. *Rami* teretiusculi v. obscure tetragoni, laeves, glabri. *Folia* coriacea, petiolata, elliptico- v. ovnto-oblonga, apiculata v. breviter acuminata, acuta, basi plus minus (interduin late) rotundata, integra, supra lucida, subtus subopaca, costa subius proniinente, venulis secundariis prominulis subparallelis, 4-6 poll, longa, 1J-2*k* poll, lata; petiolus £-£ poll, longus. *Inflorescentha* v. axillaris rachide foliifera prodiicta, v. tenninalis paniculaiim v. umbellatim racemosa, foliis floriforis minoribus bracteiformibus npicem versus ramonfiii approximatis. *Flores* dioici, majusculi, diametro 1^-2 poll., in axillis solitarii v. geminati, longiuscule pedunculati, pedunculis rectiusculis l-2£ poll, longis. *Sepala* coriaeea, late imbricata, ovato-rotundata v. orbicularia, concava, exteriora *i* poll, longa, interiora duplo major a margine scariosa. *Petala* obovata, basin versus cuneata, J-l poll, longa, per anthesin patentia.—D. OLIVER.

Fig. 1. Phalange of stRmens and corrugated lobe of disk of male flower. 2. Anther and free portion of filament detached,—front and back view. 3. Female flower. 4. Transverse section of ovary. 5. Portion of placenta and ovules. 6. Immature fruit.

PLATE 1005.

CHAUNOCHITON LORANTHOIDES, *Benth.*

OLACINEJE.

Chaunochiton, *Benth. in Benth. et Ilbok. Gen. PL* 996.

I U B . Along streams near Barra do Rio Negro, North Brazil, *Spruce, n.* 1373.

Arbor 30-pedalis, ramis saepe fastigiatis, ex omni parte glabra. *Folia* altenfa, ovata obtusa v. obtuse acuminata, in pctiolum brevem contracta, integerrima, coriaeea, 3-4-pollicaria. *Flores* pallide flavicantes, in cyinis densis confertim paniculatis v. subcorymbosis sessiles v. brevissime pedicellati. *CaCyx* per anthesin parvus, minute 5-den tat us, post anthesin valde auctus, laxe cupulatus, fere pollicem diametro. *Corolla* tenuis, 2-2^-pollicaris. *Stamina* petalis paullo breviora, filamentis coccineis, antheris parvis flavicantibus. *Stylus* corolla in subsequans, cum stigmate coccineus. *Drupa* 6-9 liu. diametro, endocarpio duro, exocarpio tenuissimo.

This plant, of which the full generic character will be found in the above-quoted Genera, bears, in the dried specimens, and, according to Mr. Spruce, in the fresh state, so much resemblance to a *Loranthm,* that in the hasty sorting of the Sprucean collection it was distributed as *Loranthus,* n. 22, and the more readily as the scar left by the style on the top of the drupe is exactly like that left by a deciduous corolla on an inferior fruit. It is, however, as observed by Mr. Spruce, a terrestrial tree by no means parasite, and the ovary is really sfliggrfor, and on dissection of the flowers and fruit it proved to have all the characters of *Olacinea* of the tribe *Olacea,* with, however, the ovary, as far as we have been able to ascertain, perfectly 2-celled. That, however, occurs in most species of *Strowbosia,* and, apparently, in some species of

IleUteria. The form of the calyx, corolla, and anthers are sufficient to distinguish *Chaunochiton* from either of these genera.—G. BENTHAM.

Fig. 1. Bud. 2. Expanded flower. 3. Petal and stamen. 4. Three anthers with the summit of their filaments. 5. Ovary and style. 6. Vertical section of the ovary. 7. Transverse section of the same. 8. Fruiting calyx enclosing the drupe. 9. Drupu. 10. Vertical section of the drape and seed.

PLATE 1006.

FLEUROCARF^SA DENTICULATA, *Benth.*

COMPOSITE.

P. denticulata, *Berth. II. Austral,* iii. 460.

HAB. Islands of the Gulf of Carpentaria, North Australia, *R Brown.*

Herba glabra, basi verisimiliter perennis, ramis duris divaricatis v. decum? bentibus, specimina nostra ultrapedalia. *Folia* alterna, ovata v. elliptica, mucronato-acuta, in petiolum perbrevein angustata, majora 2-pollicaria v. longiora, margine acute irregulariterque denticulata, summa ininora iulegraque. *Pednnculi* terminales, solitarii v. gemiui, 1-2 poll, longi v. post anthesin elongati, sub capitulo leviter incrassati. *Involucntm* 4Jin. lougura, basi dilatatum, bracteis lato-lanceolatis acurainatis imbricatis. *Flosculi* 10-20, caeruleo-purpurei, tubo involucrum exceojente saepe incurvo, limbi lobis 5 angustis aequalibus. *Authera* basi sagittatse, auriculis breviter apiculatis. *Stylus Fernonia. Achenia* crassa, costis prominentibus leviter glandulosis. *Fa/wi* seta3 2-5, breves, rigidse, caducissimse.

This plant is only known from Brown's specimens, one of which, witji the tracing of a drawing by Bauer, was given to me at Vienna in 1837, and of which I have since seen others in Brown's herbarium. Although very distinct in habit from most *Fernoniea,* the style places it clearly in that trtye, where it is nearest allied to *Decaneurum,* and not indeed so far removed as I had at first thought from *Femonia* itself, for it appears from the researches of Schultz-Bipontinus that in several sections of the latter genus the anthers are sagittate and almost tailed at the base.—Q. BENTHAM.

Fig. 1. Floret. 2. Two of the anthers. 3.JJpper portion of the style. 4. Fruk. 5. One of the bristles of the pappus.

PLATE 1Q07.

HYDROLYTHRUM WALLICHII, *IlooJc.f.*

LYTHRARIEJE, § AMMA^NIEJE.

H. Wallichii, *IJook.f. in Berth, at IIooL Gen. VI.* 777.

HAB. Tavoy, *Gomez {Wall. Cat. n.* 9059).

Herba gracilis, debilis, aquatica, *Myriophylli* habitu, glaberrirna, caule laxe raraoso, spitharaaea et ultra, ramulis 4-gonis. *Folia* verticillata, inferiora submersa in verticillo plurima, anguste linearia, pollicaria, superiora sensim in verticillo pauciora brevioraque, sunima parva, 4-6-na, oblonga, obtusa, integerrima, breviter petiolata. *Flores* in axillis folionim superiorum sessiles v. breviter pedunculati, minuti, albi, pedicellis folio basi adnatis 2-bracteolatis, bracteolis setaceis. *Calyx* campanulatus, raembranaceus, 4-gonus, 4-lobus, dentibus accessoriis 0. *Petnla* 4, inter dentes calyces inserta, oblonga, obtusa. *Stamina* 4, tubo calycis inserta, filamentis filiformibus; antherae didymse. *Glandulce* hypogynae 8, liberse v. per paria v. varie connatae, obtusae, ovarii basin cingentes. *Ovarinm* parvura, calyce inclusum, oblongum, 2-sulcatum, 2-loculare; stylus breviusculus, superne dilatatus, stigmate capitato subdiscoideo, 4-lobo ; ovula parva, placentis" basin versus loculomm septis adnatis inserta, adscendentia. *Capsula* minutn, membranocca, subglobosa, calyce cincta, 2-locularis, 3-4-sperma. *Semina* suberecta, imbricata, obovoidea, plano-convcxa, testa coriacea.

Fig. 1. Whorl of upper leaves and flowers. 2. Leaf and flower. 3. Flower laid open. 4. Stamen. 5. Hypogynous glands. 6. Pistil. 7. Transverse section of the same. 8. Immature seed.

PLATE 1008.

ALSODEIOPSIS MÅNNII, *Oliv.*

OLACINEJE.

***Aw* Mannii,** *Oliv. in Journ. Linn. 8oc,* x. 43.

HAB. Mount John, Kongui river, West Tropical Africa (n. 1805), *G. Mann !*

"Frutex 15-pedalis. *Ramuli* tenues, teretiusculi, strigillosd-pubescentcs. *Folia* tcnuiter coriacea, obverse lanceolata v. oblanceolato-oblohga, acuminata, basi angustata at obtusa, marginc obscure undulata, supra glabra lucida venosa, infra secas costam mediam nervosque prominentes strigillosa, 5-9 poll, longa, 2-2| poll, lata; petiolus brevfssimus, 1-2 lin. longus. *Flores* parvi, circiter 1-J- lin. longi, in cymas corymbosas axiilares paucifloras breviter pedunculatas ^-1 poll, longas dispositi; pedicelli flores subrequantes, strigilloso-hirsuti. *Frttctm* (exsicc.) pollicem longus, % poll, latus,—D. OLIVER.

Fig. 1. Bud. 2. Expanded flower. 3. Stamens. 4. Pistil. 5. Vertical- section of ovary. 6. Fruit. 7. Same laid open. *8.* Seed. 9. Vertical section of same.

PLATE 1009.

PACHYCLADON NOV2B-ZELANDI<2E, *Boole, f.*

CRUC1FERJE, § LIEPIDINEJE.

P. Novse-Zelandiae, *Hook. / Handb. N. Zeal. Fl.* 724. Broya Nova>Zelandiae, *Hook.£ I. c.* 13.

HAB. New Zealand, Otago Province on schisty débris, Mount Alta and otber heights in the Lake district, *Hector and Buchanan.*

Herba depressa, pilosula, acaulis v. caudice brevissimo crasso ramoso, radice longissime fusiformi in planta juvenili apice monocephalo, provectiore multicipiti, ramulis crassitie pollicis cicatricibus creberrinie notatis. *Folia* dense rosulata, \-\ poll, longa, crassiuscula, oblonga, pinnatifida, in petiolum planum angustata. *Scapi* nuraerosi, infra folia orti, breves, \ poll, longi, adscendentes, 1-2-bracteati, bracteis digiiatim lobulatis, 3-5-flori. *Flores* ignoti. *SUiqucB* breviter pedicellate, %-\ poll, longse, lineari-oblong|p, utrinque obtusse, septo imperfecto contrarie compressse; valvse subcymbiformes, carinatae, nervis obscuris; stylus brevissimus, stigmate subenpitato 2-lobo. *Semina* in quo vis loculo 3-5, obovoidea, funiculo brevi; cotyledones incuinbentes.

A very curious little plant, intermediate in technical characters between the tribes *Sisymbriea* and *Lepidiiiea,* but I think*reforcible to the latter, and probably allied to *NototJdasjpi,* though the valves are altogether wingless.—J. D. HOOKEU.

Fip. 1. Leaf. 2 and 3. Pods. 4. The same, with the valves removed. 6. Seed. 6. Embryo. 7. The same, cut transversely.

PLATE 1010.

ANONA MAWNII, *Oliv.*

ANONACEiE.

A. (§ GUANABANI) **Mannii,** *Oliv., sjf. n.;* foliis subsessilibus membranaceis v. tcnuiter coriaceis obovat^-oblongis vel ellipticis breviter et latiuscule apiculatis basi' anguste cordatis, supra lucidis subtus opacis; lioribus crasse coriaceis in cymis racemosis validis simplicibus v. pauciramosis dispositis, bracteis obovato-rotundatis, pedicellis angulatis bibracteolatis, petalis subaequalibus pubemlis iuterioribus leviter aestivatione imbricntis.

HAB. Old Calabar River, *G. Mam!*

Arbor 30-40-pedalis *(jide sched. Mann). Bam nil* teretiusculi, novelli minute fcrrugineo-puberuli. *Folia* ampin, alterna, ftargine obscure undulata, utrinque glabra, vcrnatione autein subtus pilis ferrugineis nuuutissiniis sparsis puberula, costa in pagina iufcriori valida, venis priuuiriis subdistantibus marginalique anastomosanti prominentibus. *Flores* diainetro 2-3 poll, in cymis

racemosis 6-9 poll, longis dispositi; pedunculus angulatus, primum ferrugineo-pubescens, deinde glabrescens; bractese ***i-i*** poll, longs, floribus oppositae; pcdicelli crassi, J-f poll, longi, bracteolas oppositas rotundatas alabastrum primum includente9 gerentes. *Sepala* crassa, late ovata, basi cuneata, extus femigineo-puberula, intus glabra tuberculata, aestivatione valvata. *Peiala* crassisshna, coriacea, biseriata, sessilia, subaequalia, late elliptica vcl obovato-elliptica,obtusa v. obtuse acutata, minutissime sericeo-puberula; pctala interiora sestivatione leviter iuibricata. *Receptacuhtcj* conicum, basi antlicras gerente dilatatum. *Stamina* numerosa, 3-4-seriata, imbricata; authene sessiles, oblongo-cuneata3, biloculares, loculis extrorsum longitudinaliter dehiscentes, connectivo truncato dilatato recurvato puberulo. *Carpella* numerosissima; ovariis in toro immersis; stylo crassiusculo angulato sursuin clavatim dilatato; stigma obtusum, hexagoniun. *Ovula* stflitaria, erecta. *Fructum* non vidi.—D. OLIVER.

Fig. 1. Torus, bearing the densely crowded styles upon the upper conical portion, and the stamens upon the dilated base. 2. Stamen, front view. 3. Same, side view. 4. Style and stigma with immersed uniovulate ovary. A bud, unnumbered, is shown, from which the sepals and outer petals have been removed, showing the imbrication of the inner petals.

PLATE 1011.

SENECIO TBOPiEOLIFOLIUS, *MOwan.*

COMPOSITE, § SENECIONIDEJE.

11A v. South Africa, in grassy and rushy places on mountain sides near Graham's Town, P. *JH'Owan.*

Ilvrha glaberriina, glaucescens, caule gracili basi fruticuloso. *Folia* 1 poll, diametro, gracile petiolata, petiolo pollicari, peltata, late ovato-orbicularia, sinuato-angulata, acuta, angulisque acutis, carnosula, siccitate submembranacea, nervis tenuibus obscuris radiantibus. *Scapi* solitarii, graciles, stricti, erecti, 8-10 poll, alti, 1-2-cephali, bracteis paucis minutis linearibus remotis instructi. *Involucrum* campanulatum, ecalyculatum; bractese 10-12, | poll, longae, discum aequantps, anguste lineares, acuminatse, virides, apicibus non sphacelatis, marginibus teuuiter membranaceis. *Flores radii* ad 8, flavi, lineari-ligulati, apice denticulati. *Flores disci* 10-20. *Ackenium* glaberrimurn, striatum. *Pappus* tenuissimus, ajbus, scaberulus.

A very pretty and distinct species, allied, as Mr. M'Owan points out, to *S. paucifulius,* DC, and *S. oxyriafolitis,* DC, but differs from the former in the peltate leaves, and from the latter in the radiate flowers. The plant is living in the Koyal Gardens, Kew,_ specimens having been sent from the Graham's Town Botanic Garden. The first description of it appeared in nn article by Dr. Mueller, entitled," VI. Characteristics of an undescribed *Senecio* from South Africa," of vhich he has favoured us with a copy, and which is, I presume, extracted from the Proceedings of the Eoyal Society of Victoria.—J. D. HOOKER.

Fig. 1. Flower of rny. 2. Style-arms of ditto. 3. Flower of disk. 4. Style-arms of ditto. 5. Pappus hair.

PLATE 1012.

THAMNEA **DEPHESSA,** *Olio.*

BBUNIACEJK.

T. depressa, *Oliv. in Journ. Linn. Soc.* ix. 332; procumbens, giabra, ramulis floriferis breviBiR v. brevissimis (floribus quasi axillaribus) numerosis ndscendentibus subfastigiatis, foliis minutis adpressis imbricatis ovatis deltoideisve trigouis obtusiusculis, involucralibus conformibus nuce monosperma eUipsoideo-truncata leviter sulcata paulo brevioribus, ovario imperfecte biloculari, ovulis in utroque loculo geminatis.

HAB. Cape; Baviaan's Kloof, Genadendal, *Burchell! in Herb. Kew* (n. 7678).

A low, intricately branched shrub of 6-9 inches.

I have entirely failed to detect the embryo in the seeds which I have opened.—D. OLIVER.

Fig. 1. Flower and involucral leaves. 2. Flower isolated. 3. Petal. 4. Stamen. 5. Inferior ovary and style. 6. Vertical, and 7, transverse sections of ovary. 8. Fruit and surrounding leaves. 9. Transverse section of same. 10. Leaves.

PLATE 1013.

THAMNEA **UNIFLOBA,** *Sol.;* var. IIIRTELLA.

BRUNIACE.E.

T, unifiora, *Sol,,* var. *Mrtella;* decumbens, ramulis floriferis adscendentibus fastigiatis sparsim pilosulis, foliis lanceolatis trigonis obtusis imbricatis laxe adpressis, iuvolucralibus lineari-lanceolatis pilosis ciliatisve apicc sub paten tibus*recurvisve, ovario biloculari (vel dissepimento interdum imperfecto).—*Thamnea hirteUa,* Oliv. in Journ. Linn. Soc. ix. 332.

HAB. Cape: on Witsenberg, near Tulbagh, *Burchell! in Herb. Kew* (n. 8685).

A shrub, varying probably from 6 inches to 1 or 2 feet in height, with ascending or procumbent branches, emitting very numerous, fastigiate, unequal, densely leafy ramuli, repeatedly divided, each ultimate, often very short, division bearing a terminal flower. At first I regarded this plant as specifically distinct from *T. unifiora,* and so described it, but on further examination, I cannot maintain this claim.—D. OLIVER.

Fig. 1. Leaves. 2. Involucral leaf. 3. Flower and suyounding leaves. 4. Flower, the petals and stamens removed. 5. Inferior ovary and style. 6. Petal. 7. Stamens. 8. Vertical section of ovary.

PLATE 1014.

BEBZELIA CALLUNOIDES, *Oliv.*

BRUNIACEÆ.

B. (§ MNIOTHAMNEA) **callunoides,** *Oliv. in Jotirn. Linn. Soc.* ix. 333.

HAB. Cape of Good Hope. Craggy Peak, near Zwellendam (n. 7382), and Mountain, near Valley-Rivier's Poort (n. 7097, 7116), *Burchell in* ***Herb. Kew.***

Fruticulus £-2-ped., ericoideus, adsccndens v. erectus v. ramis inferioribus procumbentibus, ramosus, diffusus, rayiulis lateralil>us divisis et subdivisis intricatis v. subfastigiatis, floriferis saepe brevissimis, teretibus dense hirtello-tomentosis, foliis minutis spiraliter dispositis ssepius' imbricatis umiique tectis. *Folia* ovata v. in ramis sterilibus lanceolata, crassiuscula, integra, apice acuta v. acutiuscula, ustulata, dorso convexa, utrinque pilosa v. glabrata, \-1 lin. (vn ramulis sterilibus interdum \\ lin.) longa. *Florea* inconspicui, pilosi (intus rubri), in axillis foliorum sessilcs v. terminales folia vix superantes; axillares bibracteolati, bracteolis subulatis pilosis calycem sequantibus. *Calyx* tubo obconico piloso ovario adnato, limbo fere ad basin 5-partito, lobis deltoideo-lanceolatis, intus glabri3, dorso et margine pilosis. *Pttala* lobis calycitiis alterna, iisdem duplo longiora, sessilia, ovato- v. elliptico-oblonga, cymbiformia v. planiuscula, intus basi tuberculo incrassato cuneato instructa, sestivatione valvata. *Stamina* 5, perigyna, tubo calycis inserta, petalis alterna, iisdem paulo breviora; filamentis lincari-subulatis apice per anthesin incurvis; anther's ovatis v.rotundatis bilocularibiis dorso basin versus afiixis.loculis longitudinaliter dehiscentibus. *Ovarium* semi-infer am, unlloculare, apice libcrum, pilosum, in stylum simplicem glabrum leviter sulcatum attenuatum ; ovulum unicuhi, anatropum, pendulum. Semen maturum non examinavi.—D.OLIVER.

Fig. 1. Extremity of flowering branchlet. 2. Single flower and bracts. 3. Same, the petals and stamens removed. 4. Vertical section of flower. 5. Stamens. 6, 7. Leaves.

PLATE 1015.

ALSOPHILA REBECCAS, *F. Muell.*

FILIGES.

A. Rebeccae, *F. Muell. Fragm. Pltyt. Amtr.* v. 53; frondibus bipinnatis; pinnis lanceolatis rachidibus castaneis subnudis; piimulis lincaribus basi cordatis marginibus inciso-crenatis, facie superiorc nuda, inferiore purpuracea, venis confertis parce pinnatis, soris medialibus.

HAB. Rockingham Bay, Queensland, *Hill, Dallachy.*

Caudex 8 ped. altus, gracilis. *Lamina* bipinnata. *Rachis* castaneus, parco fibrillosus, muricatus, punctis paucis elevatis. P/«w« inferiores 12-15 poll, longse, 4-5 poll, latro, lanceolate. *FinnuUe* 20-30-jugse, iuferiorcs petiolatse,

2-3 poll, longs, 3-4 lin. latae, apice acuminato, marginibus inciso-crenatis, basi cordata subauriculata. *Pagina* subcoriacea, supra glabra, infra paleis membranaceis minutis conspersa. *Vena* pinnatae; venulae bijugae. *Sori* mediales, inter costam et margiuem biseriales.

A very interesting addition to the Tree-ferns of Australia. It does not come near any of tbe other Australian or Polynesian species. Its closest ally is the Chinese *A. podophylla*, which has broader pinnules with more distinctly-rounded lobes, veins not so close and more copiously pinnate, the lower ones usually in groups of eight, and wants altogether the scattered furfuraceous scales of the under surface, which sometimes subtend the sori like the involucre of a *Hemitella.*—J. G. BAKER.

Fig. 1. Portion of fertile pinnule. 2. Sporangium.

PLATE 1016.

SCHIZ-2EA SPRTTCEI, *Hook.*

FlLICES.

S. Sprucei, *Hook. mss.;* caule rigido erecto dense fibrilloso, froiule ligulata crassa canaliculata apice palmato-furcata, segmentis fertilibus pediceliatis spiraliter recurvatis, spicis numerosis elongatis confertis.

HAB. Brazil; banks of the Rio Negro, above the mouth of the Casiquiare, 1854, *R. Spruce,* 3752.

Caudex lignosus, suberectus. *Petioli* conferti, rigidi, erecti, 9-12 poll.longi, paleis densis squaiTosis fibrillosis brunneis vestiti. *Lamina* 6-8 poll, longa, ligulata, crassa, vcrticaliter canaliculata, 3-4 lin. lata, nitida, glabra, basin versus contracta; segmenta fertilia 1-6, longe pedicellata, 1£-2 polk longa, spiraliter recurvata. *Spices* numerosae, 4-7 lin. longae, infra tomentosse.

A new. and very elegant species of the same group *(Lophidium)* as *S. dichotoma* and *elfgans,* with the fronds flabellately divided only at the summit of the barren portions, and quite different in the fertile segments.—J. G. BAKEU.

Fig. 1 and 2. Portions of fertile segment. 3. Sporangium.

PLATES 1017,1018.

SINDORA WALLICHII, *Benth.*

LEGU&KNOSJE.

S. Wallichii, *Benth., sp. n. ?;* foliolis (sub-2-pollicaribus) obovato-oblongis subellipticisve obtusis retusis v. breviter obtuse acuminatis demum glabratis.—Guilandina Wallichiana, *Grah. in Wall. Cat. Herb. Ind.* «. 5805. **Echinocalyx, *Benth. in Benth. et Hook. Gen. PI.* 584.**

HAB. Singapore, *Wallkh.* Malacca, *Griffith.*

Arbor, inflorescentia foliis ramulisque novellis pube tenui tomentosa subrufescente vcstitis, foliis demum glabrescentibus. *Folia* abrupte pinuata; foliola 2-3-juga, opposita, breviter petiolulata, obovali- v. ovali-oblonga v. subelliptica, obtusa retusa v. obtuse acuminata, nunc omnia infra 2 poll, longa, nunc 2-3-pollicaria, coriacea, costa marginibusque nerviformibus subtus prominentibus, venis primariis tcnuibus, venulis minute crebreque reticulatis in pagina praesertim superiore sub lente eleganter foveolata conspicuis. *Stipula* inconspicuae. *Flores* secus ramos paniculae terminalis late pyramidatae secundi, breviter pedicellati. *Calyx* circa 4 lin. longus, setis crassiusculis mollibus echinatus; tubo brevissimo lato, laciniis 2 summis in labium superius concavum connatis. *Petalum* summura calyci sub&'quilongum, sessile, oblongum, concavum, piliato-hirsutum, 4 inferiora minuta rudimentaria v. 0. *Stamina* 10, calyce longiora, basi declinaia, oblique breviterque monadelpha, dein ascendentia, apice subitivoluta, infra medium hirtella. *Ovarium* breviter stipitatum, hirsutum, breve, in stylum longum superne involutum attcnuatum, 2-ovulatum. *Legumen* oblique orbiculare v. late ovatum, 2-3-pollicare, planura, crasso-coriaceum, 2-valve, valvibus aculeis rigide conicis conspersis. *Semlna* nobis igriota.

The flowering specimens, one of which is here figured, had long been extensively distributed from Griffith's Malacca collection as an apparently new and remarkable genus, which I first described as such in the ' Genera Plantarum,' under the name of *Ecldnocalyx*, the fruit being then unknown to me. In reading over, however, Miquel's description of his *Sindora*, only known in fruit, I thought it possible that the two plants might be congeners, although the size, shape, and glabrosity of the leaves seemed to indicate a distinct species, but as without further information this approximation could only be conjectured, I did not venture to unite them. Since that we received from the Calcutta Garden, under the name of *Sindora Siamensis*, a specimen in fruit, which at once reminded me of one of Wallich's *Guilandinas*, and on turning to this specimen (from Singapore), I found it was evidently conspecific with Griffith's plant, with leaflets of the same shape and size. Concluding, therefore, that it was a congener of Miquel's *Sindora*, but possibly a different species, I adopted Graham's specific name for it. I have now, however, met with another of Wallich's Singapore specimens, probably from the same tree, with leaves much nearer to those described by Miquel, whilst the Siam specimen from Calcutta has the leaflets shaped as in Griffith's, but of the size described by Miquel. Further specimens may therefore show that there is but one species, for which Miquel's name, *S. Sumatrana*, would have to be adopted as the oldest; the union would, however, at present be premature. The genus is nearest allied to *Copaifera*, although abundantly distinct in calyx, petals, and stamens, and in the prickles of the pod.—G. BENTHAM.

Fig. 1. Flower. 2. Perfect upper petal. 3. One of the lower rudimentary petals. 4. Ovary und style. 5. Vertical section of the ovary. 6. Stamen. 7* Diagram of the flower.

PLATE 1019.

LIQUIDAMBAR ORIENTALIS, *Mill.*

HAMAMELIDEiE.

I* orientalis, *Mill,; DC, Prod.* xvi. 158 ; foliis sparsis palmati-quinquefidis (rarius tri- v. Sptem-fidis) serrulatis, subtus glabris v. axillis nervorum leviter barbatis, lobis oblongo- vel obovato-quadratis acutis v. obtusiusculis, lobulis lateralibus 1 v. 2 oblique deltoideis obtusia acutisve utrinque auctis; fructu inappendiculato calycis limbo inter capsulas haud prominulo continuo v. leviter corrugato.—*L. imberbe,* Ait.

The only wild specimens which I have seen are from Asia Minor, from the coast opposite to the island of Ehodes, presented to the Kew Herbarium by Mr. Hanbury. Specimens from the Botanic Gardens of Venice, Marseilles, and St. Mandrier, near Toulon, are in the same herbarium, and agree with the wild ones, excepting, as Mr. Hanbury observed to me, in having the leaves wholly glabrous ; that is, without the hairy tufts in the axils of the principal nerves on the under side of the leaf, which are noticeable in the indigenous specimens.

The only good figure hitherto of this long-known tree accompanies a valuable memoir by Mr. Hanbury, in the ' Pharmaceutical Journal*• (March, 1807), " On the Origin and Preparation of Liquid Storax." It is a species of peculiar interest as being, like *Platanus oriental'^* the solitary outlier of a small genus, the other species of which occur only in North 'America and (in the case of *Liquidambar)* Eastern Asia. Both *Liquidambar* and *Platahufi* moreover, there is reason to believe, were prevalent in Central Europe during the Miocene period.

Although, as Dr. Hance observes (Seemann's Journ. Botany, 1867, p. 113), there can be little doubt that *L. styracijliia* and *L. orientaliz* are derivative forms from one parent type, yet in the rather numerous specimens whjph T have seen Jrjfd, or groAving in the Royal Gardens, the differences between the two are generally so obvious, that I think they cannot be regarded as conspecific in any usual, or useful, application of the term.* I append a diagnosis of *L. styraciflua* for comparison. *t*

Ii. styraciflua, *L.; DC. Prod^* xvi. 157; foliis ssepius ad apices ramorum v. ramulorum brevium lateralium fasciculatis, palmjiti-quinquefidis (rarius tri- v. septem-fidis), serratis, subtus in axillis nervorum barbatis, lobis ovato-lanceolatis acutis v. acuminatis indivisis (rarissime utrinque lobulo hterali); fructu praecedentis.

This description is based upon specimens from various States of the North American Union. It is not a little remarkable, as Dr. Hooker pointed out to me some time ago, that the specimen labelled *L^imberbe,* Ait., distributed by the late Dr. Kotschy, and collected in the garden of the Monastery of

* It is but fair to observe that there is in tbe Kew Herbarium a solitary leafy specimen of *L. styraci/lua,* **without locality, which combines, to some extent, the characters of the two.**

Antiphonitos, in the island of Cyprus, should belong to the American species, *L. styraciflua.* The leaves are tufted, their lobes undivided, and the lower nerve-axils hairy. The only certainly-known indigenous locality that I am aware of for *L. orientalis,* is that cited above.—D. OLIVER.

Fig. 1. Flowering branch. 2. Male flower. 3. Stamen. 4. Styles, surrounded by disk and staminodes. 5. Fruiting branch. 6. Section of capitate fruit.

PLATE 1020.

LIQUTDAMBAR FORMOSANA, *Hance.*

HAMAMELIDEJE.

T **L. Formosana,** *Hance in Ann. Sc. Nat. Ser.* 5. v. 215; foliis pierum que in ramulis brcvibus latcralibus fasciculatis, trilobis serrulatis subtus sparsim pilosulis et in axillis nervorum obsolete barbatis, lobis latiuscule ovatis in acumen gracillimum procluctis, basi cordatis, lobis lateralibus patentibus; fructu spinis pluribus (stylis induratis capituli similibus) e limbo calycino inter capsulas oriundis armato.

HAB. Formosa, *OldhamI* (n. 88-1, Kew Distribution).

Dr. Hance, in a memoir on this plant (Seemann's Joum. Bot. 1867, p. 110), written subsequent to his original description of it, after recording its occurrence on the mainland of South China, and pointing out the variability of the leaves in respept of lobing and pubescence, goes on to identify it with *Liquidambar, styracijlua* of North America. It is, however, due to this careful botanist to remark, that his identification was based, not upon specimens, but upon a comparison of the Chinese plant with the plate in Hayne's 'Gev^achse' (xi. t. 25*) of *L. styracijlua.* The difference between the two is slight so far as the foliage is concerned, but the fruits are :very diverse. While in both *L. styracijlua* and *L. orientalis* the margins of the adherent calyces of the capitula are but slightly corrugated or crenate, the limb being all but obsolete, in *L. Formosana* teach capsule is surrounded at short intervals by long spines, produced from the caly^-limb, which are not at first sight readily distinguishable from the persistent indurated styles which terminate the valves of each capsule.—D. OLIVER.

Fig. 1. Female inflorescence. 2. Styles surrounded by subulate processes of the disk and staminodes. 3. Starainodc. 4. Vertical section of ovary. 5. Attached fruit-head. 6. Single mature fruit, dehiscing. 7 and 8. Abortive, and 9 and 10, perfect seeds. 11. Section of seed. 12. Embryo.

*** The ovules are represented as attached to the dorsal suture of the carpels.**

PLATE 1021.

MELLISSIA BEGONIFOLIA, *lloohf.*

SOLAKEiG.

Mellissia, *Hook, figen. nov.—Calyx* subcampanulato-pateriformis, ad medium inaequaliter 5-lobus v. 3-4-lobus, lobis 1 v. 2, 2-dentatis, interdum 2-labiatis, aestivatione apertis, angulis non plicatis. *Corolla* late campanulata, subrequaliter 5-loba; lobi ovato-oblongi, obtusi, induplicato-valvati apicibus leviter imbricatis, non plicati. *Stamina* 5, basi tubi corollae inserta, inclusa, subaequilonga, filamentis filiformi-subulatis pilosis ; antherre breviter oblongae, primnm extrorsse, demum versatiles. *Ovarium* globoso-ovoideum, sessile, 2-loculare, basi disco obscuro adnato cinctum, in stylum filiformem abnipte attenuatum, stigmate capitellato obscure 2-lobo; ovula plurima, placentis crassiusoulis septo adnatis affixa. *Bacca* parva, fusiformis, sty^ basi articulato terminata,calyce accrcscente patente stipata, 2-locularis, came tenui, polysperma. *Semina* oblongo-reniformia, leviter compressa, testa crustacea granulata, albumine carnoso; embryo hemicyclicus, tcres. — Frutex ***graveolens, pubescenti-lomenlosus, ramidis tortuosis.*** **Folia** ***petiolata, per paria sparsa, ovato-oblonga, obtnsa, integerrima, recurva.*** **Flores** ***in axillis inter paria foliorum solitarily pedicellati, nutanles, alii.*** **Corolfci** ***extus tomentona.***

M. begouifolia, *Hook. /.*—Physalis begonifolia, *Ttoxb. in Beatson's St. Helena Tracts, Appendix,* **317 ;** ***DC. Prod.*** **xiii. 1451. Boxwood** ***of the colonists.***

HAB. St. Helena, rocky hills in the east and south side of the island, *Roxburgh,* 1812-13. By the telegraph on Longrange Point, and Litije and Great Stone Top Mountains, *Burchell* (Jan. 1807).

The first specimens (which were both in flower and fruit) I ever procured of this very, rare and now probably extinct plant, were given me by *Mr. Bennett, of Stt Helena, on my second visit to that island in 1843 ; and I, at the time, wrote on the ticket that it was now extinct, no doubt on Mr. Bennett's authority. Fine 'specimens exist, however, in the Burchellian collections, together with a drawing of the plant, that represents a low scrubby bush, growing on rocky places. I have named the genus in honour of J. Melliss, Esq., surveyor and engineer of the colony, who has paid much attention to the botany of the island, and contributed many valuable specimens to this establishment.

The affinities of this interesting plant>are not very clear to me in the present condition of the Order; it is, perhaps, nearest to *Withania,* but the very oblique calyx and the corolla are both very differently shaped, and the lobes of the latter are decidedly induplicate valvate ^vith slightly imbricating tips.—J. D. HOOKER.

Fig. 1. Flower. 2. The same laid open. 3 and 4. Stamens. 5. Pistil. 6. Transverse section of the ovary.

PLATE 1022.

HETERONEUEON NIGRICANS, *Uook.fil.*

MELASTOMACÉJE, § MICOKIEJE.

H. nigricans, *Hook. /. in BentJi. et Hook. Gen. PL* 768.

HAB. Orinoco river, near Barra, in forests, *Spruce* (n. 1331). February, 1851.

Arbor excelsa, glaberrima, habitu *LecythidU,* ramulis teretibus. *Folia* petiolata, 4-5 poll, longa, oblongo-lanceolata, recurva, integerrima, penninervia, nitida et fragillima (ex sched.Sprucei), siccitate nigra, nervis tenuibus reraotiusculis; petiolo % poll, longo. *Flores* in crmas parvas 2-4-floras breviter pedunculatas ramulis infra folia orti, pcdunculis bracteolatis pedicellisquc pallideviridibus calycibusque albo-punctatis demum rubris. *Calycls* tubus hemisphsericus, \ poll, diametro, intus laevis; limbus cupularis, tmncatus, ore subintegro. *Petala* 5, crassc coriacea, obtusa, demum reflexa, alba. *Stamina* 10, fequalia, alba, filamentis brevibus complanatis; antherae magnaB, subreniformi-recurvse, poro minulo dehiscentes, loculis profunde sulcatis, connectivo crasso basi non producto inappendiculato. *Ovarium* parvum, cum fundo calycis incrassato confluens, 5-loculare, vertice concavo glabrum; stylus columnaris, stigmatc capitellato 5-lobo ; ovula perplurima, placentis subglobosis ab axi loculorum adscendentibus affixa. *Bacca* pulposa, oo-sperma. *Semina* minuta, anguste obovoidea, testa Crustacea, raphe laterali incrassata, liilo basilari; embryo cylindricus, cotyledonibus ylano-convexis.

A very remarkable plant, the pinnate venation of whose leaves is very rare in the Order to which it belongs; it has many characters in common with *Monriria,* to which Spruce allies it doubtfully, but differs in the placentation ajid numerous seeds.—J. D. HOOKER.

Fig. 1. Bud. 2. Vertical section of calyx and ovary. 3 and 4. Stamens. 5. Transverse section of an anther. 6. Immature fruit. 7* Transverse section of the same. 8 and 9. Speeds and embryo,

PLATE 1023.

KALIPHORA MADAGASCARIENSIS, *Ilook.f.*

CORNACEJ!,

K. Madagascariensis, *Hook. /. in BentJi. et IlooJe. Gen. PL* 951 (staminibus false descriptis).

HAB. Madagascar.

Trutex v. *arbor* glaberrima, nitida, siccitate fuscescens, potassio scatens, ramulis teretibus. *Fofyi* 2-4 poll, longa, alterna, oblique oblongo-lanceolata, acuminata, basi inacquilatera, integerrima, coriacea, nervis obscuris, utrinque nitida. *Flores* parvi, in paniculas pnrvas axillares nutantcs dispositi, pcdiccllis bracteatis non articulatis. *Floret* unisexuales. *FL <$* : *Calyx* parvus, 4-lobus. *Petala* 4, lineari-oblonga, coriaceo-carnosa, valvata

v. apicibus imbricatis. *Stamina* 4, filamcntis brevissimis crassinsculis; anthcirsB lineari-oblongae, 2-loculares, loculis nscdio profuude sulcatis, connecctivo dilatato tenui ultra loculos paulo producto. *Discus* pulvinaris, obtuse 4-gonus. *Ovarii* rudimentnm. subulatum. *FL* ?: *Galycis* tubus hemisphaericus, obtuse 4-gonus, dr.ntibus 4 remotis. *Petala* . . . *Stam'mmn* rudimenta 0. *Discus* heinisphaericus. *Ooarium* 2-loculare; styli 2, minuti, rccurvi, discum coronantgs, iutus stigmatosi; ovula in loculis solitariu, lincari-oblonga. *Drupa* parva, compressa, didyma, 2-pyrena; pyrenac crustacese, coinpressse,]-spcrmse. *Semina* lineari-oblonga, pyrenae conformia, testa membranacea, albumiiie carnoso; embryo albumini conformis, scd paulo angustior, cotyledonibus planis crassiusculis, radicula brevi crassa obliqua.

I take this opportunity, in figuring* a very interesting and rare plant, of correcting the serious blunder into which I fell in describing it for the [c] Genera Plantarum' as 8-androus, and hence anomalous in the Order. The stamens are very large indeed in the buds, which alone I had the opportunity of examining, occupying its whole cavity, the filaments not at all doveloped, and the broad membranous connective so agglutinated to the fleshy petals, that in every bud opened (and of these I opened many) the contiguous cells tore asunder, and each cell having a very deep longitudinal furrow (dividing it on a transverse section into two apparently perfect cells), I regarded each half-anther as a whole one.

The petals seem to be normally valvate, but in sonae flowers their tips appear imbricate, and in one flower one of the petals seemed to overlap the contiguous one strongly; their substance is, however, so black, thick, and fleshy, the broad connectives of the anthers are so agglutinated to their surfaces, and the tips .of the connectives especially cohere so closely with the apices of the petals, that it is extremely difRcult to obtain a clear view of the relations of their parts, cveu on transverse sections of the bud. The ticket attached to the specimens is marked " Ravendo," probably the name of a locality, to which is* added, "produces abundance of potash."—J. D. HOOKER.

Fig. 1. Bud of male flower. 2. Male flower open. 3. Stamen. 4. Female flower. 3. Ripe fruit. 6. Vertical scctiou of the same. 7. Seed. 8. The same cut vertically, showing the embryo. [e]

PLATE 1024.

LAMPROLOBltTM FRUTICOSUM, *Bvnth.*

L,EGUM1NOSJE.

L. fruticosum, *Beuth. FL Austral* ii. 202.

HAB. Endeavour river, Queensland, *Banks and Solander* (in flower and fruit), *A. Cunningham* (in fruit only).

Frutex erectus, orgyalis, ramulis molliter pubescenti-hirtis. *Folia* pinnata; foliola 3, 5 *v. 1,* rarius in foliis summis solitaria, oblonga, obtusa v. mucronata, 1-2 poll, longa, coriacea, supra glabra v. piiis appressis con-

spersa, subtus scriceo-pubescentia. *Pedunculi* breves, tenninnles axillarcs v. extra-axillarcs, omnes 1-flori in speciminibus suppetentibus, sed forte interdum racdinos paucifloros ferenies. *Calyx* sericeo-villosus, 3-4 lin. longus, ci *Crotalariue* accedens, profunde fissus, laciniia 2 summis in labium superius concavum connatis. *Petala* calycem non excedentia. *Slamim* monadclpha. *Legumen* planum, 1 J-pollicare, 3-4 lin. latum, glabrum, laeve. *Semina* transvcrsa. *Embryo* rectus, radicula brevissima.

The aspect of this plant approaches that of some shrubby *Tephrosia,* near which A. Cunningham had placed it. The flower recalls that of several *Crotalaria>* whence the provisional name or indication, • *Crotalarioides,* in Brown's herbarium, whilst the pod, the seed, and especially the embryo, show a curious affinity with the American genera *Brongniartia* and *Harpalyce.*— G. BENTHAM.

Fig. 1. Flower. 2. Standard. 3. One of the wings. 4. Keel. 5. Stamens. 6. Anther. 7. Ovary. 8. Seed. 9. Embryo, side view. 10. Embryo seen from the edge. These details arc taken from a flower and seed communicated by Mr. Bennett.

PLATE 1025.

ELLIPEIA CUNEIFOLIA, *Hook.f.et Thorns.*

ANOMAGEiE, § UVAUIEJE.

E. 6uneifolia, *Uook.f. et Thorns. FL hid.* i. 104.

HAB. Malayan Peninsula, Veruppa Tabong, near Malacca, *Griffith.*

Frukx forte scandens, ramulis ferrugineo-vehitinis. *Folia* 6-8 poll, longa, 2-3 poll, lata, petiolo vix i poll., anguste obovato-oblonga, abrupte acuininata, basin versus cuneato-angustata obtusa v. subcordata, coriacea, rigida, supra lucidd et praeter costam tomentosam glabra, subtus adpresse fulvo-tomentosa, nervis numerosis obliquis parallelis conspicuis. *Panicula* tcrminalis, laxa, ramosa, multiflora, plerumque aphylla. *Mores* dense tomentosi, bractca rotundata concava calyci appressa. *Sepala* 3, parva, rotundata, bracteam sequantia. *Petala* 6, rotundata, "basi angustata, utrinque fulvo-tomentosa, imbjicata; exteriora f poll, longa, coriapea, convexa ; interiora multo minora. *Torus* convexiusculus. *Stamina* oo, linearia, counectivo truncato ultra antheras parallelas producto; carpella numero^a, strigosa, oblonga ; stylus oblongus, pubescens; ovulum 1, globosum, suturae ventrali supra medium insertum. *Carpella* matura oblonga, | poll, longa, longiuscule stipitata stipite \\ poll, longo, appresse tomentosa, sUpra medium uno latere mucrone parvo instructa.

A very anomalous *Anqnacea,* on account of its solitary ovule attached to the middle of the ventral suture.—J. D. HOOKER.

Fig. 1. Flower with outer petals cut through. 2. The same with petals removed. 3 and 4. Stamens. 5. Carpel. 6. The same cut vertically. 7. Ripe carpel. 8. The same cut vertically.

PLATE 1026.

DAMPIEBA TRIGONA, *De Vr.*

GoODENOVIEJK.

D. (Dicoelia) trigona, *Be Friese in PL Preiss.* i. 401; diffusa v. suberectca, glabra, rainj^umibus aiigulatis, foliis lanccolatis linearibusve, ovario 2-loculari, ovulia **l^^Hbus** erectis.—*D. bilocnlata, Y.* Muell. Fragm. Phyt. Austral, ii. 17.

HAB. W. Australia, from the Soufli Coast to Swan River, *Drumniond, Preiss,* and others.

Herba glabra, perennis, caulibus difftisis adscendentibus v. suberectis acutangulis saepius laxis tcnuibusque rarius rigidioribus subalatis. *Folia* sessilia v. petiolata, haud crebra, lanceolata v. fere linearia, integerrima v. paucidentata, 1-2 poll, longa; infima interdum breviora latioraquc, floralia summia in bracteas parvas abeuntia. *Flores* majusculi, caerulei, pedunculis in axillis superioribus gracilibus flexuosis ramosis in paniculam terminalem laxam dispositis. *Calycis* tubus apice constrictus, cum corolke basi continuus, limbo obsoleto. *Corolla* 7-8 lin. longa, glabra v. pilis adpressis conspersa. *Ovarium* rectum, 2-loculare, ovulis in quoqug loculo solitariis erectis linearibus. *Fructus* oblongus, rectus, ad 2 lin. longus, apice constrictus ct corollse basi circumscissim persistente coronatus. *Semina* subteretia.

Thi3 represents a very distinct section of *Dampiera,* consisting of «two species, which, with the peculiar corolla, connate anthers, etc., of the genus, differ from all others in their ovary and fruit, 2-celled as in most species of *Scavola.* Both species are limited to Western Australia.—G. BENTHAM*

Fig. 1 and 2. Flowers. 3. The same, with the corolla removed, showing the stamens and style. 4. Two stamens. 5. Fruit. 6. The same, longitudinal section. 7* The same, transverse section.

PLATE 1027.,

DAMPIERA £LATA, *Lindl.*

GoODENOVIEiE.

D. (Camptospora) alata, *Lindl. Swan River App.* 27 ; caule ancipiti v. 3-alato, foliis oblongis lanceolatisve, calycis tubo subgloboso lobis minimis sub indumento occultis, ovulo solitario hippocrepico.—*D. cauloptera,* DC. Prod. vii. 504 ; De Vriese, Gooden. t. 18. *D. trialafy, D. epiphylloidea,* et D. *Lindleyi,* De Vr. in PL Preiss. i. 401, 402.

HAB. W. Australia, from the South Coast to Swan and Murchison rivers, *Drumwond* and many others.

Herba perennis, dura, paucifoliata, inflorescentia excepta glabra v. leviter sericeo-pubesceus. *Caules* erecti v. ascendentes, parum ramosi, 1-2-pedales, alis 2-3 a foliis decurrentibus nunc angustissimis mine 2-3 lin. latis. *Folia* coriacea, nunc oblonga v. lanceolata integra v. dentata pollicaria v. longiora, nunc minima linearia v. ad squamas minutas reducta. *Pedunculi* in axillis superioribus solitarii v. gemini, 1-flori v. laxe 2-3-flori, bracteolis sub flore minutis. *Calyx* mollitcr villosus, tubo oblique subgloboso, lobis minimis sub indumento occultis. *Corolla* 6-9 lin. longa, pilis appressis laxisve vestita. *Ovarium* 1-loculare; ovulum basi evectum recurvumhippocrepidiforme v. fere annulatum. *Fructus* valde obliquus, 2 lin. diamefflfebericarpio crustaceo v. calycis tubo separabili. *Semen* hippocrepiditbrrhej^^ra semiseptum recurv.um.

Although previously figured by De Vriese, we have again represented this plant, in order to show the curious shape of the ovule and seed, which appears hitherto to have escaped observation, but which really characterizes the section *Camptospora,* consisting of five species, all from Western Australia.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla, cut open. 3. Flower, with the corolla removed, showing the stamens and style. 4. Two stamens. 5. Ovary, vertical section. 6. The same, transverse section. 7. Fruit. 8. The same, vertical section, showing the seed.

PLATE 1C28.

CATOSPERMUM MUELLERI, *Benlh.*

GoODENOVIEiE.

Catospermum, *Benth. gen. nov.—CalycU* tubus adnatus; lobi 5, liberi. *Corolla* tubus supra usque ad ovarium fissus; limbi lobi 5, subaequales, demum digitatim patentes, marginibus breviter alatis. *Stamina* lib em. *Ovarium* inferum, 2-loculare; ovula in loculis gemina, ab apice suspensa. *Indusium* cupulare, minute ciliatum, stigma breve includens. *Drupa* 10-costata, 4-sperma, 2-locularis, loculis imperfGote 2-locellatis.—Herba *glabra.* Folia *dentata.* Flores/aw, *in cymas axillares pedunculatas dUpositi.*

C. Muelleri, *Benth. Fl. Austral,* iv. *ined.—Scavola goodeniacea,* P. Muell. Fragm. i. 121.

HAB. Gravelly banks of Victoria river, Hooker's and Sturt's Creeks, N. Australia, *F. Mueller.*

Herba glabra, perennis, caulibus procumbentibus v. ascendentibus, 1—1-|-pedalibus. *Folia* pctiolata, ovata v. obovata, irregulariter dentata, maxima absque petiolo polliccm excedentia. *Pedunculi* saepius 3-flori, pedicellis longiusculis, lateralibus infra medium bracteolis minutis pricditis. *Calycis* tubus 1| lin. longus; lobi breves, lineari-lanceolati. *Corolla* semi-

pollicaris, cxtus glabra, intus leviter pubescens. *Stylus* glaber v. vix pilosulus. *Fructus* (a nobis non visii9) 3-4 lin. longus.

F. Mueller, in describing this plant as a species of *JScavola,* observed that it might equally well be placed in *Goodenia.* As, however, it differs so remarkably from both, as well as from the whole Order, in the number and insertion of the ovules, I have felt obliged, in a general arrangement of *Goodenoviea,* to propose teas a distinct genus. I have only seen the fruit in a very young state, but it is stated by F. Mueller to be a drupe as above described.—G. BENTHAM.

Fig.]. Flower. 2. The same, with the calyx-lobes and corolla removed, showing the stamens and style. 3. A stamen. 4. Ovary, vertical section. 5. The same, transverse sectiou.

PLATE 1029.

DASYLEFIS KACEMOSA, *Oliv.*

BlXINEiE, § PAN GIE JE.

D. racemosa, *Oliv. in Journ. Linn. Soc.* ix. 17J).

HAB. Camaroons Mountain, 2-3000 ft., *Mr. Gustav Mann.* Flowering in December.

Arhor 20-30-pedalis, glaberrima. *Ramnli* teretes, laeves, crassitic pevinsB corvinse. *Folia* alterna, subcoriacea, petiolata, oblongo-elliptica v. elliptica, breviter et obtusiuscule acuminata, basi late cuneata v. leviter rotundata, remote denticulata, utrinque glabra, nervo medio venisque primariis subtus prominentibus, veuulis ultimis reticulatis subtransversis prominulis; 6-9 poll, longa, 2|-3| poll.lata. *Petioli* f-f- poll, longi. *Racemi* axillares, solitarii,' folio breviorės, 2^-4 poll, longi, multiflori, glabri, bracteis minutis deltoideS-ovatis concavis. •*Fedicelli* patentes, glabri, ;£-£ poll, longi. *Flores* diametro i-i poll., hermaphroditi (v. polygami). *Sepala* orbicularia v. late elliptica, concava. *Petala* 4-6, sepalis vix longiora, ovata elliptica v. interiora angustiora et utrinque angustata, facie interiore infrti medium squama incrassata hirsuta adnata instructa. *Filamenta* coaoplanata, glabra. *Anthera* filamento longiores v. sequilongae, lineares vel lineari-lanceolata[1], obtusiusculae, basi breviter cordato-sagittatfe, connectivo continuo latiusculo, loculis lateraliter dehiscentibus. *Ovarium* liberum, ovoideum, corrugato-sulcatum, in stylum indivisum attenuatum, uniloculare; placentae 2-3-4, multiovulatae; stigma minutum, 2-3-4-fidum. *Fructum* non vidi.—D. OLIVER.

Fig. 1. Bud. 2. Flower expanded. 3. Same, in vertical section. 4. Petal, with adnate, hairy scale. 5. Stamen. 6. Pistil. 7. Transverse sectiow of ovary.

PLATE 1030.

LEPIDOSTEPHIUM DE3STTICTJLATUM, *Oliv.*

COMPOSITE, § SENECIONIDEJE.

Lepidostephium, *Oliv. gen. nov.*—Capitulum multiflorum, heterogamum, floribus radii uniseriatis ligulatis foemineis, disci tubulosis hermaphroditis. *Involucrum* hemisphaericum; squama? multiseriatse, imbricatae, lineares v. subulatae, inaequales, herbacese, intus glabrse, interiores longiores acuminatae, margine anguste scariosfe. *Receptaculum* leviter convcxum v. subplanum, epaleaceum, alveolatum, alveolis glanduloso-fiinbrilliferis. *Corolla radii* ligulatae, ligula lineari-oblonga v. lineari-spathulata, apice 3-dentata; *disci* tubulosae 5-dentatae. *Antlierm* vix exsertae, lineares, basi integrse, ecaudatffi, apige connectivo breviter quadrato-oblongo products. *Stylus* fl. foeminei breviter exsertus, fl. hermaphroditi corollam scquans, bifidus, segmentis linearibus; *stigmata* truncata, minutissirae papillosa. *Achenium* subteres, glanduloso-hispidulum v. pilosulum. *Pappus* coroniformis, paleaceus, paleis uniseriatis 3-5-fidis, basi connatis v. subliberis.—Herba *hiennis v. perennis, erecta, superne parce corymbosim ramosa.* **Folia** ***altenia^ rndicalia oblongo-lanceolata utrinyue atlenuata, acuta,rdrorsum denticulata^scabriuscula^ suhtus tomentosa;*** **caulina** ***angustiora, gradatim minora, longe decurrentia.*** **Capitula** ***panca*** **(3-8),** ***pedunculata, laxe corymhosa, jloribus radii (ex sicco) purpura8centibus.***

la. denticulatum, *Oliv. sp. unica.*

HAB. Collected on the Katberg, by P. M'Owan, Esq., of Grahamstown. Flowering in December and January.

Herba lj-lf-pedalis. *Caulis* simplex, plus minus tomentosa, glanduloso-scabrida v. sublaevis. *Folia* alterna, remote denticulata, denticulis recurvis, pagina superiore setulis brevissimis curvulis scabrida, inferioro-tomentosa nervo medio prominulo setuloso ; *radicalia* oblongo-ovalia, acuta, in petiolum marginatum longe attenuata, cum petiolo 4-8 poll, longa, |-li poll, lata; *can-Una* inferiora lineari-lanceolata, acuta, marginibus revolutis longe decurrentia, superiora breviora lineari-subulata. .*Pedunculi* adscendentes, albo-tomentosi, bracteolis subulatis distantibus 1-5 instructi. *Involucrum* hemisphaericum, ^-i poll, diam., basi albo-tomentosum, squamis indefinitis laxiuscule imbricatis, exterioribus brevioribus herbaceis lineari-subulatis acutis tomentosis plus minus glanduloso-setulosis, interioribus longioribus linearibus infra apicem leviter dilatatis acuininatis margine anguste scarioso-fimbriatis v. setoso-ciliolatis, carina setulosa. *Mores radii* circiter 20, fauce filamentis brevibus anantheris 3-5$_f$ instructi, ligula patentim revoluta subtus glandulosa involucro fere duplo longiore. *Flores disci* tubulosi v. anguste infundibuliformi-tubulosi, involucro sequilongi.

This plant has much of the general aspect of a *Senecio* of the section

'*Rigidi,*' from which its involucre and pappus at once distinguish it.—1). OLIVER.

Fig. 1. Bay-floret. 2. Style-branches of same. 3. Disk-floret. 4. Stamen. 5. Style-branches of disk-floret. 6. Achene. 7. Scales of pappus.

PLATE 1031.

HEDYOTIS ARBOREA, *Boxb.*

RUBIACEÆ *Tribe* **HEDYOTIDEJE.**

H. arborea, *Boxb.;* arbor parva*, glaberrima, ramulis teretibus, foliis breviter petiolatis oblongo-lanceolatis acuminatis oblique penninerviis coriaceis lucidis apicibus recurvis, stipulis in vaginam tubulosam intra-petiolarem 2-dentatam connatis, floribus abortu unisexualibus in corymbos tenninales multifloros dispositis, calycis dentibus obtusis, corolla rotata coriacea, lobis , brevibus ovatis, stylo brevissimo, stigmatibus brevibus, capsula subglobosa, ad apicem late umbonatam rim a trausversa loculicide deliiscente, seminibus angulatis.—*Eedyotü ? arborea,* Roxb. in Beatson'3 St. Helena Tracts, Appendix, 310; DO. Prodr. iv. 422.

HAB. St. Helena, wooded region abundant, *Roxburgh, Burchell, Gen*[1]. ***Walker, Seemann, J.1). Hooker.*** **Flowering in.February.**

This, the "Dogwood-tree" of «St. Helena, is one of the few remaining common trees of the island. As a species it differs from almost all others of the large genus to which it belongs in the very short rotate corolla and unisexual flowers, the stamens very minute and quite sterile in the female flowers, and the style and stigmas equally reduced in the male. I find qpeasionally three stigmas in the male flowers, but have not met with more than two in the females.—J. D. HOOKER.

Fig. 1. Male flower. 2. Female. 3. Vertical section of ditto. 4. Capsule. 5. Transverse section of ditto. 6. Seed. 7. Vertical section of ditto:—*all magnified.*

PLATE .1032.

SIXTH HELEKTANUM, *HooLf.*

UMBJELLIFERJS, *Tribe* AMMINE^S.

S. Helenianum, *HooJc.f. n. sp.;* glabefrimuin, caule frutescente elato basi simplici superne folioso ramose, ramis teretibus, foliis pinnatisectis amplis, pinnis sub-5-jugis amplis oblongis acutis argute dentatis basi cordato-2-lobis 3-7-nerviis et tenuiter reticulatis, lobo accessorio inflexo auriculaeformi grosse dentato ima basi adjecto, umbellis pedunculatis terniinalibus et oppositifoliis, involucri foliolis 6-10 oblongis mucronatis indivisis, vittis semini

sectione transvcrsa teretiusculo contiguis.—*Angelica bracteala,* Roxb. in Bcatson's St. Helena Tracts, Appendix, 297 ; DC. Prodr. iv. 169.

HAB. St. Helena, *Roxburgh.* Back of Diana's Peak, alt. 2-2600 ft., /. ***Melliss, Esq.***

Caulis 3-5-pedalis, 1 poll, diametro, viridis. *Folia* 2-3-pollicaria, laete viridia, foliolis 3 poll, longis 1-2 latis lucidis. *Umbella* 3 poll, diametro, rndiis gracilibus, umbellulis *}* poll, diametro. *Invafvcra* et involucella brevia. *Flores* albi. *Fructus •}* poll, longus.

For this most interesting plant T am indebted to my indefatigable friend Mr. Melliss, who informs me that the green stems, like pieces of Bamboo, are brought to the market of St. Helena for sale, and are eaten raw under the name of Jellico. It was originally discovered by Roxburgh early in this century, but does not exist in BurchelTs previous collections, and has not been gathered by any subsequent collector except Mr. Melliss, who has sent to the Royal Gardens a dried specimen, living plants, seeds, and a bundle of the stems, as sold in the market. He informs me that it is abundant in ravines down each side of the central ridge from Diana's Peak, in rich damp soil amongst Tree-ferns and Cabbage-trees (arborescent *Compositė).*

Slum Helenianum is another instance of the curious fact, that herbaceous plants are often represented by frutescent or arborescent allies in insular localities, of which amongst *Umbellifurce* the plant figured in our next Plate is another instance, and the *Melanoselinum* and *Monizia* of Madeira (umbelliferous plants, both now referred to *Thapsia)* are others. *IIrdyoti& arborea* (Plate 1031), and the arborescent *Composite* of St. Helena, are other cases iu point.

As a species, the present is closely allied to *S. Thunbergii,* DC, of South Africa, which has similarly acutely toothed and finely veined leaflets, and shows a 3isposition to have the principal nerves radiating from the insertion of the pinnule; its bracts are also similar, as is the structure of its fruit, but its leaflets are much smaller, not cordate at the base, nor bearing the curious inflexed auricle of *S. Helenianum,* and the stem is short and herbaceous, and root fibrous.—J. D. HOOKER.

Fig. 1. Flower. 2. Petal. 3. Stamen. 4. Ovary, stylopods, and styles. 5. Fruits. 6. Transverse section of ditto:—*all magnified.*

PLATE 1033.

LICHTENSTEINIA BUBCHELLII, *Hook.f.*

UMBELLIFER/E, *Tribe* AMMINE^E.

***1M.* Burchellii,** *UpoJc.f.n.sp.;* caule elato crecto suffmticoso nodoso supcrnc folioso ct ramoso, foliis piunatisectis, peliolo foliaceo-stipulato, pinnis 8-10-jugis imbricatis sessilibus oblongis acuminatis argute dentatis, basi cordatis margine inferiorc sublobato sub-3-ncrviis tenuissime rcticulatis, umbel-

lis nwmerosis densifloris, involucri foliolis 6-10 lanceolatis aciculari-acuminatis integris v. paucilobatis, petalis acutis non apiculatis.

HAB. St. Helena, Diana's Peak, *Bnrchell;* near Taylor's Flat, to the westward of Diana's Peak, in exposed places, rare, *J. Melliss, Esq.* Flowering in January.

Caulis rigidus, ramis flexuosis vage dichotome ramosis, ramulis striatis. *Folia* 1—li poll, longa, foliolis coriaceis 1J-2 poll, longis, \-1 poll, latis. *Umbella* composite, 2-3 poll, diametro; urabellula? £ poll, diametro, radiis strictis rigidis. *Involucri* foliola *i* poll, longa. *Flores* albi, gracile pcdicellati. *Fructus* \ poll, longus, jugis 5 prominulis 1-vittatis.

This fine species of the Cape genus *Lichtensteinia* was discovered by Burchell in 1807, who in a note states tlat it is commonly called " Angelica;" it hence would appear that he confounded it with the *Slum* (Plate 1032), of which there ore no specimens in his herbarium. The similarity between these two plants is in many respects striking, their habit being apparently identical, the cutting of the broad sessile leaflets similar, as iu their broad numerous involucral rays. *L. Burchellii* departs from the generic character in the petals wanting the inflexed terminal lacinia.—J. D. HOOKER.

Fig. 1. Bud. 2. Open flower. 3. Petal. 4. Stamen. 5. Fruit. 6. Ditto. 7. Transverse section of ditto:—*all but Fig.* 6 *magnified.*

PLATE 1034.

MESEMBRYANTHEMUM CRYPTANTHUM, *Hook.f.*

FlCOIDEiE.

M. (NODIFLORA) **cryptanthum,** *Hook.f. n. sp.;* annuum, papillosum, ramulis crassis tumidis, foliis crassc cyliudricis obtusis, calycis tubo clavato lobis 5 orbiculatis concavis dorso tumidis v. breviter obtuse productis, petalis lineari-lanceolatis sepalis brevioribus, stigmatibus minutis.

HAB. St. Helena, Prosperous Bay plain, *Burchell,* 1807. Flowering in December and January. Sent also by J. Mellfcs, Esq.

Caulis inarticulatus, debilis, 8-12 pott, longus, crassitie digiti minoris, vage 2-3-chotoine ramosus, ramulis clavatis, aquosus, intus cancellatus, flavescens. *Folia* 1-2 poll, longa, *I* poll, diametro, cylindrica, obtusa. *Flores* terminales ct axillares, sessiles v. breviter et crasse pedunculati. *Calyx* clavatus, 1 poll, longus, limbo tumido, tubo subturbinato; lobi orbiculati, valde concavi, dorso interdum in cornu breve obtusum producti. *Petnla* alba. *Stylus* basi conicus, stigmatibus et loculis ovarii ad 8. *Stamina* brcvia, sub-3-seriata.

Closely allied to the polymorphous *HI. nodifiorum,'* Linn., of South and North Africa, but much larger in all its parts, with broad orbicular calyx-lobes that are not produced at the back, or into a short blunt horn only. Mr. Fitch's drawing is made from one of Dr. T^urcheH's, taken from the

living plant, and the dissections are made from his dried specimens.—J. 1). HOOKER.

Fig. 1. Flower. 2. Vertical section of ditto. 3. Petal. 4. Cells of ovary. 5. Seed aud fuuicle \—*all magnified.*

PLATE 1035. ~

PHARNACETTM ACIDUM, *llook.f.*

FICOIDEA:.

P. acidum, *Hook. f. n. sp.;* petenne, glaberrimum, glaucum, caule ramoso, foliis oppositis et subfasciculatis tenuiter cylindraceo-clavatis obtusis, inferioribus anguste spathulatis, stipulis integris, pedunculis elongatis, floribus umbellatis, sepalis valde inaequalibus exterioribus oblongis v. ovato-oblongis intimis orbiculatis membranaceis, disco inconspicuo,stamiuibus 12-20, stylis 5.

HAB. St. Helena, Sandy Bay, *BurcJiell, Capt. Haughton, J. Mtlliss, Esq.*

Caulis spithamseus et ultra, rigidus, angulatim flexuosus, ramosus. *Folia* ly-2-pollicaria, raolliter fragilia, aquosa, pallide glauca, viresccntia. *Pedunculi* erecti, 3-5 poll, lougi, bractcis parvis oblongis. *PediceUi* graciles, pollicares. *Flores* £- poll, diametro, albi.

Though differing from the generic character of *Pharnaceum* in the very unequal sepals and entire stipules, I cannot doubt but that this plant should be referred to that genus, and to the section *Hypertelis* (genus *Hypertelis,* of *E.* Meyer), in which the stamens are numerous, the disk more or less evident, and margins of the seed rounded. Mr. Melliss informs me that the plant is acid, and is said to be used as salad. Burchell calls it *' Longwood Samphire from Sandy Bay," in his notes.—J. D. HOOKER.

i Fig. 1.. Flower. 2. The same, laid open. 3..Stamen. 4. Ovary. 5. Transverse section of ditto: —*all magnified.*

PLATE 1036.

KIRKIA ACUMINATA, *Ollv,*

SlMARUBEjE.

Kirkia, *Oliv. gen. nov.—Flores* hermaphroditi v. polygami. *Calyx* latiusculus, patelliformis, limbo brevi 4-partito, segmeutis ovato-deltoideis. *Petala* 4, lobis calyciiis alterna, eisdem multo longiora, oblongo-lanceolata, aes^vatione marginibus involutis v. valvatiin conduplicatis. *Stamina* 4, petalis alterna, eisdem subacquilonga, ad margincm disci insert a, filamentis filifonnibus subulatisve inappendiculatis glabris, antheris ovato-oblongis ob-

tusis muticis bilocnlnribus longitudinaliter dehiscentibus, dorso prope basin filamento affixis. *Ooarium* sessile, libcrum, parvulum, medio disci insidens, 4-lobum, glabrum, 4-loculare; styli 4, brevissinii, apice liberi; stigmata minuta. *Ovula* solitaria, minutissima (v. interdum geminata ?), angulo centrali affixa. *Fnictus* exsuccus, epicarpio tenui, pndocarpio coriaceo-fibroso, oblongus, tetragonus, carpellis 4 monospcrmis utrinque emarginatis retusisve ab axi persistente secedentibus indehiscentibus demum ab apice carpophori quadrifidi penduhs. *Semina* exalbuminosa, testa papyracea; cotyledones carnosae, complanatae, lineari-oblongae, basi einarginntzc, radicula brevi supera 4-6-plo longiores.—Arbor *mediocris, glabra.* Folia *aiterna, impari-pinnata, multifoliolata, ad apices ramulorum sapius conferta, exstipulata.* **Flores** *cymosim paniculati, paniculis pedunculatis axillarihus multifloris.*

K. acuminata, *Oliv. Fl. Trop. Afr.* i. 311.

HAB. Zambesi, common from Batoka to the delta, *Dr. J. Kirk.* Flowering in December.

Ramidi teretes, crassiusculi, lieves, glabri. *Folia* 13-19-foliolata, tenuitcr coriacea, glabra. £-1 ped. longa, foliolis latcralibus alternis v. saepius peri paria upproximatis pctiolulatis lanceolatis v. ovato-lanceolatis acuminatis basi iiiicquahbus semicordatis vcl margine superiorc rotundatis, serrulatis epunctatis. *Pedunculi* recti, rigidi, teretiusculi, glabri, 2-6 poll, longi, apiccm versus subtrichotome divisi, pedunculis scciindariis divergentibus adscendentibusque, pedicellis pilosulis glabratisve nore b^;evioribu9 v. aequilongis. *Calyx* lobis ovato-deltoideis obtusis v. obtusiusculis. *Petala* circiter 2 lin. longa, patentia, oblongo-lauceola^a, conduplicata v. marginibus involuta, intus basi tuberculis miimtissimis instructa. *Filamenta* subulato-filitbrmia, anthera fere duplo longiora. *Antliem* lanceolato-elliptic® v. ovato-obiongae, niuticie. *Discus* crassiusculus, subcorrugatus, tetragonus, glaber. *Ovarlum* minutum, 4-lobum, lobis sepalis alternis. *Fnictus* 6-8 lin. longus, 3 lin. latus. *Cocci* maturitate facile secedentes, oblougi, triquetri, apice processus recurvato carpophori affixi.

I have allowed this plant to be printed off in the 'Tropical African Flora' under *Simarttfea,* but I admit that its affinity with the more characteristic genera of this Order is not very marked, nor have I detected the bitterness so common amongst *Simarubea.* From the minuteness of the ovary in the specimens examined, I think the flowers nyiy prove to be polygamous or subpolygamous, in which case an examination of more perfectly developed pistillate flowers may enable me to fettle the affinity of the plant. It may prove a *Burseracea.* If in *BostcdUa* the pyrenes were imbedded in the seceding valves of the pericarp, the structure of the fruit would be very similar to that **of *Kirkia.***

The genus commemorates the important services rendered to botany by Dr. John Kirk, the accomplished naturalist of the Livingstone-Zambesi Expedition.—D. OLIVER.

Fig. 1. Expanded flower. 2. \ emcal section of (lower, the petals and stamens removed. ') Stamens 4. Ovary, one cell laid open. 5. Fruit, nat. size. 0. Same enlarged, showing attachment of the cocci to the **carpophore. 7. Embryo.**

PLATE 1037.

ABCBUTHOBIUM CRYPTOPODUM, *ENG.*

LORANTHACEJE.

A* cryptopodum, *Engelm. in Planta Linjheim.* 215 (in note); c< caule ramisque acute quadvangulatis robustis articulis brevioribus, squamis truncatis in vaginulas cupulata9 connatis, floribus in spicas densas compositas congestis; femineis ovatis in quavis axillo singulis; baccis brevissime incluso-pedicellatis erectis."

HAB. Sante Fc, only on *Pinus bractyptera.* Orizaba, *Liebmann.*

Fig. 1. Branch-bud, much enlarged. 2. Vertical section of branch, showing the insertion of an axillary, much-compressed female flower. 3. Terminal female flower detached. 4. Vertical section of same, showing the analogy between the sheathing leaf-rudiments at the base of the flower, and the ad n ate perianth-segments. 5, 6, 7. Vertical section of female fiower; 7 through the centre, 6 slightly, and 5 yet further removed from the axis. The paler area of 5 and 6 immediately over the dark cone, simply indicates the translucent portion of the pcricarpial tissue, which ultimately becomes transformed into " viscinc," as in *Viscum.* It is, of course, organically continuous outside with the exterior layer of the pericarp, inside with the darker-coloured, firm, central portion, presenting the conical outline in vertical section represented in Figs. 5 and 6. This central firmer tissue, when cut precisely through the axial line, is found to be continuous upwards through the viscine cells towards the almost sessile stigma. Fifc. 6 shows, within this firmer central tissue, a minute cavity, which Fig. 7 shows to be occupied by a much compressed cellular body (seen edgewise in the fig.)» presenting the appearance of a free, naked/ erect ovule. Fig. 8, the same " cellular body " from a younger flower (much enlarged), here a papilliform conical process, apparently Organically continuous at its base with the subjacent tissue. Fig. 9 (also much enlarged), the same at a more advanced stage (seen edgewise in Fig. 7). Near the rounded apex of the * cellular body' is a minute enclosed sac, isolated in Fig. 10. This latter is bounded by a free but well-defined membranous wall, and is full of more or less distinctly defined cells.

From the material at disposal, I cannot at present satisfactorily explain the nature of the ovuliform body (Figs. 8 and 9). It may be a fertilized embryo-sac, the lower portion of which is so engaged in its early stage in the subjacent cellular tissue, as to appear to be in continuous organic connection with it. In this case, Fig. 10 must represent an early condition of development of the embryo in the embryo-vesicle, although its occurrence thus as a minute spherical sac, without trace of suspensor, near the apex of an embryo-sac already filled with cellular tissue, appears to be at variance with the usnal mode of its formation in *Loranthacece* (compare Hofmeister in Ann. Sc. Nat. Ser. 4. xii. t. 1, 2). On the other hand, Figs. 8 and 9, at first sight, look much **like** a naked, free ovule, and the vesicle, Fig. 10, an embryo-sac filled with cellular tissue. Against this apparently reasonable view is the circumstance that at the stage represented by Fig. 9, or rather later, the entire body exhibits a tendency to separate on pressure by a clear line at the base from the tissue beneath. We have not, moreover, any case, that I am **aware** of, in *Loranthacece*^ in which the ovule is wholly free.

I recommend the case to those botanists who may happen to have access to a sufficient series of specimens in different stages of development.—D. OLIVER.

PLATE 1038.

BBACHYLOMA EBICOIDES, *Sow!.*

EPACRIDEJE.

B. ericoides, *Sond9in Linncea,* xxvi. 247; foliis linearibus mucronatis concoloribus, floribus subscssilibus pluribracteatis, corollae lobis obtusis medio barbatis.—*Lobopogon ericoides,* Schlecht. Linnrca, xx. 620. *Stenanthera ericoides,* F. Muell. Fragm. Phyt. Austral, iv. 98. *Styphelia lobopogona,* F. Muell. 1. c. vi. 39.

HAB. Dry desert country, Soutli Amstralia and N.W. districts of Victoria, ***F. Mueller and others.***

Frutex humilis, dumosus v. diffusus, ramulis pubcrulis. *Folia* conferta, crecta v. patentia, linearia v. oblongo-linearia, mucronato-acuta, minute denticulato-ciliata, plana v. lcviter concava, pleraque 3-4 lin. longa. *Flores* in axillis solitarii, subsessiles, folia vix superantes. *Bractea* paucro, parvse; bracteolae calycis dimidium aequantes. *Sepala* ad 2 lin. longa, obtusissima, subscariosa. *Corolla* 3 lin. longa, tubo calycem subaequante, intus ad fauces squamis 5 reflexis longe piloso-fimbriatis corollae lobis oppositis aucto; lobi tubo breviores, ovati, obtusi, medio barbati, aestivatione iusigniter irabricati. *Anihera* ad fauces subsessiles, filamentis brevisdmis latis crassiusculis. *Discus* hypogynus, truncatus, annularis. *Ovarium* pubesccns, 5-loculare; stylus longiusculus. *Fructus* calyceui coquans, globosus, 5-costatus, durus, 5-locularis, 5-spermus.

The genus *Bracftyloma,* of Sonder, independently but at a later period established also by Schleclitendal under the name of *Lobopogon,* comprises half-a-dozen species, allied to *Lissanthe* and *Leucopogon,* but differing»from both, as well as from all other genera of the tribe *Stypheliea',* by the lobes of the corolla more or less distinctly overlapping each other in the bud. The reflexed scales or tufts of hairs in the throat of the corolla arc also present in all the species»of *Brachyloma,* and in very few only of other genera.—G. BENTHAM.

Figs. 1 and 2. Leaves. 3. Flower. 4. The same cat open, showing the scales rather too low down. 5. Stamens, hack view. 6. The saint, front view. 7. Pistil and hypogyiious disk. 8. Ovary, vertical section. 9. The same, transverse section. 10. Fruit. 11. The same, transverse section.

PLATE 1039.

ADINANDBA MANNII, *Oliv.*

TERNSTRŒMIACEÆ.

A. Mannii, *Oliv. Fl. Trop. Afr.* i. 170; glabra, foliis coriaceis oblongo-lanceolntis v. ovalibus acuminiuatis, floribus axillaribus solitariis petlun-

culatis nutantibus, sepalis valde insequalibus, petalis lineari-oblongis obtusis sepalis 2-3-plo longioribus, circa stylum gracilem elongatum laxe convolutim imbricatis, stamiuibus indefinitis 1-seriatis glabris basi petalorum brevissime adnatis.

HAB. Summit of the peak of the Island of St. Thomas, Gulf of Guinea, ***Mr. Gustav Mann.***

Arbor 30-pedalis; rami glabri, teretes, punctato-tuberculati. *Folia* alternn, brevissime petiolata, subcoriacea, sajpius ovali- vel oblanceolato-oblonga, apicem versus glanduloso-serrulata, glabra, venulis obscuris, vernatione convoluta, 2£-3£ poll, longa, f-lj poll, lata, petiolo tuberculato 1 lin. longo. *Stipula* minutae, subulatse, deciduae. *Pednnculi* solitarii, £-£ poll, longi, infra apicem per anthesin plus minus recurvi! *Bractea* 2, inaequales, ovatse, coriaceae, glabrse, sepala exteriora simulantes. Sepala coriacea v. marginibus scariosis glabra, exteriora minora late ovata acuta, interiora oblongo-ovata apice interdum leviter recurva. *Peiala* obtusa, apice eroso-denticulata, 1£-]f poll, longa. *Stamina* circ. 25-30, inter se libera, basi brevissime petalis adnata; filamenta subulata, glabra; anthera3 lineares v. lineari-lanceolatae, filamentis paulo breviores v. eisdem sequilongae, basi emarginatae, apice connectivo truncato v. einargiuato breviter productse, 2-loculares, loculis rima laterali longitudinaliter dehiscentibus. *Ovarium* liberum, anguste ovoideo-conicum, glabmm, in stylo gracili elongato gradatim attenuatum, 4-loculare v. placentis prominentib-us bifidis recurvis interdum axi subsecedentibus. *Ovula* indefinita, campylotropa, compressa, breviter funiculata. *Fructum* non vidi.

Differing from the only Asiatic species of *Adinandra* which I have examined in the glabrous, uniseriate stamens distinct *inter 8e.*—D. OLIVER.

Fig. 1. Calyx and pistil. 2. Transverse section of ovary. 3. Corolla. 4. Same, with petals laid open exposing the stamens. 5. Stamen.

PLATE 1040.

XANTHOSTEMON CHBYSANTHUS, *F. Muell.*

MYRTACEiE.

X* chrysanthus, *F. Muell. in Benth. Fl. Austral,* iii. 268; foliis ellipticis lanceolatisve acuminatis acutisve, staminibus uniseriatis elongatis, placentis peltatis truncatis, capsula calyce semiinclusa.

HAB. Along streams, Kockinghaw Bay, Queensland, *Dallacliy.*

Arbor excelsa; specimina florifera undique glabra. *Folia* lanceolata v. elliptica, acuminata v. subacuta, in petiolura brevem angustata, pennivenia, 4-6 poll, longa. *'Pedunculi* in axillis supremis semipollicares, singuli flores 5-10 dense cymosas ferentes. *Bradea* parva?. *Fedicelli* breves, crassiusculi. *Cali/cistuhus* late campanulatus, ima basi tantum ovario adnatus, ad 3 lin. diainetro; lobi lati, tubo breviores. *Fetala* suborbiculata, calycis lobis

duplo longiora. * *Stamina* 20-25, pulchre aurca, uniseriata, parum insequilonga, longiora subpollicaria, filamentis crassiusculis; antherae oblongee, versa tiles. Ovarium semisuperum, vulgo 3-loculare; placentae late peltata?, truncatse, ovulis circa marginem in serie simplici annulatis reflexis. *Stylus* elongatus, stigmate parvo. *Capsula* subglobosa, lata basi affixa, -ceterum libera, calyce parum aucto ad medium inclusa, loculicide 3-valvis. *Semina* perfecta pauca, plana, t^sta tenui; cotyledones lata?, conduplicatae, radiculam incurvam plus minus includentes; semina abortiva perfectis subconformia, intus homogenea indurata.

For observations on the genera figured in this and the three following Plates, see notes on *Myrtacecs* in Journ. Linn. Soc. x.—G. BENTHAM.

Fig. 1. Petal. 2. Calyx and style, with the petals removed and the stamens cut short, showing their insertion. 3. Ovary. 4. The same, vertical section. 5. The same, transverse section. 6. Placenta. 7- Capsule.

PLATE 1041.

OSBOR.NIA OCTODONTA, *F. Muell.*

MYRTACEJB.

O. octodonta, *F. Muell. Fragm. Phyt. Austral,* iii. 31; *Benth. Fl. Austral,* iii. 271.

HAB. Tropical Australia; Islands of the Gulf of Carpentaria, *R. Brown;* Port Essington, *Armstrong* ; Trinity Bay, *Henne.*

Frutex erectus, ramosissimus, floribus exceptis glaber. *Folia* obovato-oblonga v. cuneata, obtusissima v. subretusa, in petiolum brevem con tract a, coriacea, pennivenia, f-1 \ poll, longa. *Mores* sessiles, in axillis solitani v. ad apices raiflorum inter folia ultima terni, bracteolis 2 tomentosis deciduis stipati. *Calyx* tomento brevi canescens, tubo adnato angusto, 2-2J liu. longo; lobi 8, tubo breviores, ovati, obtusj. *Petala* 0. *Stamina* oo, 2-3-seriata, calyce paullo longiora; antherae ovatae, versatiles. *Ovarium* inferum, basi septo brevissimo divisum, cetevum uniloculare; ovula plurima, adscendentia. *Fructus* calycis lobis coronatus, ut videtur indehiscens, exsuccus. *Semina* 1-2, obovoidea, testa tenui; embryo rectus, cotyledonibus crassis planiusculis' v. hemisphaericis, radicula longioribus.—G. BENTHAM.

Fig. 1. Flower (the stamens represented rather too long). 2. Calyx and pistil. 3. Stamens, front and back view. 4. Ovary, vertical section. 5. The same, transverse section.

PLATE 1042.

LYSICARPUS TERNIFOLITTS, *F. Muell.*

MYRTACEJ£.

!•• ternifolius, *F. Muell. in Trans. Phil. List. Viet.* ii. 68; *Benth. Fl. Austral,* iii. 267.

HAB. Queensland; on the Maranoa, *Mitchell;* Darling Downs and between the Mackenzie and Dawson rivers, *F. Mueller.*

Arbor ad altitudinem 30 ped. assurgens, cortice molli fibroso, ramulis novellis inflorescentiaque molliter tomentoso-pubescentibus. *Folia* opposita v. ternatim verticillata, anguste linearia, mucronato-acuta v. rarius obtusa, marginibus arete revolutis, supra nitentia, subtus cano-pubescentia v. demum glabrata, l|-3 poll, longa. *Flores* polygami, masculi in cymas terminates irregulares dispositi, hermaphroditi saepius sub apicibus ramorum pedicellis unifloris oppositi v. ternatim verticillati. *Bractea* minutae. *Calyx* molliter tomentosus, tubo campanulato in floribus hermaphroditis basi breviter adnato, 1£ lin. longo; lobi 5, parvi. *Fetala* suborbiculata, pubescentia v. ciliata, linea paullo latiora. *Stamina* petalis longiora, 2-3-seriata, exteriora longiora antheris reniformibus canis, interiora antheris bilocularibus perfectis. *Ovarium* in fundo calycis lata basi affixum, inclusum, villosum, 3-loculare; ovula in quoque loculo plurima, placenta basali erecta; stylus brevis, stigmate subpeltato. *Capsula* oblonga, calyce duplo saltern longior, loculicide 3-valvis. *Semina* . . .—G. BENTH AM.

Fi& 1. Leaf. 2. The same, cut across, showing the thick revolnte margins. 3. Flower-bud. 4. Expanded flower. 5. Vertical section of the calyx, showing the pistil and stamens. 6. Outer sterile stamens. 7- Perfect stamens. 8. Ovary. 9. The same, transverse section. 10. The same, vertical section. 11. Capsule.

PLATE 1043.

RHODOMYRTUS MACROCARPA, *Benth.*

MYRTACE-E.

R. macrocarpa, *Benth. Fl.x Austral,* iii. 273; foliis ovali-ellipticis obovatisve penniveniis, pedunculis 1-5-floris, ovulis 2-seriatis, fructu clongato cylindraeeo, seminibus 1-2-seriatis.

HAB. Tropical Australia, Albany Island, *W. Hill;* Buckingham Bay, *BallacJiy.*

Frntex elatus, ramulis novellis inflovescentiaquc tomento appresso cancscentibus. *Folia* pctiolata, ovali-clliptica v. obovata, pennivenia ct reti-

culato-venulosa,*glabra v. subtus minute pubescentia, 4-6 poll. v. maxima usque ad 10 poll, longa. *Pedunculi* in axillis superioribus breves, ssepius 3-flori, rarius 1- v. 5-flori. *Calycis* tubus adnatus, breviter cylindricus; lobi 5, lati, insequales. *Petala* diu in globum conniventia, rarius patentia, orbicularia. *Stamina* pluriseriata, petala baud superantia. *Ovarlum* inferum, ad carpellum unicum reductum, ovulis 2-seriatim superpositis seriebus septo spurio (placenta intromissa) verticajiter distinctis, septisque spuriis Iiorizontaiibus ovula singula separantibus ; stylus brevis, stigmate peltato. *Fructus* carnosus, indehiscens, ssepius cylindraceus, siccitate subtorulosus, f-lj poll, lougus, seminibus simplici serie suprapositis, rarius latior semhribus 2-seriatis. *Semina* crassa, compressa, liorizontalia, testa duriuscula. *Embryo* curvatus, radicula crassa carnosa, cotyledoiiibus Jbrevissimis involutis.—G. BENTHAM.

Fig. 1. Flower. 2. Stamen. 3. Calyx and pistil. 4. Ovary, vertical section. 5. The same, horizontal section. 6. Portion of the fruit. 7. Seed. 8. The same, horizontal section. 9. Embryo. 10. The same, horizontal section.

PLATE 1044.

LEITNEBIA FLORIDANA, *Chapm.*

MYRICACEjE ?

L. floridana, *Chapman, Flora of Southern United States,* 427.

HAB. Florida, Apalachicola, in salt-marshes.

Frutex 2-6-pedalis. *Ratnuli* crassiusculi, teretes, innovationes piloso-pubescentes, deinde glabri, laeves v. lenticellati. *Folia* decidua, membraaacea, alterna, eglandulosa, longiuscule petiolata, ovalia v. oblongo-elliptica, obtusa v. obtusiuscula, basi angustata, integi'a, pennivenia, supra sublucida, costa ncrvisque seciindariis sparse pubescentia, deinde glabrescentia, subtus pall it Wo ra in costa latiuscula nervisque prsecipue pubescentia, rete venoso haud prominulo, 3-6 poll, longa, 1J-2 poll. lata. *Petiola* 1-1J poll, longa, pilosula. *Stipula* nullae. *Mores* dioici, achlamydei, amentacei; amenta prsecocia in axillis foliorum delapsorum subsessilia. *Fl. $*: amenta* laxiuscula, cylindracea, 1-1J poll, longa; squamae submemb^naceae, ovato-lauceolatce, acutae y. acuminataB, extus laxe sericeo-pilosse, intus glabrae. *Stamina* 8-10, libcra v. filamentis basi ad squamam breviter adnatis; filamenta subulata, nuda; antheras oblongo-ellipticae, muticae, biloculares, longitudinaliter debiscentes, basi affixse. •M. ? : *amenta* brevia, | - | poll, longa; squamae inferiores vacuse, late ovata3, obtusaB, imbricatae, superiores floriferae sericeo-pilo3a3. *Ovarium* sursum laxe pilosum squamam subaequans, basi squmnulis minutis 2-4 inaequalibus saepius fimbriatim glanduligeris circumdatum, 1-loculare, 1-ovulatum. *Stylus* crassiusculus, ovario 2-3-plo longior, falcato-incurvus, unilateraliter canaliculatus et stigmatosus, glaber, deciduus. *Ovulum* lateraliter affixum, micropyle supera. *Xructus* drupaceus, exsuccus, ovali-oblongus, -J poll, longus, epicarpio tenui, tndocarpio crustaceo. *Semen* ovule, compressum, albuminosum; testa papy-

racea; albumen tenui. *Embryo* cotyledonibus oblongis planiusculis basi emarginatis, radicula supera ovoidea exseria.

Eeferred by Dr. Chapman and, following him, by M. Casimir De Candolle, to *Myricacea.* The attachment of the ovule and the presence of a thin layer of albumen, lead me to doubt if its true affinity be with this group, though I am not able to suggest a better place for it at present. Dr. Chapman describes the seeds as exalbuminous: The albumen is very thin and easily overlooked, but T think there can be no mistake as to its presence. The upper squamae of the male catkins occasionally subtend an ovary. We have specimens of perhaps a second species of *Leitneria,* from Texas, collected by Drummond.—D. OLIVER.

Fig. 1 and 2. Scale of male catkin, with stamens, back and front. 3. Stnmcn. 4 and 5. Pistil and subtending scale. 6. Squamules at base of ovary. 7. Vertical section of ovary. 8. Enlarged ovaries after the fall of the styles. 9. Embryo.

PLATE 1045.

MELANODENDRON INTEGBIPOLIUM, *DC.*

COMPOSITE, *Tribe* ASTEROIDEJE.

M. integrifolium, *DC. Prod.* v. 279.

HJ£B. St. Helena; wooded region of Diana's Peak, alt. 2-3000 ft., *Burchell,* etc. Flowering in January and February.

Arbor 20-30-pcdalis, tortuosa, ramulis crassis apicc foliosis, crassitie pollicis, apicibus sericeo-villosis. *Folia* alterna, 6-8 poll, longa, 1^-2 poll, lata, coriacea, obovato-lanceolata, in petiolum latum brevem semi-amplexicarlem angustata, obtusa, marginibus recurvis, supra glabra, subtus juniora prsesertim subvillosa, pilis deciduis. *Capitula* numerosa, |- poll, diam., in corymbos axillares pedunculatos disposita, pedunculis pedicellisque bracteatis, bracteis linearibus. *Involucrum* hemisphsericum, squamis multiseriatis appressis siccitate recurvis lanceo^tis acuminatis obscure ciliolatis rigidiusculis. *Receptaculum* planum, alveolatum. *Florea radii* ? , sub-2-3-seriales, ligulati; ligula alba, apice 3-dentata. *Pappus* rufo-brunueus, brevis, parcus, 1-serialis, setis inaequalibus scabridis. *Styli* rami recurvi, lineares, obtusi. *Fl. disci* numerosi, $, tubulosi, 5-dentati. *Pappus* ut in $. *Anthera* ecaudatse. *Styli* rami cono terminati. *Achenium* parvum, pilosulum, oblongum, obtuse 4-gonum. Ift»&ry0.obovoideus, cotyledonibus plano-convexis. —*Solidago integrifolia,* Roxb. in Beatson's St. Helena Tracts, Appendix, p. 323.

A remarkable plant, differing from *Erigeron* in habit and achenium only, as well observed by De Candolle. I know of no African plant to which it is at all closely allied, there being no species of *Erigeron* in Harvey and Sonder's [c] Cape Flora,' and *Aster* and *Biplopappm,* which are both large Cape

genera, differ in the pappus and uniseriate ray-flowers. It is the " Black Cabbage-tree " of Hoxburgh's, and " Bastard Cabbage-tree " of BurchelN Catalogue.—J. D. HOOKER.

Fig. 1. Ray-flower. 2. Its style-arms. 3. Disk-flower. 4. Arms of style. 5. Pappus-hair.—*allmagnified.*

PLATE 1046.

HECTOBELLA CiESPITOSA, *Hook.f.*

PORTULACEJE.

H, csespitosa, *Hook.f. in Handbook of New Zealand Flora,* 27.

HAB. New Zealand ; dry places in the Lake district of the Otago province, alt. 6000 ft., *Dr. Hector and Mr. Buchanan.* Flowering January to April.

Herba glaberrima, densi3sime csespitosa, caespitibus convexis 6-10 poll, latis. *Ceades* 1-1 *i* poll, alti, breves, ramosi, crassitie digiti minoris. *Folia* numerosissima, £ poll, longa, densissime imbricata, patula, coriacea, late triangulari-ovata, infra medium membranacea, basi dilatata, marginibus integerrimis et carina incrassatis, venis reticulatis. *Flores* parvi, albi, versus apices ramulorum sessiles. *Sepala* 2, parva, concava, truncata. *JPetala* 5, basi connata, truncata, venosa. *Stamina* 5, tubo brevi corollas inserta, filamentis liliformibus petalis a?quilongis; antherse lineari-oblongae. *Ovarium* ovoideum, membranaceum, venosum, in stylum brevem attenuatum, stigmatibus 1-3 linearibus intus papillosis; ovula 4-5, e basi loculi erecta, funifcnli* gracilibus.

A very curious little plant, having no known near ally, though such may yet be found amongst the Antarctic Islands or Alps of the Southern Continent. It is named in honour of Dr. Hector, F.R.S., Director of the Geological Survey, of New Zealand, to whom and to Dr. Haast we owe the discovery of so many alpine New Zealand plants.—J. D. HOOKER.

Fig. 1 and 2. Leaves. 3. Flower. 4. Petal and stamens. 5 and 6. Ovaries. 7. Vertical section of ovary. 8. Ovule:—*all magnified.*

PLATE 1047.

PYGM-EA CILIOLATA, *Hook.f.*

SCBOPHULARINEiE.

P. ciliolata, *Hook.f Handbook of New Zealand Flora,* 217.

HAB. New Zealand; Canterbury and Marlborough provinces, Discovery Peaks, alt. 5500 ft., *Mr. Travers;* Hopkins river, *Dr. Haast.*

Herba densissime csespitosa, pilis albis ciliolata. *Folia* late ovato-oblonga,

obtusa, utrinque glaberriraa, marginibus pilis curvis rigidis ciliatis. *Corolla* 5-6-loba, lobis oblongis rotundatisve. *Stamina* inclusa v. exserta, filamentis brevibus v. elongatis. *Ovarlum* glaberrimum.

This genus was established, in the * Handbook of the New Zealand Flora,' on two curious little plants, natives of the Southern Alps; it is closely allied to *Feronica,* differing in the leaves not being obviously quadrifariously arranged, though strictly opposite, and in the 5-6-lobed corolla; the lobes of the latter are, however, unequal, and one is evidently larger than the rest. In both species the filaments vary in length.

Fig. 1. Leaf. 2. Flower. 3. Corolla, laid open. 4. Ovary. 5. Transverse section of ditto:—*magnified,*

P. pulvinaris, *Hook.f. I. c.*

HAB. New Zealand; Middle Island, summit of Mount Torlesse, forming hoary matted patches, *Dr. Haast.* Flowering in January.

Herba densissime csespitosa, pilis albis subcrinita. *Folia* lineari-oblonga, dorso et marginibus albis, pilis laxis subflexuosis. *Corolla* 5-loba, lobis obovato-rotundatis. *Stamina* inclusa, rarius exserta. *Ovarium* apice pilosum.

Clearly allied to *P. ciliolata,* but with longer leaves, that are furnished with longer and laxer hairs, that give the whole plant a hoary appearance. The ovary also is pilose.

Fig. 1. Leaf. 2. Fair of ditto and branch. 3. Flower. 4. Corolla, laid open* 5. Ovary and style. 6. Fruit. 7. The same, cut transversely:—*all magnified.*

PLATE 1048.

SILVIANTHUS BBACTEATUS, *Hook.f.*

KUBIACEJE, *Tribe* HEDYOTIDEJS?

Silviantlms, *Hook.f. gen. nov.— Calycls* tubus obconicus; lobi 5, rarius 4, lineari-oblongi, obtusi, subaequales, post anthesin accrescentes. *Corolla* infundibuliformis, tubo et fauce ampliato intus pubescentibus; limbus parvus, 5-fidus, lobis brevibus rotundatis intus papillosis valvatis. *Stamina* 2, tubo corolla? inclusa, filamentis brevibus; anthers dorso affixae, lineari-oblongae. *Discus* magnus, conicus. *Ovarium* 2-loculare ; stylus gracilis, stigmate punctiformi; ovula numerosa, placentis septo affixis inserta. *Fructus* subcarnosus, inter lobos calycis in valvas 5 ad basin dehiscens, semina numerosa nudans. *Semina* majuscula, ovoideo-oblonga, subcurva, testa cellulosa, albumine copioso; embryo miuutus, ovoideus.—Frutex *gldberrim.ua, ramosus, ramis teretibus.* **Folia *opposita> petiolata, oblonga v. oblongo4anceolata) acuminata, basi sape inaqualia, obtuse sinuato-dentata.* Stipula? 0. Flores *albi, inter congenere* majusculi, in cymas breviter peduncidataz axillares densifloras disportti, bracteati, bracteis oblongis obtusis.***

***3.* bracteatus,** *Hook. f—Pychotri** «p., Wall. Cat. n. 8367.—*Neurocalyx (?) sp.,* Hook. f. et Thorns. Herb. Ind. Or.

HAB. Eastern Bengal; Silhet, *De Silva, Griffith.* Khasia Mts., alt. 1200 ft., *Lohh.* Luckipore in Cachar, /. *D. Hooker et T. Thomson.*

This, one of the most aberrant of *Rubiacea,* and though probably referable to the great tribe of *Hedyotidea,* is closely allied to no other plant of the Order, except perhaps *Carlemannia,* with which it agrees in its most anomalous characters of a diandrous flower, absence of stipules, and dentate leaves. It differs from that genus^in the valvate corolla-lobes, and from other *Hedyofidea* in the fusiform stigma, and fleshy, capsule 5-valved to the base. It is named in honour of M. De Silva, one of Dr. Wallich's most acute and indefatigable collectors, who was the first explorer of the Khasia and Silhet jungles. —J. D. HOOKER.

Fig. 1. Flower. 2. Corolla-tube, laid open* and stamens. 3. Ovary, disk, style, nnd stigma. 4. Vertical section of ovary aud disk. 5. Transverse section of ovary. 6. Ripe fruit. 7. The same, dehisced. 8. Seed. 9. Longitudinal section of ditto. 10. Embryo: —*all but* 6 *and 7 magnified.*

PLATE 1049.

POLYURA GEMIWATA, *Hook.f.*

RUBIACEJE, *Tribe* HEDYOTIDE^E.

Polyura, *Hook.f. gen. nov.—Calycis* tubus turbinatus; lobi 5, ovati, persistentes. *Corolla* tubuloso-iufundibuliformis, tubo brevi intus glabro, fauce villoso ; lobi 5, ovati, obtusi, suberecti, valvati. *Stamina* 5, medio tubo corollae insert a, fila mentis breviusculis subulatis; antherse lineari-oblongae, semi-inclusse. *Discus* pulvinaris. *Ovarium* 2-loculare; stylus gracilis, puberulus, stigmatibus 2 brevibus oblongis obtusis; ovula numerosa, placentis septo m^dio aftixia iuserta. *Capsula* parva, subglobosa, submembranacea, 2-locularis, septicide 2-valvis, septo membranaceo polyspermo. *Semina* obtuse angulata, testa Crustacea granulata, alburaine carnoso; embryo clavatus.—Herba *habitu* Ophiorrhizae, *caule simpliciusculo basi decumbente radicante, foliis subtus et inflo?'e8centia puberulls.* Folia *opposita ei spurie verticillata, petiolata, ovata v. oblonga, acuta, penninervia, siccitate rubescenlia.* StipulsB *utrinque solitaria, subulate.* Pedunculi *terminate^ stricti, elongati, cymas breves scorpicideas Mernatim gerentes.* Flores *in cymis dense 2-seriatim conferti, ttecuudi, sub* sessiles, bractels imbricatis occlusi, albi, Ttracteis siccitate rufescentibus.*

P. geminata, *Hook. f.—Ophiorhiza? geminata,* Wall. Cat. n. 6237 ; Hook. f. et Thorns. Herb. Ind. Or.

HAB. Assam, Gualpara, *Eb. Hamilton.* Silhet, *W. Gomez.* Khasia, *Lobb.* Nowgong, *Simmons.* Mishrai, *Griffith.* Nunklow, alt. 2-4000 ft., /. *D. Hooker et T. Thomson.*

The habit of this plant is that of *Ophiorrhiza,* from which its valvate corolla and curious inflorescence at once distinguish it; by the latter character alone can it be technically removed from *Hedyotis,* no species of which *arge genus has, however, the curious spiked scorpioid cymes of this, whilst

few have its 5-merous flowers. The whole plant assumes a fine vinous-red colour in drying, which it has retained for forty years in the herbarium.—J. *J).* HOOKER.

Fig. 1. Flower. 2. Section of corolla. 3. Stamen. 4. Ovary, disk, style, and stigma. 5. Transverse section of fruit. 6. Ripe fruit. 7. Vertical section of ditto. 8. Seed:—*all Magnified.*

PLATE 1050/

LIMNOSIPANEA SPRUCE AN A, *Hook.f.*

RUBIACEJE, *Tribe* RONDELETIEJE.

Limnosipanea, *Hook. f. gen. nov.—Calycis* tubus ovoideus, hispidus; lobi 5, lanceolati, subfoliacei, intus basi glandulosi, persistentes. *Corolla* hypocraterimorpha, tubo gracili intus glabro, fauce glabro tenuiter pubescenti v. villoso; lobi 5, patentcs, membranacei, oblongi, obtusi, contorti. *Stamina* 5, faucc corolla? inserta, filamentis filiformibus; anthers oblong®, exsertie, dorso affixae. *Discus* conicus. *Omrium* 2-loculare; stylus filiform is, stigmatibus recurvis intus papillosis; ovula numerosa, placentis septo raedio affixis inserta. *Capsula* ovoidea, Crustacea, 2-locularis, loculicide 2-valvis, polysperma. *Semina* minuta, angulata, testa reticulata, alburaine **cnrnoso.—Herbce *idiginoste, America tropica incola, graciles, erecta, caule terete, basi simplice, superne 2-3~c7wtome ramoso.* Folia *8-co-natim verticillata, superiora rarius omnia opposita, oblonga v. linearia.* Stipulae *obsolete.* Elores *parvi, in faqciculos bracteatos terminales et in dichotomiis ramorum sitos dispositi, rosei, 2-bracteolali.***

Li. Spruceana, *Hook. f.;* caule e basi decumbente erecto gracili, foliis demersis oo-natim verticillatis anguste linearibus acuminatis, emersis 3-6-natim verticillatis multo brevioribus ovatis ovato-lanceolatisve acuminatis pedunculis Aoriferis erecto-patentibus elongatis gracilibus, corollae rosese faucc pubescente.—*Sipania limnophila,* Spruce, n. 1027.

HAB. Amazon river, marshy and sandy places near Para, *Spruce* (1851).

Fig. 1. Flower. 2. Corolla, laid open. 3. Stamens. 4. Ovary and 2 calyx-lobes. 5. Transverse section of ovary :—*all magnified.*

This curious genus differs from *Sipania* in its remarkable habit, obsolete stipules, and exserted stamens. The other species known to me are:—

L. Schomburgkii, *Hook.f.;* caule simplici foliisque paucis oppositis lineari-oblongis obtusis sparse hispido-pilosis, floribus paucis, calycis lobis Jineari-elongatis.

HAB. British Guiana; Rovuma river, *Schornburgk,* 464 (744).

L. palnstris^ *Hook./.—Sipania palustris,* Seem. Bot. Herald, Voy. 136.

HAB. Panama, *Seemann;* New Granada, Santa Martha, *Goudot.*

PLATE 1051.

PHYLICA BAMOSISSIMA, *DC.*

RHAMNE;E.

P. ramosissima^f^^W. ii. 34.—*P. rosniarinifolia,* Roxb. in Beatson's St. Helena Tracts,^Pfcon Thunb. non Lamk.

HAB. St. Helena, Diana's Peak, Longwood, etc. c< Wild Rosemary" of the colonists.

***Frutex* 10-pedalis, ramosissimus, mmis gracilibus fastigiatis teretibus, ultimis foliis subtus et inflorescentia niveo-tomentO9is. *Folia* alterna, lanceolata v. oblongo-lanceolata, acuminata, basi in petiolum angustata, ¥-1i poll, longa, coriacca, marginibus integerrimis tenuiter revolutis, supra glaberriinis nitidis, subtus niveis. *Flores* sessiles, breviter pedicellati, *i* poll, longi, extus niveo-villosi. *Catycis* tubus obconicus; lobi 5, triangulares, patentes. *Petala* orbicularin, concava, breviter unguiculata. *Stamina* petalis occlusa, filamentis subulatis; antherae orbiciilares, rimis demum confluentibus late hiautes. *Discus* tumid us, explanatus. *Stigma* 3-fidum. *Fructm* ovoidcus, apice areolatus, \ poll, longus; carne atra tenui; coccis 3 crustaceis, dorso convexis, intus dehisceutibus. *Semen* oblongum, levitcr compressum, testa brunnea nitida.**

A not uncommon plant in St. Helena, allied to, but very different from any South African species of the genus. • The stipules attributed to this sjjpcics by De Candollc, appear to be axillary undeveloped subulate buds,—as I find no trace of stipules on young shoots, and no scars on older.—J. D. HOOKER.

Fig. 1. Large-leaved form. 2. Small-leaved form, with flower. 3. Specimen in (fruit. 4. Flower. 5. The same, calyi-lobcs removed. 6. Stamens. 7. Inferior ovary. 8. Vertical section, and 9. transverse section of same. 10. Fruit. 11, 12. Seed :—*mostly magnified.*

PLATE 1052.

NESIOTA ELIJPTICA, *IIook.f.*

RHAMNEM.

N. elliptica, *Hook. f. in Benth. and Hook. Gen. PI. SSO.—Pkylica elliptica,* **Roxb. in Beatson's St. Helena Tracts, Appendix, 316; DC. Prod. ii. 34.**

HAB. St. Helena, on the central ridge of Diana's Peak, elcv. 2500-2700 ft., *fiurchell, Roxburgh,* etc. I have seen only six or eight of these trees on the island, /. *Melliss, Esq.* Wild Olive of the colonists. Flowering in October and November.

Arbor parva, 15-20-pedalis, ramosa; rarnis patentibus robustis tcretibus nigris, ultimis petiolo costa foliorum subtus et inflorescentia dense albo-villosis, nodis incrassatis, cicatricibus stipularum delapsarum utrinque 2-notatis. *Folia* opposita, petiolata, exacte oblonga, basi et apice rotundata, 2-3 poll, longa, juniora apiculata, integcrriraa, marginibus tenuiter revolutis, supra glabra subtiliter reticulata, subtus lana appressa nivea, petiolo crasso \-\ poll.; stipulae utrinque 2, magnse, oblongse, scariosae, costa valida coriacea villosa. *Oyma* axillares, pedunculate, 2-3-chotoriP, ramosae, folio dimidio breviores v. soquilongse, pedunculo \-\\ poUf^Ki⁰′ stricto. *Florea* pedicellati, albi, bracteati, *i* poll, longi, extus albi, intus rosei, 4-5-meri. *Fructus* obovoideo-clavatus, *i* poll, longus, lignosus, calycis tubo medio cinctus, vcrticc tumido npiculato, maturus 3-partibilis. *Semina* oblonga, obtuse 3-gona, testa coriacea nitida.—J. D. HOOKER.

Fig. 1. Flower. 2. Vertical section of ditto. 3. Stamen. 4. Transverse section of ovary:—*all magnified.*

PLATE 1053.

PETROBIUM ARBOREUM, *Br.*

COMPOSITE, § SENECIONIDEJE.

P. arborenm₉ *Br. in Linn. Trans,* xii. 113.—*Laxmannia arborea^orst.* Comm. Goett. ix. 56; Gen. t. 47. *Spllanthes tetrandra* (masc.) et *Bidens ardorea* (fcem.), Roxb. in Beatson's St. Helena Tracts, 301 et 325.

HAB. St. Helena, Diana's Peak, Harding's Spring, etc., *Burchell,* etc. Flowering in January and May. " Whitewood Cabbage-tree" of the colonists.

Arbor parva, dioica, 10—15-pedalis, ligno molli. *Rami* tortuosi, cicatricati, ramulis junioribus et inflorescentia hirtelli9 pubesccntibusve. *Folia* coriacea, opposita, petiolata, 1^-3^- poll, longa, oblonga lanceolata v. ovata, basi rotundata v. truncata v. in petiolum angustata, acuta v. subacuta, ultra medium serrata, in plantis masculis (ex schedis Burchellii) folia latiora basi ssepius truncata, in fecmineis angustiora et in petiolum angustata. *Panicula* axillares v. terminates, 3-chotome ramosae. *Capitula* erccta, flava, campanulata, pcdunculata, \ poll, longa, inascula latiora. *Involucri foliola* sub-3-scrialia, oblonga, obtusa, glabriuscula, coriacea, integerrima. *Receptaculum* paulo convexum, alveolatum, bracteolis involucri foliolis simillimis tot quot floribus onustum. *Flores* ad 30. *Masc.: Ovarium* gracile, scabrum, involucro sequilongum, saepius 3-setosum, setis scabridis. *Corolla* hypocrateriformis, tubo elongato carnosulo, faucc paulo constricto; lobi 4, patentes, nnguste oblongi, 3-nerves. *Stamina* 4, ore corollse iaserta, omnino exserta, filamentis brevibus validis superne incrassatis; antherae lineares, connectivo apicc breviter producto, loculis basi vix auriculatis. *Stylus* crassiusculus, ramis linearibus pilosulis acutis. *Fl. fcem.: Ovarium* comprcssum, pappi setis saepius 2. *Corolla* maris, scd tubo brcviorc. *Stamina* parva, antheris liberis, cas3i9.

Stylus maris nisi rami longiores. *Achanium* involucro longius, anguste lanceolato-oblongum, breviter rostratum, compressum, hispido-scaberulum, anguste 2-alatura et antice medio carinatum, lateribus in sctas 2 subulatas rigidas breves hispidas productis. *Cotyledones* oblongae, obtusae, planiusculse, radicula tereti.

The affinities of this singular plant are not obvious; at first sight the achene and opposite leases would appear to place it amongst the *Bidentidea* of De Candolle, from which it is removed by that author to *Melampodtnerp,* apparently on account of the dioecious habit. Brown, who first understood and described its structure,,makes no allusion to its affinities ; nor can they be well ascertained till the genera of *Melampodinece* and *Helianthea* are revised. —J. D. HOOKER.

Fig. 1. Female floret. 2. Apex of achene. 3. Corolla laid open, showing the stamin**odes. 4. Male floret. 5. Detached stamen. 6. Style-branches of same.**

PLATE 1054.

LACHANODES PRENANTHIFLORA, *Burch.*

COMPOSITE, § SENECIONIDEA.

Lachanod.es, *DC.—Capitulum* homogamum, floribus ad 5 albis tubulosis 5-lobis hermaphroditis. *Involucrum* angustum; foliola ad 5, 1-serialin, anguste linearia, acuta, apice non sphacelata, basi calyculata. *Recepiamlum* parvum, planum, papiUosum, nudum. *Corolla* tubus elongatus, gracilis, basi dilatatus ; limbus angustus; lobi elongati, lineares, revoluti, 3-nerves. *Anthera* exsertse, elongates, ecaudatae, connectivo apice brevi. *Styli* rami elongati, filiformes, revoluti, apice truncati, papillosi. *Pappus* pluriserialis, pilis rigidulis scaberulis albis. *Aclianium* angustum, angulatum, obscure costatum.—Arbdr *parva, ramulis robustis.* Folia *alterna, petiolata, dentata.* Gapitula *in punictdas axillares horizontaliter patentee disposiia, pendula.*

!*• **prenanthiflora,** *Burch. in DC. Prod.* vi. 442.—*Mikania arborea,* Roxb. in Beatson's St. Helena Tracts, 313 (non Kunth). *Solidago Leucadendron,* Willd. Sp. PL iii. 2054.

HAB. St. Helena, on Diana's Peak, and on Sandy Bay ridge, alt. 2-2500 ft. Flowering October to February. Red or purple Cabbage-tree, *Burchell.* " He" and " She Cabbage-tree/' *Roxburgh.*

Arbor parva, 5-15 ped. alta, trunco crasso, cortice pallido, ligno raolli, ramis paucis ultimis rubro-purpureis robustis fragilibus. *Folia* apices versus ramulorum sparsa, magnitudine valde vrfria, in plantis junioribus subsessilia, obovato-lanceolata, 1-2-pedalia, in adultis 2-5-pollicaria, in petiolum brevem v. subaequilongum angustata, obovato-oblonga, obtuse irregularitcr dentatn, carnosula, suporne glabra, nitida, subtus subfurfuraceo-tomentosa v. glabrata, late viridia, costa purpurea, juniora subtus albo-lanata. *Capita la* J poll, longa,

in paniculas horizontaliter patentes axillares disposita, pendula, ramis ramulis pedunculisque divaricatis gracilibus purpureis, pedicellis pluribracteolatia, bracteolis remotis parvis subulatis. *Involucrum* angustum,' floribus brevius, basi bracteolis 1-3-calyculatum ; foliola 6-8, erccta, lineari-lanceolata, acuta, viridia (siccitate bi*unnea), marginibus interioribus angusto-membranaceis, tenuiter nervosa, apicibus non sphacelatis. *Receptaculnm* planiusculum, angustum, papillosum, nudum. *Flares* ad 5, omnes tubulosi. *Pappus* pluriserialis, corolla brevior, pilis tenerrimis scaberulfe albis. *Corolla* pallide flavae tubus gracilis, basi dilatatus; limbus tenuis, in lobos 5 elmigatos lineares 3-nervos revolutos fissus. *Anthera* exsertae, lineares, basi ecaudatae, filamento superne incrnssato.' *Styli* rami elougati, filiformes," revoluti, truncati. *Achanium* ad \ poll, longum, angustum, angulatum, laeve, glaberrimum.

A very singular-looking small tree, but T fear generically undistinguishable from *Senecio,* from whicli it differs technically only in the want of sphacelated apices to the iuvolucral scales, a character of no constancy in *Senecio* itself. Until, however, the Senecionideous genera are worked up from the new materials accumulated since De Gandolle's time, it is not possible to say to what extent that heterogeneous Tribe may require subdivision. De Candolle's *L. Leucadendron* is a totally different genus *(Pladaroxylon,* Tab. nostr. 1055), and his doubtful *L, cuneifolia* is probably an *Aster.*—J. D. HOOKER.

Fig. 1. Capitulum. 2. Single floret. 3. Pappus-bristle. 4. Stamen. 5. Style-branches.

PLATE 1055.

PLADAROXYLON LEUCADENDRON, *Hook.f.*

COMPOSITE, § SENECIONIDE,E.

Pladaroxylon, *Endl. (sect.)* *Capitulum* heterogamum, floribus albis, radii ligulatis foemineis, disci 5-lobis tubulosis hermaphroditig. *Involucrum* cylindricum; foliola ad 10-15, 1-serialia, basi in hypanthium carnosum late obconicum calyculatura connata, linearia, acuta, apice non sphacelata. *Receptaculum* planiusculum, papillosum, nudum. *flores radii* ad 6-8, ligula brevi lata obtuse 4-dentata ; disci 8-10, corollae tubo basi lignoso vix tumido lobis revolutis linearibus 3-nerviis. *Anthera* ^-exsertae, ecaudatae, connectivo apice brevi. *Styli* rami revoluti, truncati, apice papillosi. *Pappus* pluriserialis, fuscus, pilis scaberulis rigidulis. *Achanium* anguste oblongum, utrinque angustatum, alte piuricostatum.—Arbor *parva, ramulis crassis.* "Folia *ulterna, integerrima.* Capitula *in corymbum terminalem compositum disposita, erecta.*

1. **P. Leucadendron.**—*Lachanodes (sectio) Pladaroxylon,* Endl. Gen. 4&1. *L. Leucadendron,* DC. Prodr. vi. 443. *Solidago Leucadendron,* Forst. Conim. Gcett. ex Willd. Sp. PI. iii. 2054; Roxb. in Beatson's St. Helena Tracts, 383.

HAB. St. Helena, Diana's Peak, and Cabbage-tree ridge by Caxon's-gate Telegraph, *Burchell,* etc. Flowering November, February. " White Cabbage-tree," *Burchell.* " He Cabbage-tree," ***MeUua.***

Arbor parva, robusta, 8-12 ped. alta, ramulis robustis crassitie digiti minoris crebemme .cicatricatis glabris. *Folia* versus apices ramulorum conferta, 4-7 poll, longa, obovato-oblouga v. lanceolata, obtusa, irregulariter sinuato-dentata, marginijjus recurvis, in petiolum subrobustum brevem angustata, supra lsevia, convexa, nitida, subtus pallida, nervis nervulisque creberrime reticulatis exceptis pubescentia, pube tenui appressa, juniora utrinque tomentosa. *Capitula }* poll, longa, erecta, in corymbura terminalem ramosissimum 6-8 poll, diametro disposita, pedunculis pedicellisque erectis angulatis paucibracteatis his puberulis crassiusculis paucibracteolatis. *lnvolucrum* cylindricum, basi incrassatum, bracteolis multis subulatis calyculatum; foliola 10-15, lineari-subulata, basi in hypanthium late obconicum cnrnosum connata, viridia (siccitate brunnea), crassiuscula, tenuiter nervosa, apicibus subacutis barbellatis non sphacelatis, marginibus anguste membranaceis. *Corolla* alba, radii ligula late obovato-oblonga, apice 3-dentata, disci lobis revolutis 3-nerviis linearibus, tubo basi indurnto. *Anthera* semi-exsertae, connectivo apice brevi, omnino ecaudatse. *Stylus* gracilis, basi fusiformis, ramis revolutis truncatis apice obscure papillosis. *Pappus* brevis, multiserialis, fuscus, pilis rigidiusculis scaberulis. *Acluenium* £ poll, longum, anguste oblongum, utrinque attenuaturn, creberrime alte costatuin.

Certainly a totally different genus from the *LacJianoJes prenanthiflora;* and far more different than that is from auy other Senecionideous genus; nor, indeed, except in *Senecio* itself, do I find any near affinity for it. From *Lachanodes* it differs in habit, in the terminal erect crowded corymbose paniclS, the short capitulum, the involucre much thickened at the base, its many leaflets, the many ray-flowers, woody scarcely inflated base of the corolla-tube, shorter pappus style-arms and corolla-lobes, and in the semi-included anthers ; meanwhile I have adopted Endlicher's sectional name of *Pladaroxylon* for it, pending a rearrangement of the Senecionideous genera, which may result in both this species and the *Lachanodes prenanthiflora* forming members of that huge and polymorphous genus.—J. D. HOOKER.

Fig. 1. Capitulum. 2. Ray-flower. 3. Arms of its style. 4. Disk-flower. 5. Pappus hair. 6. Stamen. 7* Arms of its style:—*all magnified.*

PLATE 1056.

ASTEB GUMMIFEEUS, *Hook./.*

COMPOSITE, § ASTEROIDE^S.

A. gummiferus; arbor parva, gummifera, ramulis lignosis ultimis sparse liispidulis, foliis obovato-spathulatis obtusis in petiolum brevem basi nodoso-incrassatum angustatis grosse serratis coriaceis, subtus et basin versus

spurse pilosis, oorymbis subtermiualibus ramosis polyccphalis, cupitulis basi nngustis, involucri foliolis inwquilongis lanccolatis rigide chartoccis, iloribus radii ci disci 6-8, achumio com pros so altc costato apiccm versus pilosulo.—***Coiumideudrum spurium,*** **DC. Prodr. v. 344, cxcl. syn. (non *Solid a go spur in,*** Forst., nee *Conyza arborescens,* Willd.).

Var. *ft,* foliis angustioribus subtus sparse subtomentosis, corymbis oligo-**ccphalis.—*Commidendrum gummiferum,* DC. 1. c.**

lUn. St. Helena, Thompson's Wood hill, and ridge above West Lodge, *llurclu'tl.* Central ridge of High Peak. alt. 2700 ft., *Afellis*.* Flowering in December, March. " Little Bastard Gum-wood, *Melliss.* " Little umbellcd (or cymose) Cabbage-tree," *Burchell.* Var. /3, Thompson's Wood hill, *linr-chell.* <l Cluster-leaved Gum-tree," *Burchell.*

Arbor parvn, 10-12-pedalis; rami lignosi, teretes, crassitie peunae anserinsc, remote cicatricati, ramulis apices versus pilis paucis brevibus rcmotis sub-hiapidulis. *Folia* apices versus ramulorum subconferta, patentia, l£-2£ poll, longa, siccitatc luride fuse a, petiolo basi ut videtur in sicco cornea et cum ramulo articuluta. *Corymbi* plurimi, coinposili, pedunculis pedicellis((uc gra-cilibus, bracteis linraribus spursis deciduis. *Capilula %-* poll, longa, obco-nicii, jxidiccllata, bructeolata, bracteolis subulatis. *Involucri* foliola stricta, crcctn,])allida, enervia, inargiuibus scubcrulis crosis, pa|>po n»quilongis. *Rcccp-tuaulam* parvum, nlveolatum, inargiuibus alveolarum subilinbrilliferis. 27. *radii* albi, ligula brevi lute oblouga apicc 3-crenata; styli rami lineares. *FL disci* corolla 5-loba, pallide (lava; anthcrui omuino exserttc; styli rami breves, apicc cono iiiHtructi. *AcluEuinm* piirpurcuin, corapressum. *Pappus* parcus, 1-scri-nli8,,rufu9, pilis scabcrulig iuwqualibus.

This curious plant <liffc:r« much in habit and in the form of the involucre from *A'. glutinosiiH* (Plate 1057), but I do not BCC how it cun be removed froiii */inter.* Its synonymy is in utter confusion; it is certainly Dc Candolle's ***Commidendrum ipurium,*** **but as certainly is not Forster's *Sol'ulago spuria;*** De Camlolle (juotca, witli u murk of doubt, Forstcr's *Conyza arborescent,* as a synonym, and cites Willd. Sp. PI. iii. 2053, where *Solidago spuria,* of Forster, is described, but no *Conyza arborescens,* Forst. 1 On the next yiigc (p. 2054), however, Forster's *Solidago arborescent,* a New Zealand plant, is described. Willdenow's[1] *Conyza arborescens,* again (p. 11)94), is a totally different and an Indian plant.

With regard to the var. /3, Burchell kas ticketed it *Solidago conferta,* Burch., nnd *cuneifolia,* lloxb., whence it is possibly *Lachanodes cunetfblia,* DC. An-other closely allied species is :—

A. Burchellii, *I/ook.f.;* arbor parva, ramulis tcretibus ultimis lignosis villosis, foliis obovato-lanceolutis grosse serratis supra sparse villosis subtus albo-toincntosis, corymb is axillaribi's* oligoccphalis, capitulis iloribusque ut **in *A. gummtfera.***

HAD. St. Helena, Long wood, *Burchell,* 1810 ; *Melltis,* 1868.

Very similar to *A. glulinosus,* but the leaves longer and conspicuously white and woolly beneath.—J. D. HOOKER.

Fig. 1. Cajrittilum, 2. Kay.flower. 3. Pappus hair. 4. Style-branches. 5. Disk-flower. C. Stamen .—*all .minified.*

TLATK 1057.

ASTER GLUTINOSUS, *tio.ro.*

COMPOSITE:, § ASTEUOIDEA:.

A. glutinosus, *Roxb.;* fruticosus, ramulis tcrctilms liguosis apicc foliosis cum foliis ct inflorescccutia laxc villosis, foliis altcrnis ohovato-spathulatis crcimtis rugosis subtus reticuluthn vcfiosis, pcduuculis terminalibus erect is l-ceplinlis paueibracteatis, hractcis Iincarihus, capitulo late cninpanulato, iu-volucri foliolis clongato-suhulatis, pappo uniseriali, nchimiis glabciTimis an-gustis compressis ulte costntis.—Hoxb. in Hcatson's St. Helena, 303. *Co-nyza rugoaa,* Ait. Hort. Kcw. iii. 1 K *I: c\i\.* HVII. ed. 2, v. 30. *Cummidrum rugosum,* DC. Prodr. v. 84 fi

HAD. Si. Helcnn, between Lon^wuuil'^ ami Urcgor^'s, *Bur elicit.* Flowuring March to May. " Scrubwood" and " Gum-shrub" of the colonists. Also very rurc in Ascension, *Burchell,* [illegible].

Frutex v. *arbor* parvn, rarnosu, lignosa, ram is tcrctibus sub-S-chotomis pn-tentibuM, ramulis cicntricibus trapezoidcis folionim delnpsorum notutis, ulti-mis crassitie peiina*: anserinw patentim villosis. *Folia* J-1J poll, longa (pctiolo incluso), J-J poll, lntn, siceitute fusca, patentia, crennta v. deutata, **subtus pnreipiie villosa, superiie ^labnita v. ^uminosa.** ***Peduncuti*** **snlltarii,** ***I*** **li poll, longi, Htrirti, cn-c-ti, villoai; brncluir 1 v.** ***2, linvnrca,*** **J J poll. lon^ir.** ***Capitufuin*** **1-J 4 poll, dianietro, radio nlbo, disco llnvo.** ***Involucri joliola*** numerosa, recurva, vix squarrosa. glutinosu, ciliata, coriaceo-herbaccu. *Receptacnlum* subconvexum, pnpillosuin. *Floret radii* pcrpliirimi, li^ulis rc-volutis. *Pappm* parcus, pilis inwqualibus acaberulis. *Achamia* pullida, a|\ice paulo dilatata.^

There can be no doubt but that Roxburgh wus right in referring this plant to the genus *A*ttr,* from which it differs in no rcspcrt. With regard to the other species of De Candolle's genus *Conunhumdrum,* the *C. rotundifolium* is a species of *Psiadia,* and the remainder belong to two forms of *Aster,* one of which, having narrow receptacle and involucre mid lanceolate rigid involucral scales, includes *A. guhiM\feruH$_t$* Koxb. *(Cumm. spur lam,* DC), (Tab. nost. lO5f*>)„aiid *A. Burchdliiy ll.f. (vitle supra);* the other, with broad solitary heads and narrow subulate recurved involucral scales, includes the present plant, and *A. Roxburghii,* ll.f. *(C. robustum,* DC), and a variety of it or a closely allied species.—J. I). llooh'Kitf

Fig. 1. Ray .flower. 2. Hair of |mjj>u». 3. Anna of style. 4. Dii*k-flower. 5. Sta-men. 0. AnuiH of style:—*all magnified.*

PLATE 1058.

PKANKENIA PORTULACIFOLIA, *Spreug.*

FRANKENIACEJE.

F. portulacaefolia; fruticosa, erecta, ramosissima, ramulis puberuli9 divaricatis, foliis uiinutis cordatis orbiculatisve convexis marginibus recurvis, floribus solitaries, ovario 2-3-inero.—*Frankenia portulacafolia,* Spreng. Syst.' Vcg. ii. 134. *F. Bealsonia,* Schultes, Syst. Veg. vii. 70. *Beatsonia portulacafolia,* Roxb. in Beatson's St. Helena Tracts, 300 ; DC. Prodr. i. 350. *

HAB. St. Helena, dry rocks, Lots ridge, Sandy Bay, and Deep Valley, *Burchell,* etc. Flowering in January. " St. Helena Tea" of the colonists.

Frutex 2-4-pcdalis, tort.uos.us, ramis nodosis fuscis fragilibus gracilibus. *Folia* -fg- poll, loriga, siccitate atro-fusca, camosula, pubenila, juniora et luxuriantia orbicularia marginibus recurvis, scniora cordata v. globosa marginibus ad costam revolutis. *Flores* tcrminalcs, foliis multo longiores, fere \ poll, lougi. *Calycis* lobi 5, breves, obtusi. *Felala* late cuneata, erosa, ungue basi incrassato, lineis 2 exaratis anticis. *Filamenta* 5 v. 6, basi membranaceo-dilatata, subulata. *Ovarium* ovoidcum, 2-placentiferuin; stylus columnaris, apice 2-3-fidus, stigmatibus capitatis ; ovula in quavis placenta ad G.—J. D. HOOKER.

A eery singular species, closely allied to no other.

Fig. 1. Leaves. 2 and 3. Flowers. 4. Ditto, with the petals removed. 5. A petal. 6. Stamen. 7* Anthers. 8. Ovary. 9. Vertical. 10. Transverse sections of ditto :—*all magnified.*

PLATE 1059.

HEMIABRHENA PLANTAGINEA, *Bentli.*

SCKOPIIULARINEJE.

H. plantaginea, *Beuth. Fl. Antfral.* iv. 518.—*Fandellia plantaginea,* ¥. Muell. in Trans. Viet. Inst. iii. 62. *Lindernia plantaginea,* F. Muell. Fragm. Phytog. Austral, vi. 102.

HAB. Tropical Australia, Mount King, Glenelg district, N.W. coast, *Marten;* between Providence Hill said M'Adam Range, *F. Mueller;* Arnhem Land, *M'Douall Stuart's Expedition.*

Caules e basi crassa perenni sublignosa erecti, tenues, simplices, ssepevultrapedalcs, glaberrimi. *Folia* opposita, ad basin caulis pauca conferta fere rosulata, brevissime petiolata, ovata v. late oblon^a, obtusa, integerrima, gla-

bra, *i* ad 1 £ pollt longa, additis interdum paribus 1-2 secus caulem distantibus parvis fere squamasformibus. *Catties* floriferi cacterum aphylli, scapiformes. *Mores* in racemum oblongum terminalem simplicem conferti, scapo rarius ramis 2 oppositis pariter racemiferis instructo. *Pedicelli* oppositi, brevissimi, glanduloso-pubescentes, bractea parva suffulti, ebracteolati. *Calycis* segmcnta 5, angUsta, lineam longa, membrauacea, costa intensius colorata, glandulis nonnullis ad utrumqnelatus instrncta. *Corolla* tubus tenuis, circa 3 lin. longus, fauce diljfcata; labium superius vix lineam loogum, erectum, concavum, integrum; inferius longius, patens, in lobos 3 angustos labium superius aestivatione obtegentes divisum; corolla ubique textura tenuis et *EnpJirasiarum* more venosa. *Stamina* 2, versus apicem tubi corollae inserta, cum lobis labii inferioris alternautia, sub labio superiorc ascendentia; auperiorum vestigia nulla. *Antherce* connfventcs, libera?, dimidiatim uniloculare, basi aristato-raucronatae, rima longitudinali dehiscentes. *Ovarium* biloculare, loculis multiovulatis; stylus filiformis, apice vix dilatatus, obtusus, integer. *Capanla* ovoidea, obtusa, calyci subasquilonga, valvis 2 integris septo tenui parallclis dehiscens. *Semina* numerosa, more Gra{jolearum striata reticulataque.

This curious plant is one of those instances of which the Australian flora, like that of tropicnl Africa, has afforded several, of monotypic genera, connecting as it were large groups—suborders or even orders— which are in other instances clearly and constantly distant. The habit fruit and seeds of *Hemiarrhena* are those of the Lindernieae, a tribe of Antirrhinidae, where F. Mueller had originally placed it, but the form texture and aestivation of the corolla, and the structure of the anthers, are characteristic of the Euphrasies, a tribe of Rhinanthideae, and unknown in Antirrhinideae.—G. BENTHAM.

Fig. 1. Flower. 2. Corolla cut open (the insertion of the stamens not quite correct). 3. Stamen. 4. Ovary and style. 5. Fruit. 6. Transverse section of the capsule:_*all magnified.*

PLATE 1060.

CASSIA VILLOSA, *Mill.*

LEGUMINOS^, *Tribe* £ASSIE,E.

C. (PROSOSPERMA) **villosa,** *Mill. Diet. n.* 4; fruticosa, pilis stellatis tomcntoso-villosa, foliolis 3-5-jugis acuminatis, glandula inter paria 1-2 infima, racemis pedunculatis confertifloris, legumine inter semina constricto articulatoque articulis ovalibusplano-compreSsismedio ad semen elevatis.—*C.a8troites>* Cham, et Schlecht. in Linnaea, v. 597. *Chanuefstula astroites,* G. Don, Gen. Syst. ii. 451. *Cassia geniculata,* Kuiz et Pav. in G. Don, Gen. Syst. ii. 440.

HAB. Tropical America; Province of Oaxaca, Mexico, *Liebmann, Andrieux, n.* 418, and others. The specimens in Miller's and in Pavon's herbaria probably from the same province.

***Frutex* pluripedalis, undique pilis stellatis dense villosus v. tomentosus,**

tomento interdum subfloccoso. *Foliola* 3-5-juga ovato- v. oblongo-lanceolata, acuminata, mollia, 1-2-pollicaria, glandula brevi obtusa v. late globoso-clavata inter paria 1-2 inferiora. *Stipulce* setaceae, caduca?. *Racemi* axillares, pedunculati, folio breviores, summi in paniculam subcorymbosam conferti. *Flores* parvi, plures conferti. *Pedicelli* per anthesin 2-3 lin. longi, sub fructu fere semipollicares. *Bractea* setaceae, caducseL *Sepala* anguste oblonga, obtusa, stellato-tomentosa, 3-3^ liu. longa. *Petala* obovata, vix calyce longiora, pallida, venis purpureis picta. *Anthera* perfects? 7, filainentis brevibus, parum insequales, 3 inferiores in rostrum breve attenuate, 4 intermediae erostres; staminodia 3 parva, oblonga, haud dilatata, brevissime stipitata. *Legumen.\ineare,* 1-3-pollicare, more Desmodiorum articulatum, articulis 8-15 ovalibus plano-compressis, pube brevi stellata canescentibus, circa 3 lin. longis, 2 lin. latis, medio ad semen longitudinaliter elevatis, ut videtur indeliiscentibus. *Seminum* funiculus breviter filiformis.—G. BERTRAM.

Fig. 1. Flower. 2. Stamen. 3. Ovary **and** style. 4. The same, longitudinal section: —*all magnified.* 5. Fruit:—*natural size.* 6. One of the articles of the fruit **opened, showing the** seed **and** funicle :—*magnified.*

PLATE 1061.

CASSIA GONIODES, *A. Cunn.*

LEGUMINOSJS, *Tribe* GASSIER.

C. (PSILOKHEGMA) **goniodes,** *A. Cunn. Herb.*—Herbacea, erecta, glabra v. pubescens, foliolis 2-3-jugis lanceolatis acutissimis, glandula inter omnia paria, stipulis subulatis, pedunculis axillaribus 2-3-floris, antheris omnibus perfectis, legumine glabro compresso valde arcuato.

HAB. Tropical Australia, York Sound, Greville Island, Usborne's Harbour, all on the N.W. coast, *A. Cunningham.*

Herha erecta, 1-1^-pedalis, simplex v. parum ramosa, glabra v. pube tenui vestita, caule tenui angulato. *Foliola* 2-3-juga, anguste v. late lanceolata, acutissima, 1-2-pollicaria, glabra v. pubescentia, subtus pallida v. canescentia; glandula tenuis inter omnia paria; stipule setiformes, 1-2 liu. longse. *Pedunculi* in axillis superioribus nunc fere filiformes, lJ-2-pollicares, nunc crassiores i-1-pollicares, apice 2-3-flori. *Pedicelli* 4-5 lin. longi. *Bractea* minutse. *Sepala* latiuscula, obtusa, 2 lin. longa, exteriora paullo minora. *Petala* parum inaequalia, calyce subduplo longiora. *Anthera* omnes perfects, petalis breviores, rimis terminalibus secus latera plus minus decurrentibus debiscentes, 3 inferiores caeteris paulio longiores, omnes filamento suo subduplo longiores. *Legumen* breviter stipitatum, glaberrimuni, nitidulum, valde arcuatum v. interdum fere circinatum, compressum, immaturum jam ultra pollicem lorigum, circa 3 lin. latum. *Semina* pluirma, obliqua, perfecte matura non vidi.—G. BENTHAM.

This species, allied in some respects to *C. oligoclada,* F. MuelL, was unfortunately overlooked at the time of making up the second volume of the [c] Flora Australiensis,' Cunningham's specimen, the only one then known, having been accidentally mislaid in a wrong cover.

Fig. 1. Flower. 6. The same, back view. 3. Stamens,—*all magnified.* 4. Young fruit; *natural size.*

PLATE 1062.

MACOWANIA ftEVOLUTA, *Oliv.*

COMPOSITE.

Macowania, *Oliv. gen. nov.—Capitulum* multiflomm, heterogamum; floribus radii uniseriatis ligulatis femineis, disci tubulosis abortu masculis. *Involucrum* hemisphsericum ; squamae multiseriatae, imbricatae, ovatae v. Ianceolatae, inaequales, rigidiuscula3, subscariosse, intus glabrse,interiores longiores lineari- vel oblongo-lanceolatac, obtusae. *Receptaculum* leviter couvexum, epaleaceum. *Corolla radii* ligula tse, ligula late oblonga v. elliptica apice 3-denticulata; *disci* tubulosae, 5-dentatae. *Antherce* corolla sequilongae, lineares, basi utrinque aristatae. *Stylus fl. radii* longiuscule bifid us, ramis Hnearibus obtusis glabris intus canaliculatis marginibus longitudinaliter stigmatosis ; *fl. disci abortivi* cylindraceus, apice vix aut leviter crassior, extus papillosus, brevissime et obtuse bilobulatus. *Achcenium* inappendiculatum, leviter arcuatum, subteres, longitudiualiter valide 14-15-costatum, obsolete puberulum. *Pappus* uniserialis, setaceus, setis liberis rigidis scabridis inaequalibus caducissimis.—Frutex *glanduloso-Jtirtus, ramis foliosis apice corymbosim ramulosis.* Folia *altertia, sessilia, palentia v. rejkxa, rigida$_t$ linearia, acuta, marghtibus. revolutis glanduloso-setulosis.* Capitula *terminalia, solitaria$_y$fyva, breviter pedmifulata v. subsessilia,*

M. revoluta, *Oliv. sp. uuica.*

HAB. Collected on the Mountains of the«Buffalo Eiver, British Kaffraria, by P. M'Owan, Esq. Distributed under No. 2013 by the " South African Exchange Club/' conducted by the same gentleman.

Folia saepius conferta, £-1 poll, longa. *Pedunculi* erecti, foliis superioilbus breviores, glanduloso-hirti v. pilosi, \ polk longi, v. interdum capitula subsessilia. *Involucrum* \ poll, diam., glanduloso-liirtum, squamulis indefinitis marginibus apicem versus discoloribus,exterioribus minutis ovatis, iiiterioribus gradatim longioribus lauceolatis oblongisve appresse imbricatis. *Mores radii* circiter 7-12, ligula subplana; *disci* tubulosi, involucro a^quilongi.

I cannot, with any confidence, suggest the affinity of this interesting plant. In habit it approaches *Gymnostephium (G. corymhosum,* Harv.), in which genus, moreover, the disk-florets arc barren and the pappus is caducous. The

tailed anthers and the achenes remove it, however, from this genus. It may be allied to *Heterolepis*, Cass., but I do not observe any indication of the biligulation of the ray-florets, characteristic of that genus. It differs also in other points.—D. OLIVER.

Fig. 1. Leaf. 2. Bay-floret. 3. Style-branches, and 4. Achene of ray-floret. 5. Floret of disk. 6. Bristle of pappus. 7. Detached stamen. 8. Stylc-branohes:—*all magnified.*

PLATE 1063.

CASSIA CBASSIRAMEA, *Benth.*

LEGUMINOS*:, *Tribe* CASSIEJE.

C. (QHAMJESENNA) **crassiramea,** *Benth. n. sp.*—Fruticosa, glaberrima, aphylla, ramis valde incrassatis, pedunculis ad nodos solitariis bifloris, antheris vix rostratis, leguminе lineari (piano ?).

HAB. South America, Andes of Salta, on dry hills at an elevation of 6000 to 8000 ft., and dry hills, San Vicente, at 6000 ft., *Pearce;* Bolivia, province of Tarija, *Weddell.*

Frutex erectus, strict us, 1-3-pedalis, glaberrimus, glauco-virens, aphyllus; ramuli floriferi, rigidi, lseves, medio usque ad 4-6 lin. crassi, basi apiceque atten jati. *Folia* nulla, squamulis ad nodos minutis vix conspicuis. *Pedunculi* graciles, saepe filiformes, 6-9 lin. longi, biflori, pedicellis pedunculo subsequilongis. *Bractea* nulls. *Sepala* tenuia, colorata, interiora late obovata 4-5 lin. longa, exteriora multo minora. *Petala* aurea, inferiora subpollicaria, superiora minora. *Anthera* perfects 7, 3 inferiores incurvse 3 lin. longse breviter subrostratae, filamento altero fere semipollicari, altero circa 4 lin. longo, tertio brevissimo, 4 intermediae rectae obtusae filamentis brevissimis; staminodia 3, plana, orbiculata, subcordata, antheris perfectis dimidio breviora, brevissime stipitata. *Ovarium* glaberi'imum. *Legumen* non nisi ex ovario paullo auctum vidi, perfectum verisiiniliter ei *C. aphylla* simile (elongatum angustum planumque).

This singular-looking shrub is evidently closely allied to *O. aphylla*, Cav., but the thick branches and numerous large flowers give it a very different aspect.—G. BENTHAM.

Fig. 1. Stamens. 2. Staminodium. 3. Ovary and calyx :—*all somewhat magnified.*

PLATE 1064.

SWARTZIA MATTHEWsii, *Benth.*

LEGUMINOSÆ, *Tribe* SWARTZIEÆ.

S. Matthewsii, **Bentk. n. sp.;* ferrugineo-pubescens, foliolis 4-9 nlternis ovatis v. oblougo-ellipticis, racemis axillaribus terminalibusque brevibus confertifloris, calyce aperto cyathiformi, petalo anguste obovali, antheris omnibus lineari-oblongis subsequalibus, legumine longe stipitato compresso.

HAB. Prov. Chachapoyas, Peru, *Matthews;* Santa Anna (Bolivia?), at an elevation of 3-4000 ft., *Pearce.*

Frutex elatus v. arbor 10-20-pedalis, ramuiis petiolis inflorescentiaque ferrugineo-pubescentibus tomentosisve. *Foliola* 4-9, pleraque alterna, petiolulata, ovata v. oblongo-elliptica, obtusiuscula, basi rotundata v. rarius acutata, 1-2 poll, longa; novella undique tomentosa, pubescentia, demum supra glabrescentia nitidulaque, venis prhnariis distantibus subtus prominentibus; petiolus communis subleres v. leviter angulatus, l£-2£-pollicnris; necstipulae nee stipellae adsunt. *Racemi* foliis breviores, floribundi. *Braclea* minutse. *Pedicelli* 2-3 lin. longi, pubescentes, ebracteolati; alabastra globosa, rufotomentosa, 2 lin. diaraetro. *Calyx* apertus subcoriaceus, cyathiformis, irregulariter sinuato-dentatus, 3 lin. diametro. *Pet alum* album, anguste obovale, semipollicare, in unguem longum contractum. *Stamina* numerosa, petalo breviorn, parum inscqualia, filamentis basi brevissime subconnatis, calycem superantibus; antherae breviter lineares v. lineari-oblongae, vix lineam longae. *Ovarium* stipitatum, oblongum, villoaum, 2-3-ovulatum ; stylus subulatus, brevis, stigmate capitellato. *Legnmen* immaturum, longe stipitatum, pubescens, falcato-lanceolatura v. senii-Junatum, plano-compressum, circa 1 poll, longum, 4-5 lin. laturc, perfecte maturum haud suppetet. %

This remarkable species is exceptional in the genus in its open cyathiform calyx; the alternate leaflets and uniform anthers are those of *S. alterna*, Benth., and its allies. The pods of our specimens, which, although unripe, appear to have attained their full size, are* perfectly flat, but it is possible that they may become turgid, as in other Swartzias, in ripeniug.—G. BENTHAM.

Fig.]. Diagram of the flower. 2. Flower with the calyx removed. 3. Stamens. 4. Calyx, ovary, and style. 5. Longitudinal section of the ovary. 6. Immature fruit cut open, showing one of the seeds.

PLATE 1065.

COURSETIA ORBICULARIS, *Benth.*

LEGUMINOSÆ, *Tribe* GALEGEJE.

C. orbicularis, *Benth. n. sp.;* fruticosa, foliis unifoliolatis, foliolo suborbiculari subtus albo-tomentoso, pedicellis axillaribus 1-3-nis, pedunculo communi subnullo, calycis laciniis lanceolatis, vexillo glabro.

HAB. Pampas (of Bolivia?) at an elevation of 8-9000 ft., *Pearce.*

Frutex 4-6-pedalis, ramosissimus, ramulis inflorescentia foliolorumque pagina inferiore tomento denso molli albidis. *Foliola* ad apicem petioli 2-3-linearis articulata, solitaria, suborbicularia, supra glabra viridiaque, subtus albo-tomentosa, tenuiter pennivenia, ½-¾ poll, diametro. *Stipula* parvap, setaceae, molles. *Racemi* in axillis superioribus, ad flores 1-3 reducti, rhachi communi brevissima, pedicellis 2-4 lin. longis. *Bractea* minims, setaceae. *Calyx* 5 lin. longus, extus albido- v. subfusco-tomentosus, usque ad medium v. paullo ultra divisus, dentibus seu lobis acuminatis, 2 summis paullo altius connatis. *Petala* rosea *(Pearce),* calyce paullo longiora, glabra; vexillum suborbiculatum, retusum; alae anguste obovato-oblongse; carina obtusiuscula. *Stylus* apicem versus circumcirca barbatus, pilis tamen dorso quam antice brevioribus, stigmate parvo. *Legnmen* sessile, glabrum, 1-1½ poll, longum, 3-4 lin. latum, 3-6-spermum.

A uecond species, closely allied to *O. orbicularis,* but differing in too many particulars to be considered as a variety only, was gathered by Pearce at La Bonca at an elevation of 9-10,000 feet, and may be thus characterized:—

C. eriantha, *Benth. sp. n.;* fruticosa, foliis unifoliolatis, foliolo late ovato v. orbiculari basi late cordato subtus albo-tomentoso, racemis axillaribus, laxe 2-4-floris, calycis laciniis e basi lata subulatis, vexillo tomentoso.—*Foliola* 1-2-pollicaria. *Flores* quam in *C. orbiculari* majores, violacei. *Stylus* superne leviter complanatus, latere interiore solo ut in Coursetiis normalibus barbato, nee ut in *C. orbiculari* circumcirca pilosus. *Legumen* glabrum.

The previously known species of *Covrsetia* have several, usually numerous leaflets, but species with the leaflets exceptionally reduced to a single broad one, occur in *Tephrosia* and other genera where they are normally numerous, and the flowers and fruit of the two present species differ in no essential point from the normal *Coursetia.*—G. BENTHAM.

Fig. 1. Leaf and stipules. 2. Flower. 3. Vexillum. 4. Wing. 5. Keel. 5*. Stamen. 6. Androccium. 7. Ovary and style. 8. Vertical section of the ovary -.—*all magnified.*

PLATE 1066.

APHANOCALYX CYNOMETROIDES, *Oliv.*

LEGUMINOSA), § GffiSALPINIEJE.

Aphanocalyx, *Otlv. gen. nov.*—*Calyx* obsoletus v. ad dentes minutos reductus. *Pttalum* 1 posticum, bracteolas superans, obovato-cuneatum; petala lateralia et postica obsoleta v. interdum petalum 1 laterale posticum subasquans v. eodem brevius. *Stamina* 10, omnia antherifeva; filamenta filiformia, glabra, libera v. basi leviter coalita; antherse parvae, late ellipticae, versatiles, longitudinaliter dehiscentes. *Ovarium* dense pilosum, breviter stipitatum, biovulatum; stylus filiformis; stigma tenninale capitatum. *Legumen* . . . .— **Arbor** ***inermis, inflorescentia excepta glabra; foliola unijuga, coriacea,*** **2-3-** ***nervosa.*** **Flores** ***in racemls brevibus axillaribm congesti.*** **Bractese** ***scariosa, decidua; bracteoke alabastrum bivalvatim includentes mucronulata, per .anthesin persistentes.***

A. cynometroides, *Oliv. sp. unica.*

HAB. Mount John, Kongui river, West Tropical Africa. Flowering in September, *G. Mann.*

^ *Arbor* 50-pedalis (fide *Mann.),* ramulis foliiferis teretibus glabris cortice cinerascente obductis. *Foliola* unijuga, coriacea, nitida, glabra, oblique semi-elliptica v. obovato-oblonga, breviter acuminata, nervis duobus et nervo tertio exteriore evanescenti longitudinuliter percursa, 2 J-3^- poll, longa, 1-1? poll, lata; petiolus crassiu9culus, % poll. v. brevior, petioluli 0. *Racemi* densiflori, axillares et terminales, solitarii v. fasciculati, 1-1£ P^0^- longi- *BractetB* late rotundato-ovatse, obtusse v. apiculata3, subscariosse, longitudinaliter nervosae, 2 lin. longae. *JPedicelli* 1-2 lin. longi. *Bracteola* ad apicem pedicelli insertas, late ovato-ellipticaB, mucronatae, extus strigoso-pilosaB, 2 lin. lonsse. *Petalum* posticum rotundatum v. obovatum, basi subcuneatum, bracteolas paullulum superan3.

The relations of the few hitherto discovered *Casalpiniea* in which the calyx is obsolete or nearly so, and the buds enclosed between valvate braoteoles are not yet well made out, nor indeed likely to be until more material be forthcoming. In habit our plant is remarkably like a *Cynometra,* in which genus it had been sorted away in the Kew Herbarium.—D. OLIVER.

ft'g* 1. Flower. 2. Pistil and persistent bracteoles. 3, 4. Petals.' 5. Stamen. 6. Ovary, vertical section:—*all magnified.*

PLATE 1067.

SENECIO SNEEUWBEBGENSIS, *H. Bolus.*

COMPOSITE, § ,SENECIONIDEJ:. <

C. (PLANTAGINEI) **Sneeuwbergensis,** *R.^Bolus, n. sp.;* caudice glabro; caule simplici erecto (1-2-ped.) striato glabrato; foliis coriaceis, radicalibus elongatis anguste lineari-lanceolatis obtusiusculis basi angustatis calloso-denticulatis glabris, caulinis brevioribus linearibus amplexicaulibus auriculis brevissime decurrentibus inargine revolutis, capitulis numerosis 20-30-floris luteis in cymis corymbosis strictis v. subfastigiatis confertis, iiivolucri calyculati cylindraceo-campanulati, squamis 12-14 lineari-oblongis apice nigrescente acutatis ; floribu9 radii 5-7, ligula tubo sequilonga, disci involucrum superantibus; acliaeniis glabris.—H. BOLUS.

HAB. Cape of Good Hope; Mountains near Graaff-Reinet, 4300 ft. Flowering in January.—Harry Bolus, Esq.

Fig. 1. Capitulum. 2. Ray-floret. 3. Style-branches of same. 4. Disk-floret. 5. Pappus-bristle. 6. Style-braiiches of disk-floret:—*magnified.*

PLATE 1068.

STACHYARRHENA SPICATA, *Ilook:/.*

RUBIACEAI, Tribe ALIBERTIE-E.

Stachyarrhena, *Hook. f. nov. gen.—Flores dioici;* c? spicati, ? solitarii. *Fl. masc.: calyx* cupularis ; limbus brevis, truncatus, obscure 5-lobus. *Corolla* subcylindrico-campanulata, coriacea, 5-loba, limbo fauceque intus villoso; lobi 5, breves, ovati, contorti. *Stamina* 5, fauci oorollae inserta, inclusa; antherse sessiles, lineares, dorso medio inserts, connectivo apice appendiculato. *Ovarium* effcetum; stylus brevis, stigmate fusiformi acuto piloso. *Fl. fcem.: Calyx* et *Corolla . . . Ovarium* pluriloculare ? ; stylus . . . ; ovula numerosissima, borizontalia, placentis 2-lamellatis axi ovarii adnatis affixa, lamellis revolutis inargine exteriore ovuliferis. *Bacca* breviter pedicellata, globosa, calycis limbo coronata, pedicello involucello duplici utroque cupulari basi cjneto, 4 ?-locularis, polysperma. *Semina* horizontalia, majuscula, plana, testa tenui subfibroso-cellulosa . . . .—Arbores *pama, Amazon ices* ^ ***glafjerrima, ramulis lignosis teretibus.*** **Folia** ***opposita, gracile petiolata, obhnga v. lineari-oblonga, obtusa, rigide coriacea, siccitate rufo-brunnea, supra sub lente granulata> nervis divaricatis tenuibus.*** **Stipulse** ***intrapetiolares, breves, in cupitlam connatee.*** **Elores** ***<$ hi spicas strictas terminales erectas rigidas dispositi, subfasciculati, parvi, albi v.flavidi, ebracteolati.*** **Bacca** ***diametro cerasi.***

S. spicata, foliis obovatis oblongisve apice obtusis v. rotundatis, basi in

petiolum angustatis, spici9 den3ifloris foliis dimidio brevioribus.—*Schradera spicata,* Spruce, Herb. 3322.

HAB. Amazon's River, near Santarem, and on the Casiquiari, at Yasiva and Pacimoni, *Spruce.* Flowering in January.

Arbor parva, 15-%5-pedalis, irregulariter ramosa, siccitate castanca. *Ramuli* oppositi, divaricati, tenues, cortice atro tecti. *Folia* 3-8 poll, longa, obtusa, coriacea, superne nitida, nervis subtus tenuibus divaricatis. *Spica* masculae. 1-2-pollicares, strict©, multiflorae. *Flores* albi, ad } poll, longi.

A very distinct genus, to which is also referable the *Schradera longifolia,* Spruce.—J. D. HOOKER.

Kg. 1. Bud. 2. Flower. 3. Corolla laid open. 4 and 5. Stamens. 6. Vertical section of ovary. 7. Transverse section of young fruit:—*all magnified.*

PLATE 1069.

BOTHBIOSPOBA COBYMBOSA.

RUBIAOEJS, Tribe HAMELIEA:.

Bothriospora, *Hook. /. gen. nov.*—*Calycis* tubus obconicus; limbi lobi 4 v. 5, oblongi, obtusi, erecti, persistentes. *Corolla* breviter infundibuliformis, fere rotata, fauce villosa; lobi 4-5, oblongi, obtusi, quincuncialcs. *Stamina* 5, fauci corollae inserta, filamentis filiformibus exsertis basi pilosis; autherae breves, oblongse, dorso insertae, utrinque obtusae, recurvae. *Discus* anuularis. *Ovarium* 4- v. 5-loculare; stylus erectus, stigmatibus 4 v. 5 linearibus erectis obtusis; ovula perplurima, placentis tumidis axi ovnrii peltatim affixis inserta. *Bacca* parva, subglobosa, succulenta, 4-5-locularis, polysperma. *Semina* minuta, oblonga, testa coriacea profunde foveolata, albumine carnoso; embryo subcylindricus.—Arbor *v. frutex elatus, cortice dedduo*$_9$ ***ramulk tenuibus teretibus ultimis et inflorescentia pubescentibus.*** **Folia** ***opposita, petiolata*$_9$*' ovato-oblonga.*** **Stipulae** ***intrapetiolares, lanceolate> cito decidua.*** **CymsB** ***ad apices ramorum terminates, 3-c/wtome ramosa.*** **Flores** ***parvi, umbellulati*$_9$ ***albi, pedicello apice 2-bracteolato.*** **Bacca/awz.**

B. corymbosa, *Ifoob.f.—Euosmia corymbosa>* Benth. in Hook. Journ. Bot. iii. 219; Walp. Kep. ii. 489.

HAB. North Brasil and Guiana; river Tintaro, *Schomburgk,* 1838, and Rio Branco, *Schomburgk,* n. 794. Mouth of the Solimoes at its juncture with the Amazons, *Spruce,* January, 1851.

There is much in the character of the fruit and seed of this plant that agrees with Gartner's *Tepesia dubia* (Carp. iii. 72, 1.192, f. 6), but I do not observe the mucilaginous coat of the seed.—J. D. HOOKER.

Fig. 1. Flower. 2. Corolla laid open. 3. Vertical section of ovary. 4-5. Transverse sections of ditto. 6. Seed. 7. Vertical section of ditto. 8. ^Estivation of corolla-lobes: —*all magnified.*

PLATE 1070.

OBBEA TIMONIOIDES, *Hook.f.*

KUBIACEJE, Tribe TIMONIEJE.

Obbea, *Hook. f. nov. gen.—Flores* hermaphroditi. *Calycis* tubus turbinatus; limbus cupularis, truncatus, obscure 4-de\ltatus. *Corolla* coriacea, sericea; tubus elongatus, fauce paulo dilatata intus glaberrima; lobi 4, breves, patentes, imbricati, 2 exteriores. *Stamina* 4, fauci corollae inserta, inclusa, filamentis brevissimi9; anthers lineares, dorso infra medium affixsc, basi breviter 2-lobae. *Discus* inconspicuus, pubescens. *Ovarium* 2-loculare; stylus filiformis, stigmatibusque 2 lfcearibus inclusis pilosis; ovula in loculis solitaria, ab apice pendula, funiculo incrassato. *Drupa* . . .—Arbor ? ***ramosa, ramulis teretibus, ultimis sericeo-tomentosis.*** **Folia** ***opposita, gracile petiolata, ovato- v. lanceolato-oblonga, nervosa et creberrime reticulatim venulosa, nervU subtus pilosis.*** **Stipules** ***interpetiolares, squamosa, caduca.*** **Flores** ***inter minores, in cymas paucifloras ramosas axillares pedunculatas dispositi; pedicellk infra calycem arliculatis et minute bracteolatis.***

O. timonioides, *Hook.f.*

HAB. Sandwich Islands; western end of the Kokala range, *Dr. Hillebrand,* n. 186.

A very distinct genus, differing from *Bobcea* chiefly in the 2-celled ovary and hermaphrodite flowers.

Ramuli teretes, cortice fusco in novellis brunneo, ultimis petiolis et inflorescentia subscriceo-tomcntosis. *Folia* 3-5 poll, longa, subcoriacca, leviter falcata, subtus pallida et juniora sericea. *Cymce* parvae, oppositae, breviter pedunculatse, pauciflora?, dense sericeo-tomentosae. *Flores* fere J poll, longas. —J. D. HOOKER.

Fig. 1. Bud. 2. Vertical section of corolla and stamens. 3. Ditto of ovary. 4. Transverse section of ovary:—*all magnified.*

PLATE 1071.

RYTIDOTUS SANDVICENSIS, *Hook.f.*

RUBIACE^, Tribe .TIMONIE^:.

Rjrtidotns, *Hook. f. nov. gen.—Flores* hermaphroditi. *Calycis* tubus obovoideus; limbus hypocraterimorphus, persistens, lobis 4 late oblongis obtusis recurvis. *Corolla* hypocraterimorpha, fauce intus glaberrima; lobi 4 obovati, unguiculati, recurvi, margmibus late crispatis, valvati, lobis 2 exterioribus. *Stamina* 5, fauci inserta, filamentis brevissimis; anthera lineares, infra medium insertae, apicibus exsertis, basi 2-fide9. *Discus* inconspicuus, hispid us. *Ovarium* 2-5-loculare; stylus elongatus, exsertus, pilosus, stigmatibus 2-5 iinearibus; ovula in loculis solitaria, ab apice pendula, funiculo

incrassato. *Drupa* 2-5-pyrena, pyrenis crassis osseis **3-gonis dorso** rotundatis, loculo angusto. *Semina* cylincfrica, funiculo incrassato apicem putaminis claudente, testa membranacea, albumine parco; embryo cylindricus, cotyledonibus minutis tenuibus.—**Arbor** ***ramosa, ramulis teretibus, ultimis et inflorescentia puberulis.*** **Folia** ***opposita, gracile petiolata, recurva, ovata, nervosa, et creberrime reticulaMm venulosa.*** **Stipulae** ***interpetblares, squamosa, caduca.*** **Flores** ***inter minores, solitarii, axillares, pedicellati, pedicello infra flores articulato minute bracteolato.*** [%] **Drupa** ***mole pisi.***

R. Sandvicensis, *Hook.f—Chomelia? Sandvicensis,* A. Gray in Proc. Amer. Acad. iv., ' Notes on Rubiaceae,' p. 6.

HAB. Sandwich Islands; Oahu, solitary on the top of a hill, *Hinds,* 1841, **and** ***Wilkes's Expedition*** **(fide A. Gray).**

This very remarkable plant was discovered by Hinds during the voyage of the 'Sulphur,' and afterwards published from specimens gathered during Wilkes's Expedition to the Pacific, as a doubtful *Chomelia,* by A. Gray, who observes that " When belter known, this may prove to be a new generic type," an observation which the structure of the flower gives full force to. Gray describes the drupe as 2-celled; but in all those which I have opened there are 4 or 5 cells, all witli perfect seed. The aestivation of the four thick corolla-lobes is unusual, though not unique in the Order, and indeed is what often prevails in plants with thick lobes whose margins grow out and become crumpled on expansion; two lobes are much larger than the others, and the edges of the latter are enveloped by the thickened edges of the former; though in one sense imbricate, in another this aestivation is valvate.—J. D. HOOKER.

Fig. 1. Flower. 2. Calyx. 3. Vertical section of calyx and ovary. 4. Portion of corolla and stamens. 5. Transverse section of ovary. 6. Ovule. 7. Fruit. 8, 9. Transverse section of ditto. 10. Section of corolla-lobes in bud:—*all magnified.*

PLATE 1072.

' t TETRALOPHA MOTLEYI, *Hook.f,* f

"RUBIACEJE, Tribe TIMONIEA ?

Tetralopha, *Hook.f nov.gen.—Flores* l\ermaphroditi ? *Calyci** tubus brevis, cupulseformis; limbus annularis, integer. *Corolla* infundibuliformis, tubo intus lobisque 4 patentibus valvatis dense barbatis. *Stamina* 4, fauci inserta, filamentis longiusculis sursum incrassatis; antherae exsertae, linearioblongae, ercctae, dorso infra medium basi elongata filamento incrassato adnatae, utrinque obtusae. *Discus* depressus, pulvinaris. *Ovarium* 2-loculare ; stylus 0, stigmatibus 2 brevibus recurvis; ovula in loculis gemina, placentis septo adnatis promiuulis inserta, horizontalia, divaricata. *Fructus* . . .— **Frutcx ?** ***glaberrimuSy ramulis taretibus.*** [c] **Folia** ***opposita, breviter petiolata, obavato-oblonga, obtusa v. obtuse apiculata, coriacea, carnosula, siccitate brunnea> nervis tenuibus paucis.*** **Stipulse** ***breves, intmpetiolares, in annulum connect a.*** **Cymae** ***breves, breviter pedunculata, axillares, dense fasciculata, pedunculis bracteis annularibus instructis.*** **Flores** ***parvi, breviter pedkellati.***

T. Motleyi, *Hook./.*

HAB. Borneo, *Motley.*

Ramuli teretes, cortice atro tecti, ad nodos subincrassati, internodiis sub^ aequalibus pollicaribus. *Folia* regularia, subsequalia, crasse coriacea, siccitate atro-fusca, 2-3 poll, lata, utrinque lsevia, supra subenerviaf subtus pallidiora, nervis praecipue ad costam hinc inde foveolatis. *Florum* fasciculi numerosi, floribus ad £ unc. longis, inconspicuis. *

This is a very singular plant indeed, and quite unlike any with which I am acquainted, except *Scyphophora,* which it resembles in general habit, but from which it differs widely in structure. I find no trace of a style, but two small recurved stigmas rise from the centre of the disk. The ovary is extremely small, and owing to this and to the coriaceous texture and black colour of its walls, its interior structure is very difficult to detect. I find (as does Professor Oliver) constantly 2 cells, and 2 collateral ovules, attached to the centre of the septum in each cell. These two ovules are neither erect nor pendulous, but spread horizontally to the right and left respectively of their common point of attachment. In *Scyphophora* the two ovules rise similarly from the same point, whence one ascends and the, other descends; and the thickened placenta forms a septum to the cell between the ovules; I find no thickening of the placentas, nor constriction of the cells in this plant.—J. D. HOOKER.

Fig. 1. Flower. 2. Corolla laid open. 3. Stameas, 4. Ovary, calyx, disk, and styles. 5. Vertical, and 6. transverse section of ovary:—*all magnified.*

PLATE 1073.

GOMPHRENA PEABCEI, *Oliv.*

AMARANTACEiE.

cGomphrena Pearcei, *Oliv. n. sp.*—Herbula diffusa, glabra, caulibus pluribus brevibus umbellatis carnosulis, ramulis ex eodein nodo saepius 4-5 divaricatis, capitulis numerosis breviter pedunculatis 8-12-floris, bracteis iuvolucralibus herbaceis glabris floribus brevioribus, bracteolis obovato-rotundatis tenuiter albo-membrauaceis, periantbii foliolis anguste obliquis basi tubo stamineo adnatis.

HAB. Pogota, 10,000 ft., March, 1804, *R. Pearce.* (This locality I do not find in the Andes. Perhaps Bogota may be meant.)

Radix verticalis, parce rnmosa. *Caules* ex eadem radice plures, 2-3 poll, longi, carnosuli, glabri. *Folia* opposita; radicalia evanescentia, caulina ovalia v. lineari-spathulata, obtusa, glabra, crassiuscula, plana, £-f poll, longa. *Flores* hermaphroditi, sessiles, in capitula ifumerosa terminalia pedunculata congesti, bracteis exterioribus quasi involucrati. *Bractea* herbacese, crassiusculse, obovatse, glabra, siccitate reticulato-venosse, integrse v. emarginatse, floribus paulo breviores; bracteolse oppositse, albo-membranacese, obovato-rotundatae, flores excedentes. *Perianthum* 5-phyllum, foliolis tenuissime membrauaceis lineari-

spatliulatis basi angustatis integris v. apicem versus 2-3-denticulatis, tubo stamirieo basi adnatis eodem subsequilongis. *Tub us stamineus* campanulatus, apice sinuatus; anthers lineari-oblongae, sessiles v. subsessiles, exsertae. *Ooarium* inclusum, leviter compressum; stylus brevis; stigmata 2, stylo aequilonga.

A near ally *oi^ompkrena umbellata,* Remy, Ann. Sc. Nat. ser. 3. vi. 349. —D. OLIVER.

Fig. 1. Flower-head. 2. Single flower with bracteoles. 3. Perianth and staminal tube, laid open. 4. Leaf of perianth. 5. Anther. 6. Vertical section of ovary, f. Embryo.

PLATfi 1074.

SYNAPTOLEFIS KIBKII, *Oliv.*

THYMELACE-S), § GNIDIE-E, §§ DlPLOSTEMONEiE.

Synaptolepis, *Oliv. gen. nov.—Flores* hermaphroditi, pentameri. *Perianthium* hypocraterimorphum, tubo gracili glabro, limbo 5-partito rcgulari patente, lobis oblongis irabricatis tubo 3-4-plo brevioribus. *Squama* fauci inserts, in annulum continuum carnosulum confluentes. *Stamina* 10, biseriata, inclusa v. 5 longiora faucem attingentia; filamenta filiformia, in tubo inserta; antherae adnatse, oblongse, obtusse, inappendiculatae, filamento 3-6-plo breviores. *Ovarium* subsessile v. breviter stipitatum, angustum, basi subnudum v. squamulis hypogynis laciniatis minutissimis v. obsoletis circumdatum ; stylus gracilis ; stigma subclavatum. *Nux* ut videtur perianthii tubo arete induSiatus, tenuiter osseus; semen testa subchartacea glabra . . .—Frutex *verwmiliter, ramom8imu8t glaber.* **Folia *parva, opposita, subcoriacea.* Flores *axilla rest subsemles.***

S. Kirkii, *Oliv. sp. unica.*

HAB. Zanzibar, *Dr. Kirk.*

Ramuli pateutim divaricati, teretes, cortice nigricante lenticellis verruculato obducti, hornotinis inter nodos graciles. *Folia* subcoriacea, ovata v. ellipticolanceolata, subsessilia v. brevissime petiolata, §.cuta v. acutiuscula, mucronulata, basi rotundata, margiue (sicco) subrevoluta, glabra, subtus pallidiora venulis obscuris, f-1^ poll, longa, 5-9 lin. lata; petiolus gracilis, J Ha. v. brevior. *Flores* axillares, fasciculati, subsessiles, 6-8 lin. longi, bracteolis minutis squamiformibus, tubo gracillimo faucem versus leviter dilatato glabro, limbi lobis oblongis patentibus recurvisve. . . .

There is but a single fruit of this plant at Kew. It is detached, dry, ovoid, smooth, glabrous, and apparently enclosed in the thin persistent base of the perianth-tube. The pericarp proper is bony, thickened above and below. The nucleus of the seed is wanting. In technical characters *Synaptolepis* is allied to *Lhiostoma,* from which it differs much in habit as well as in the confluent faucial squamae. Its habit somewhat resembles that of the

Guyanan genus *Goodallia*, which, however, differs very widely in nearly all other respects.—D. OLIVER.

Fig. 1. Flower. 2. Perianth, laid open. 3. Stamen. 4. Ovary and base of style 5. Fruit. 6. The same, laid open.

PLATE 1075.

GERRARDINA FOLIOSA, *Oliv.*

SAMYDACEiE, § HOMALIEJK.

Gerrardina, *Oliv. gen. nov.—Flores* hermaphroditi. *Calyx* campanulatus, 5-fidus, tubo brevi, limbi lobis intequalibus 2 exterioribus brevioribus rotundatis interioribus late ellipticis, aestivatione imbricatis. *Discus* tubum calycis vestiens, punctatus, margine late 5-crenulatus. *Petala* 5, calyce breviora et cum lobis calyciuis alternantia, raargine disci inserta, ovato-rotundata, basi late cuneata. *Stamina* petalis numero isomera et eisdem opposita, margine disci inserta; filaraenta subulata ; antlierae . . . *Ovarium* liberum, obovoideum, apice turbinatnm v. subtruncatum, pubescente, basi latuni, uniloculare ; stylus brevis, subiilatus, centricus; stigma (ut videtur lobulatum); ovula anatropa 4, in placentis duabus per paria in apice cavitatis pendula. *Fructus* siccus, monospermus. *Semen* pericarpio conforme, pendulum, obovoideum ; testa lsevis, glabra; embryo et albumen . . .—Frutex *v. arbuscula ?* Folia ***alterna, simplicia, coriacea, persistentia, serrulata.*** **Stipulse *minutissima v.* 0. Florep *parvi, cymosi, pedunculati.***

Frutex (?), ramulis dense foliiferis teretibus crispule pubescentibus deindc glabratis. *Folia* ovalia v. oblanceolata, obtusa v. obtusiuscula v. late acutata, basi angustata, distanter serrulata, coriacca, rigidula, supra sub lente parce puberula deinde glabra, subtus glabra v.primum obsolete puberula, nervo medio prominulo glabro v. basin versus pubescente, venulis inconspicuis; petiolus brevis, pubescens; lamina 1½-2 poll, longa, \-£ poll. lata. *Flores* axillares, in cymis paucifloris (1-3-floris) pedunculati, pedunculis erectis substriatis folio brevioribus solitarii3 gracilibus nudis puberulis 1-1^ poll, longis, pedicellis brevibus calycem subaequantibus 1-1 \ lin. longis, bractcis minutissimis rotundatis deltoideisve.

Of this remarkable plant the Kew Herbarium possesses but a solitary specimen, good so far as it goes, but not affording material for a complete analysis of the flower and fruit. The margins of the inner calyx-lobes appear to be glandular-denticulate, but they are apt to become early eroded. Unfortunately, I have failed to find an attached anther in the few flowers which I have examined, and in the apparently perfectly formed fruit of our specimen, the nucleus of the seed is wanting. Natal botanists would do well to have an eye to the plant, which, in the Kew Collection, bears simply " Natal," without any indication of precise locality, in the distribution for 1865 of that excellent collector, the late Mr. W. T. Gerrard.—D. OLIVER.

Fig. 1. Peduncle and flower. 2. Flower, laid open. 3 and 4. Fruit.

PLATE 1076.

SCLEROL^NA PARADOXA, *R. BR.*

CHENOPODIACEÆ, § CAMPHOROSME^E.

S. paradoxa, *R. Bf*[1]*. Prod.* 410; foliis linearibus, floribus dense glomeratis, perianthiis fructiferis induratis, per 10-20 in massam globosam lanatam muricatam connatis.—*Benth. FL Austral,* v. 196.

Suffrutex decumbens, ramosissimus, raro pedem excedens, lana laxa tomentosa dense vestitus. *Folia* alterna, sessjlia, anguste linearia, obtusa, mollia, raro rotate glabresccntia, J-J poll, longa. *Flares* in glomerulis sessilibus axillaribus dense conferta, perianthiis minimis profunde 5-fidis. *Stamina* 5, inclusa. *Styli* pars intcgra inclusa; rami 2, tenues, exserti. *Perlanthla* fructifera basi valde aueta, in du rat a, in massam globosam fere lignosam, lanatam, 5-6 lin. diametro, intus plurilocularem, extus aculeis parvis 1—2 e singulis perianthiis oriundis muricatam connata, lobis perianthiorum minimis emarcidis. *Semina* in loculis massse (perianthiis singulis) solitaria, subglobosa, rostello brevi ascendente; embryo cyclicus, radicula breviter ascendente, albumine incluso farinaceo.

HAB. Desert interior of New South Wales, Victoria, and South Australia, *B. Brown, F. Mueller,* and various expeditions into the interior.—G. BENTH AM.

Fig. 1. Flower. 2. The same cut open, showing the stamens and pistil. 3. Mass of fruiling-perianths. 4. Section of the same showing the Reed-hearing cells formed by the several perianths:—the dissections *all magnified,*

PLATE 1077.

MOHOCOCCUS ECHINOPHOBUS, *F. Muell.*

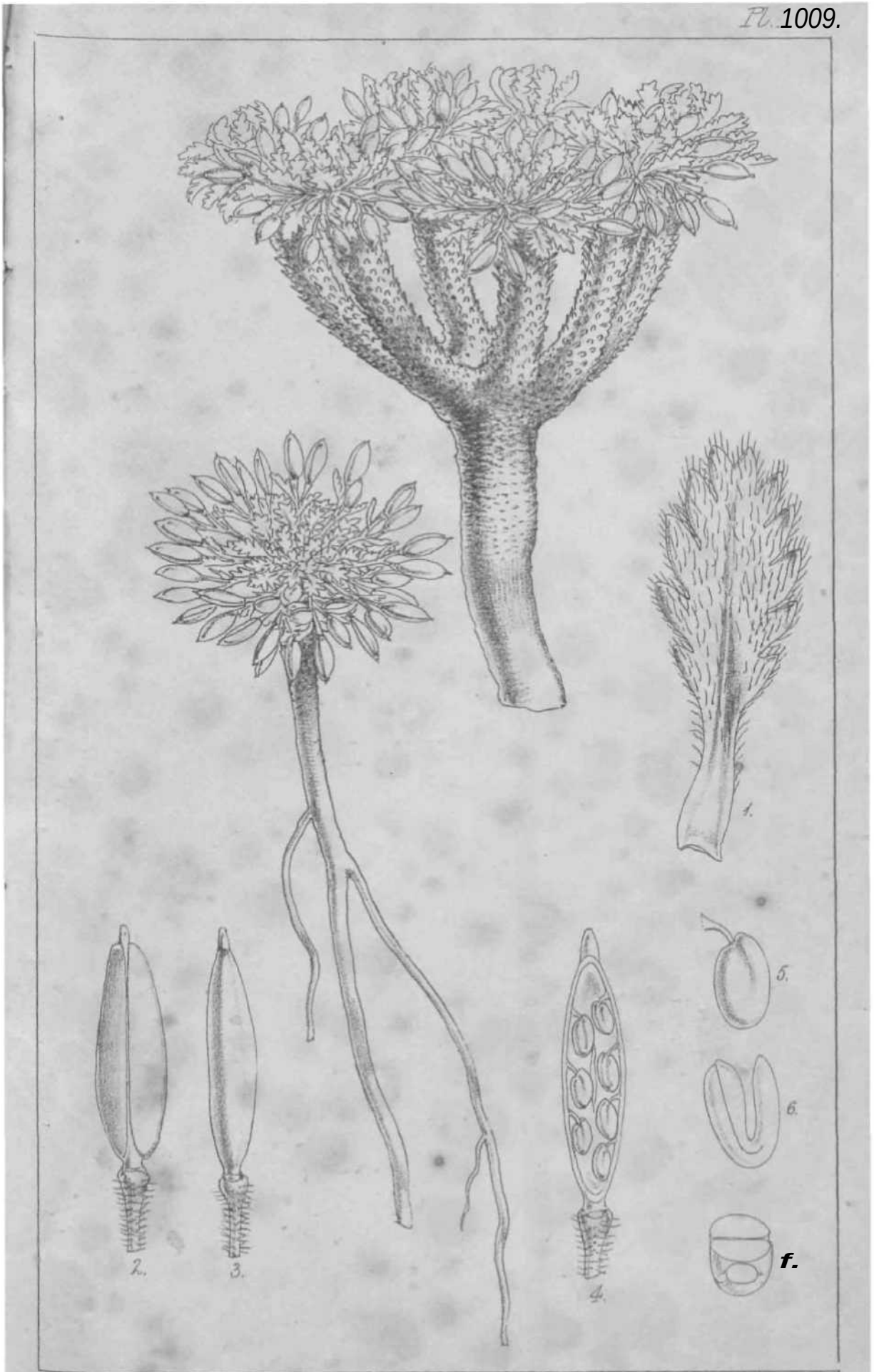
PHYTOLACCACEJE.

M. echinophoros, *F. Muell. Fragm.* 1. 47; *Benth. Fl. Austral,* v. 144.

HAB. Eastern Australia, from Clarence and Richmond rivers to Edgecombe Bay, *F. Mueller, Beckler, Dallachy,* etc.

Frutex glaber, divaricaio-ramosus, mine erectior 5-6-pedalis. *Folia* petiolata, ovata v. lanceolata, obtuse acuminata, basi contracta, 2-4 poll, longn. *Racemi* terminales v. in axillis superioribus, tenues, 3-6-pollicares. *Flores* parvi, secus rhachin dissiti, breviter pedicellati, masculi et fceminei in diversis racemis, v. rarius fceminei nonnulli ad basin racemi mnsculini. *Bractea* sub pedicello lanceolata, perianthio brevior, pedicello saepe basi aduata; bractoolse 2 sub perianthio ipso parvae. *PeriantJiii* segmenta 4, mem-

.AlsodLeiopsis Manxm, *Olw.*



W. Fitch, del et lith. J. N. Fitch Lnnp.

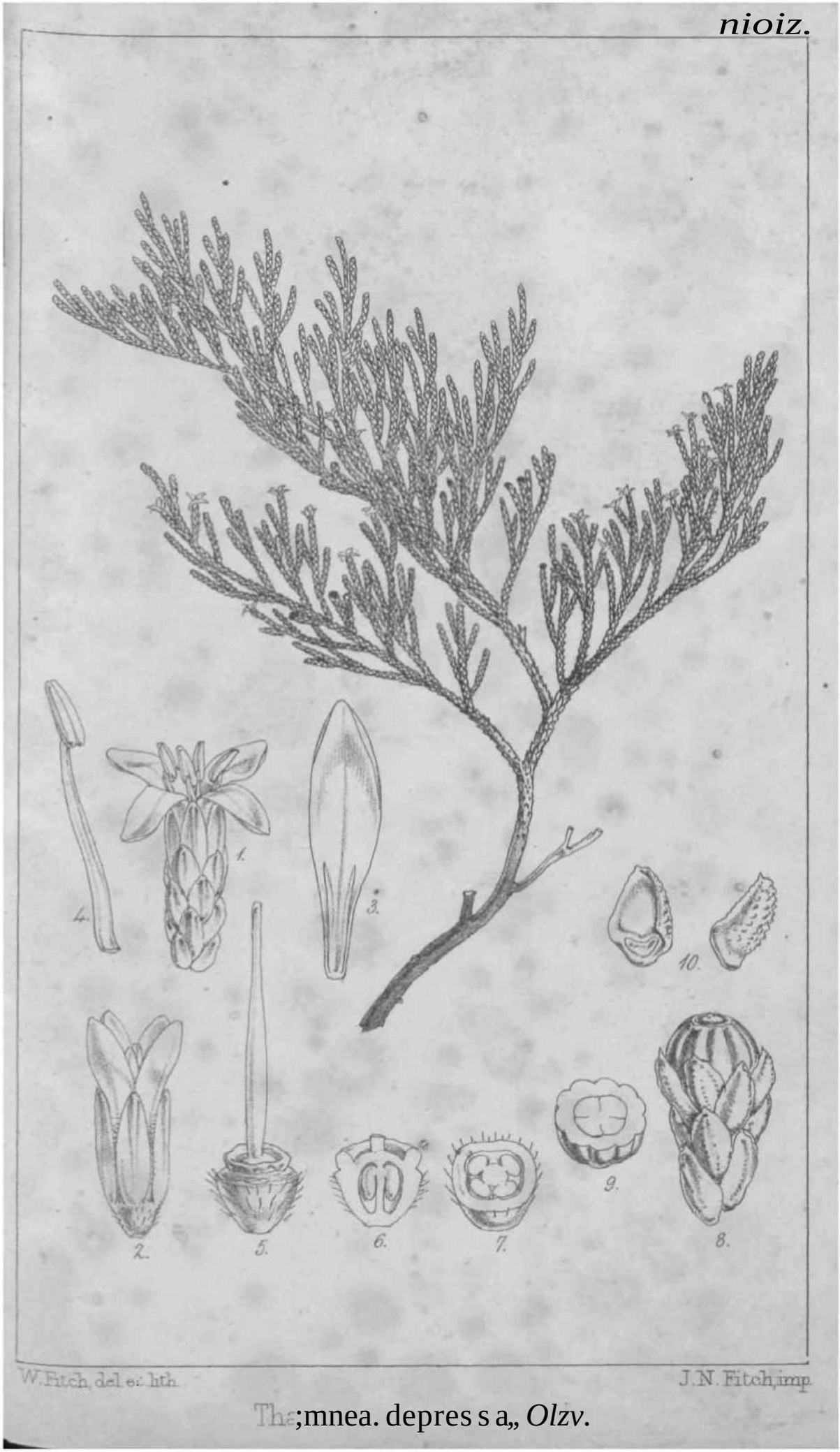
Pachycladon Novæ-Zelandiæ, *Hk. f.*

Aaona."MscmnL. *Olw*.

W. Fitch. del et lith.

J. N. Fitch. imp

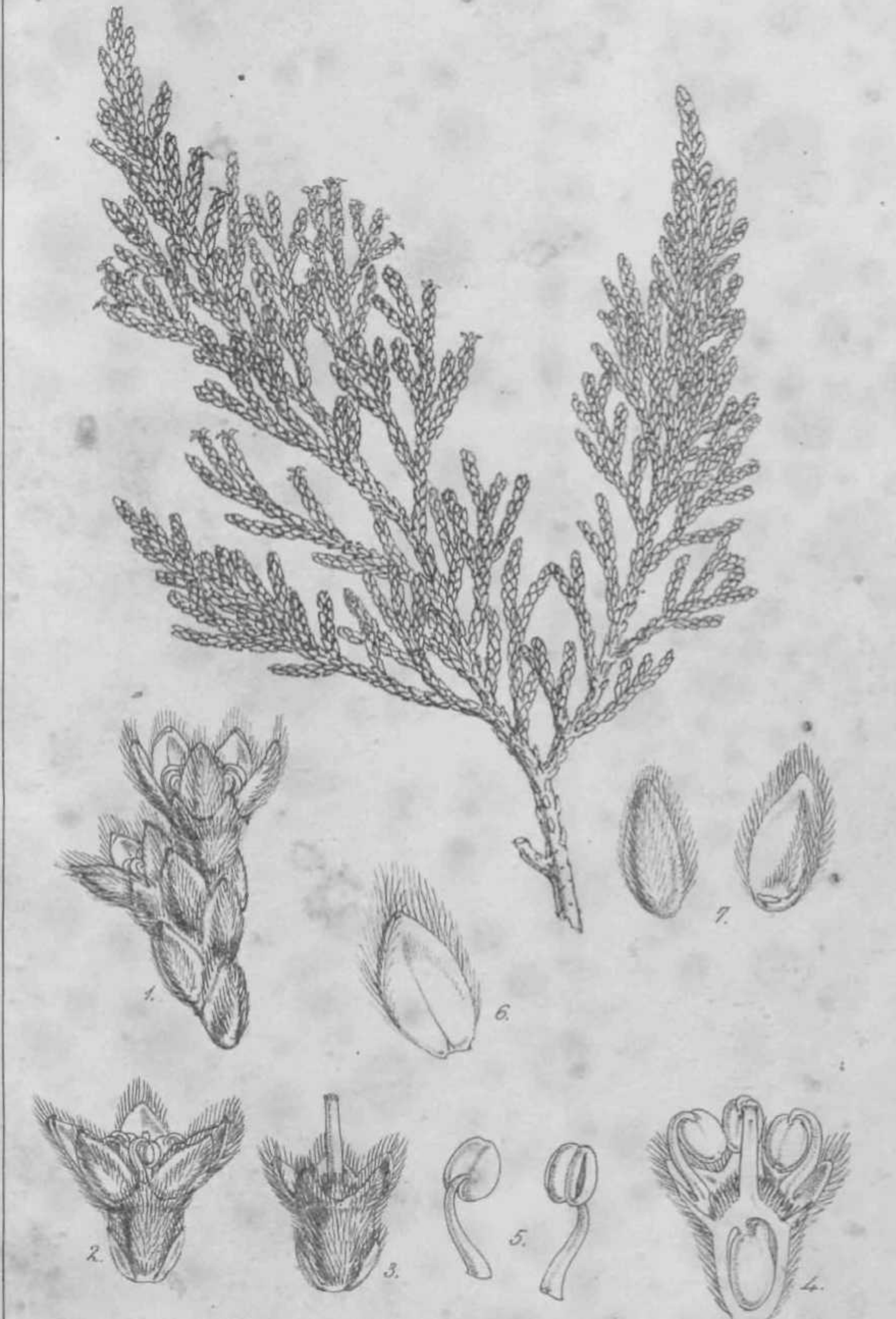
Senecio tropæolifolius, *M^r Ow.*



Tha;mnea. depres s a,, *Olzv*.

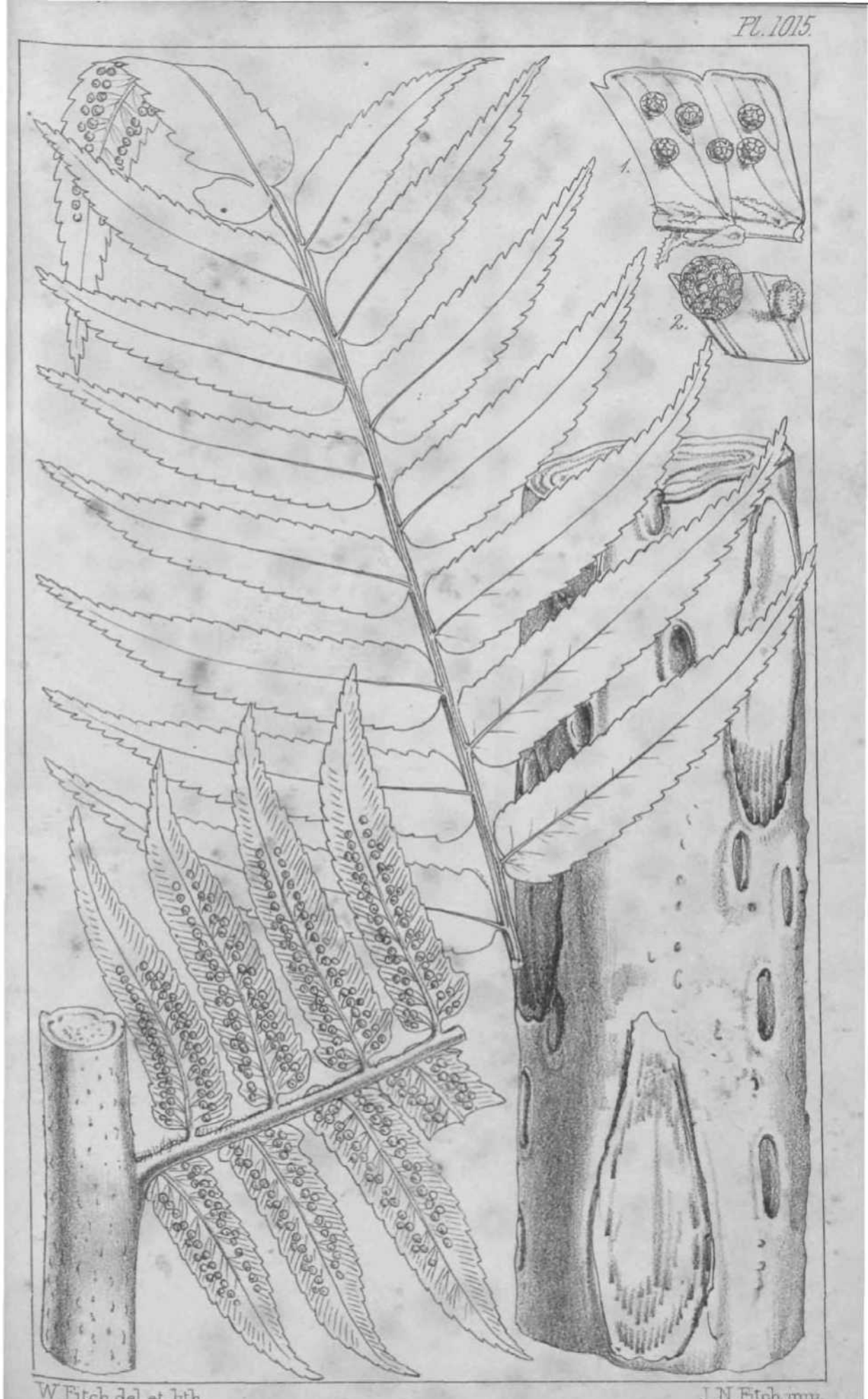
W. Fitch, del. et lith. .\. N . Fitch, imp.

Thamnea umfLoxa., Sol vaxlur Leila.. (Oliv)



W Pitch, cLd el 1th. Z1& Bcri,mtp.

Beizelia, (MniothsumnesLjcallunoides, Oliv.



Aisophila Keteccae, *F.M*

W. Fitch, del et lith.

J.N. Fitch, imp.

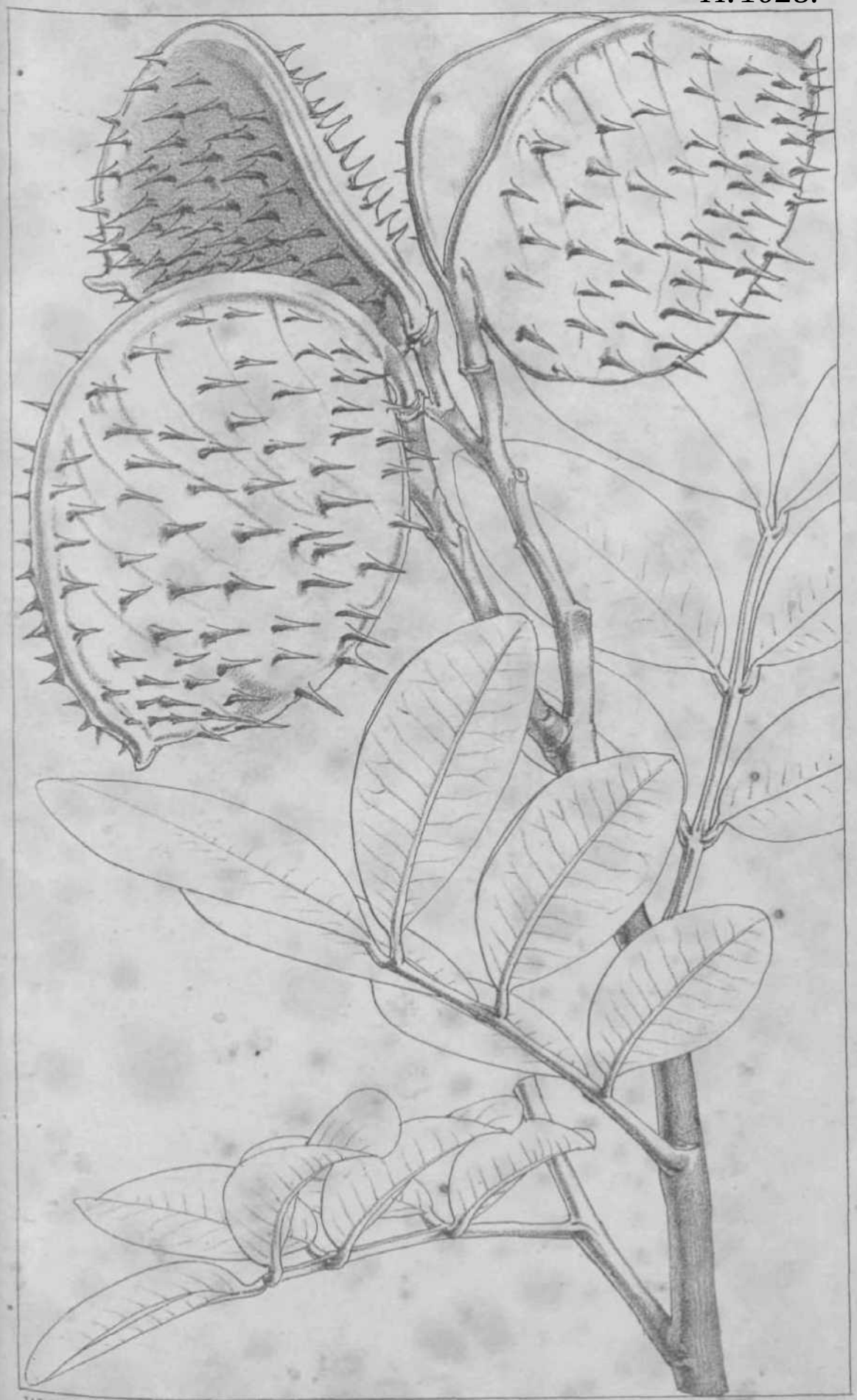
Schizaea Sprucei, *Hk.*

W. Fitch. del et lith.

J. N. Fitch, imp.

Sindora Wallichii, *Benth.*

H. 1028.



W. H. Fitch, del. et lith.

J. N. Fitch, imp.

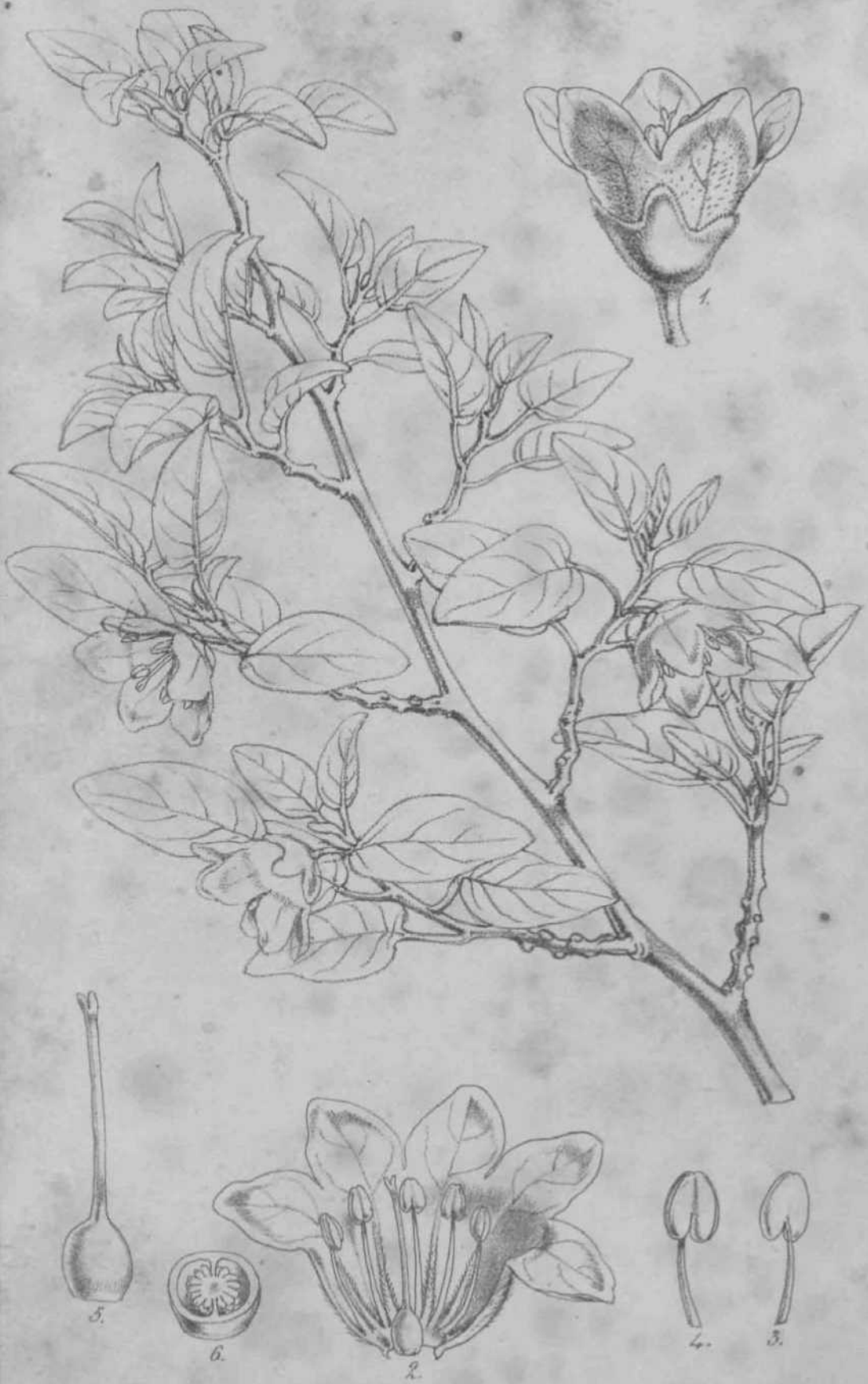
Sindora Wallichii, *Benth.*

Liqmdambar piientalis, *Mill*

W.H.Fitch, del. et lith.

J.N.Fitch, imp.

Liquidambar Formosana, *Hance.*



W. H. Fitch, del et lith.

J. N. Fitch imp.

Physalis begonifolia, *Roxb.*

HeLeroneuron m^ricans, *Sk f.*

Hook.fil. anal. Fitch. del. et lith.

J.N. Fitch, imp.

Kaliphora madagascariensis, *Hk. f.*

LainpToloiiunifraticosuTiQ, *Bth.*

W.H. Fitch, lith. J.N. Fitch, imp.

Ellipeia cuneifolia, *Hk.f.&T.*

W.H. Fitch, del et lith.

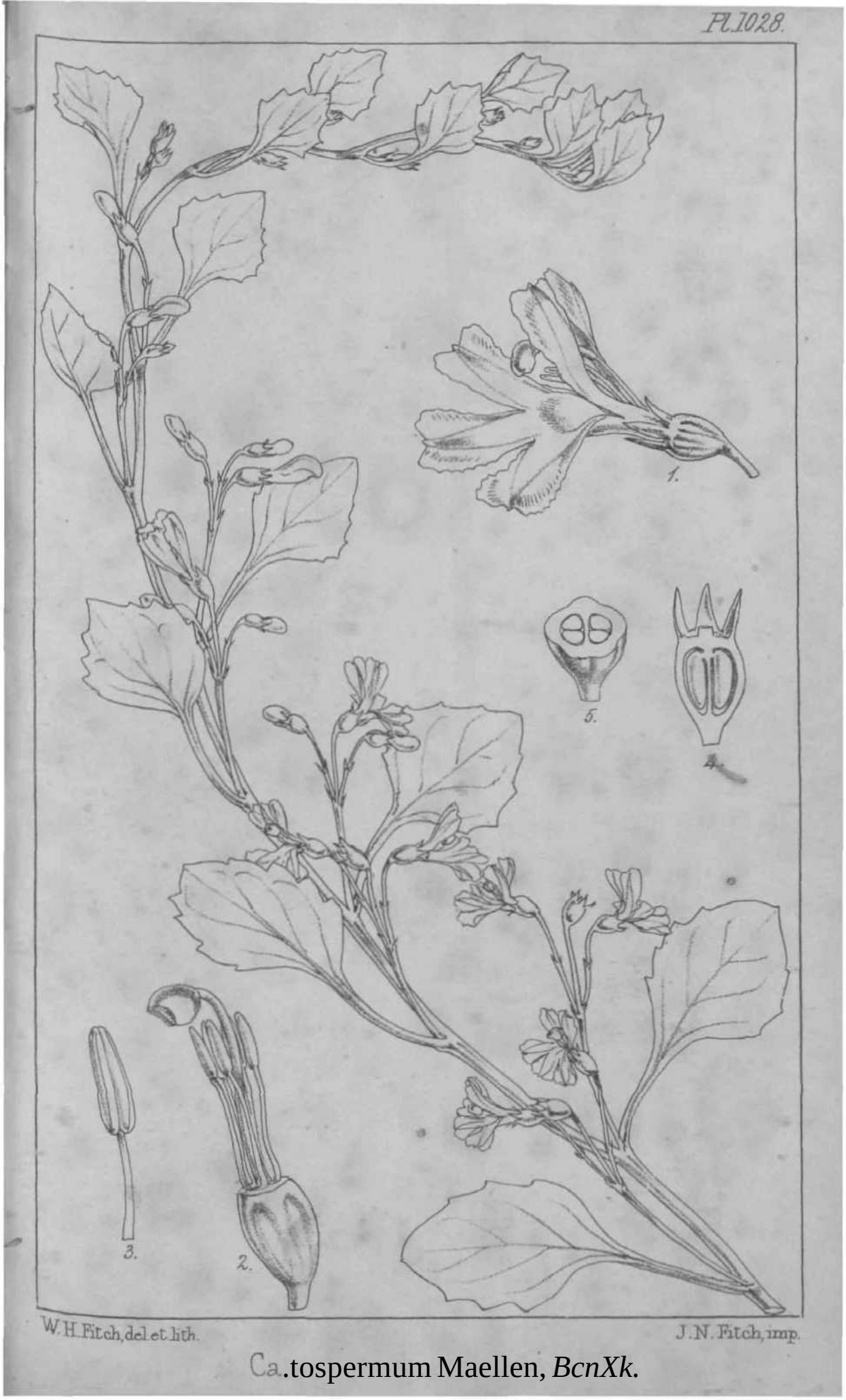
J.N. Fitch, imp.

Dampiera trigona, *DeVr.*

W.H. Fitch, del. et lith.

J.N. Fitch, imp.

Dampiera alata, *Lindl.*



Ca.tospermum Maellen, *BcnXk.*

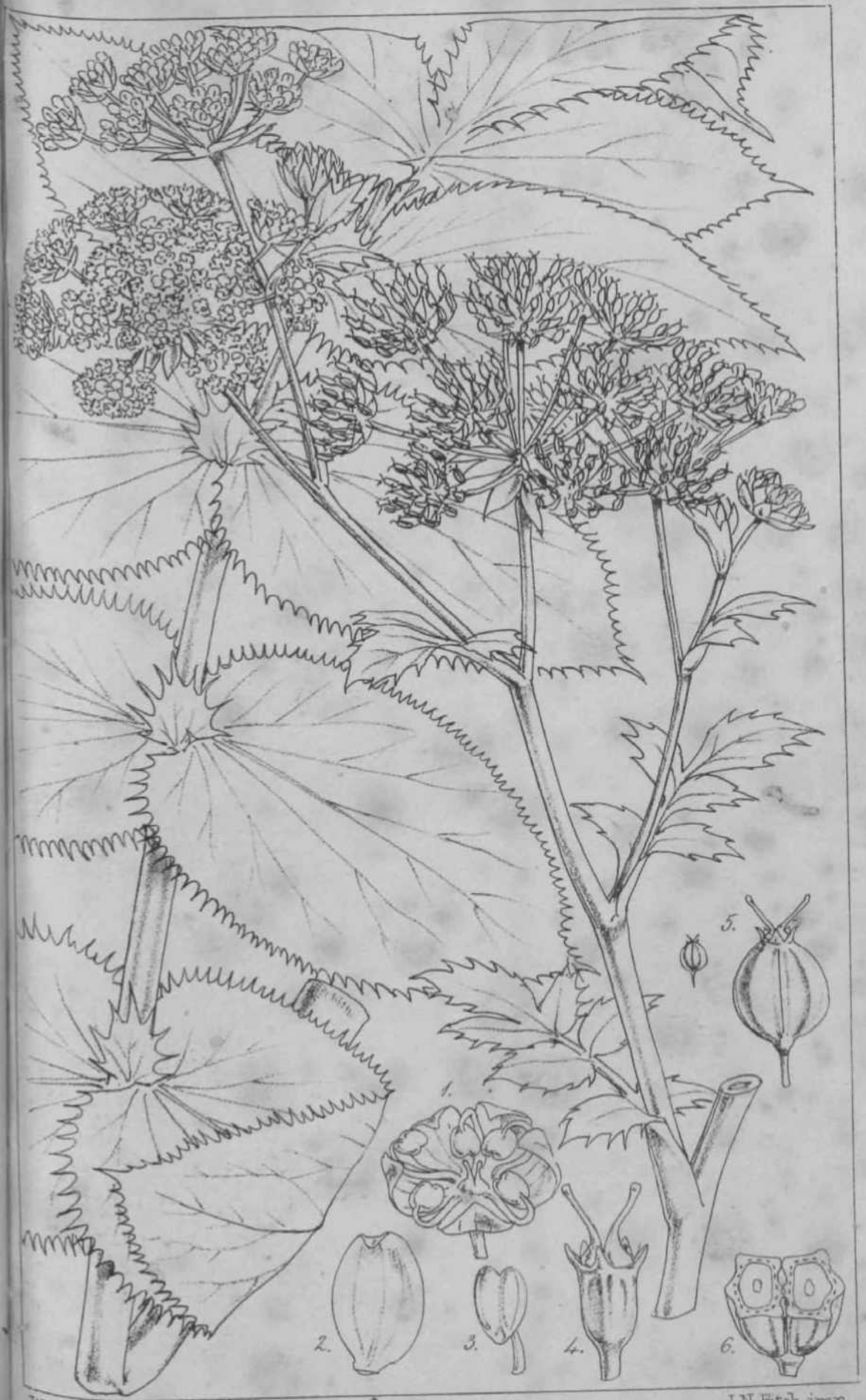
W.H. Fitch, del et lith.

J.N. Fitch, imp.

Dasylepis racemosa, *Oliv.*

LepidostephTutm dcnticxilatam, *Ohv.*

Hedyotls acrboresu, *Roxh.*



W.H. Fitch, del. et lith.

J.N. Fitch, imp.

Sium Heleniarum, *Hk.f.*

Lightens teima. BuicheHn, *Sk.f.*

W.H. Fitch, del. et lith. J.N. Fitch, imp.

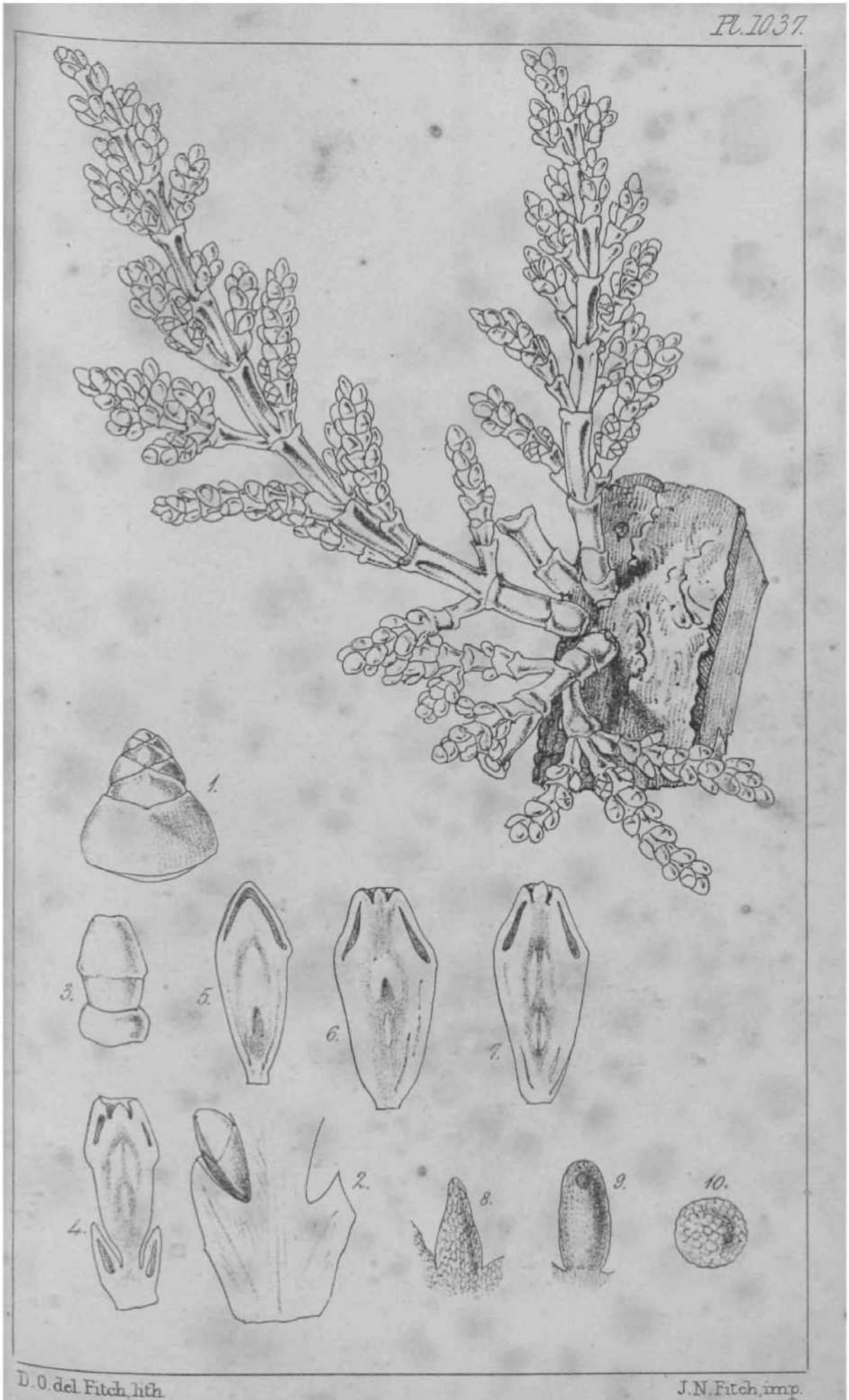
Mesembryanthemum cryptanthum, *Hk.f.*

Pharnaceum a-cicLurn, *H.f.*

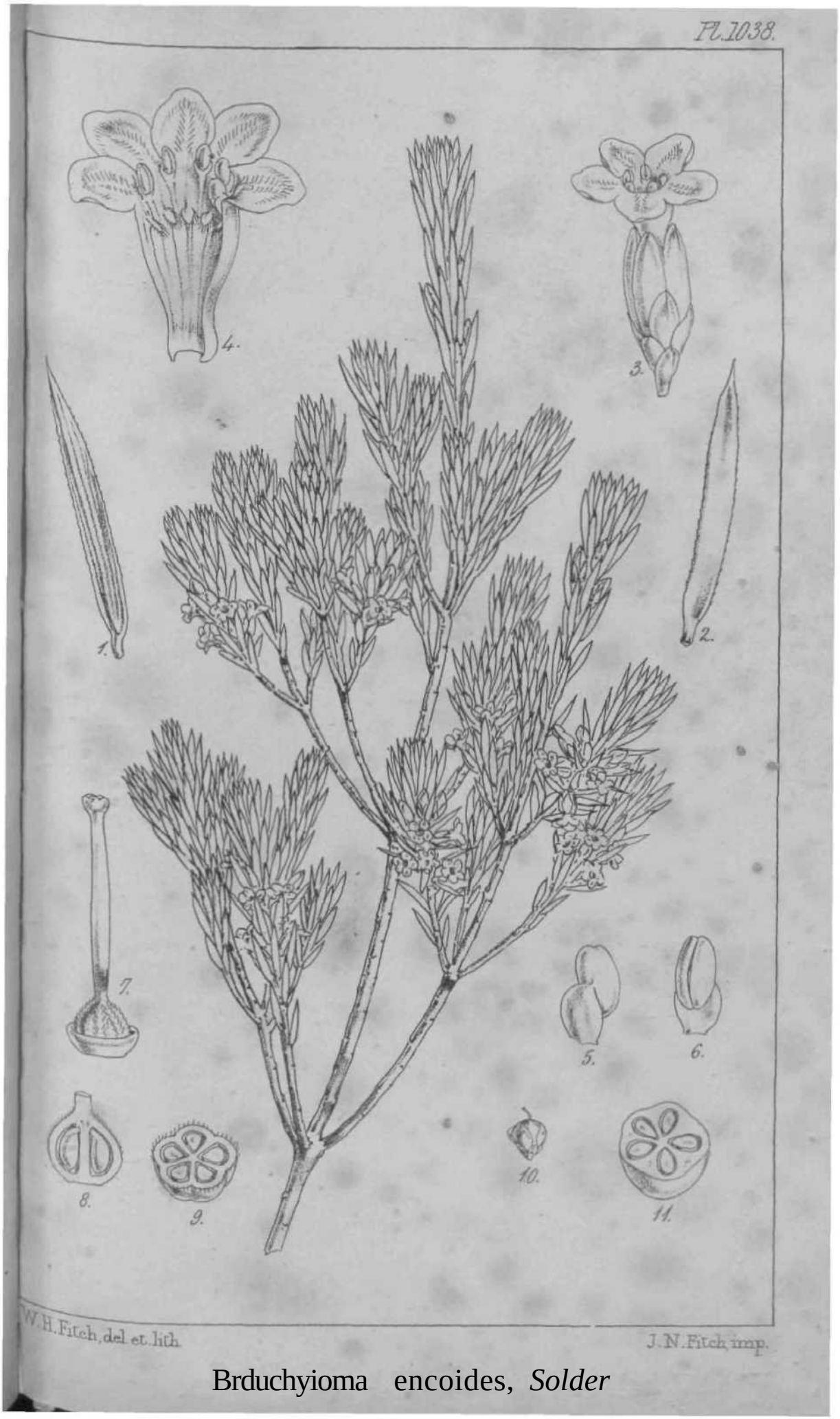
W.H. Fitch, del. et lith.

J.N. Fitch, imp.

Kirkia acuminata, *Oliv.*



Arceiitkoii'Uin cryptopodum, *Eng.*

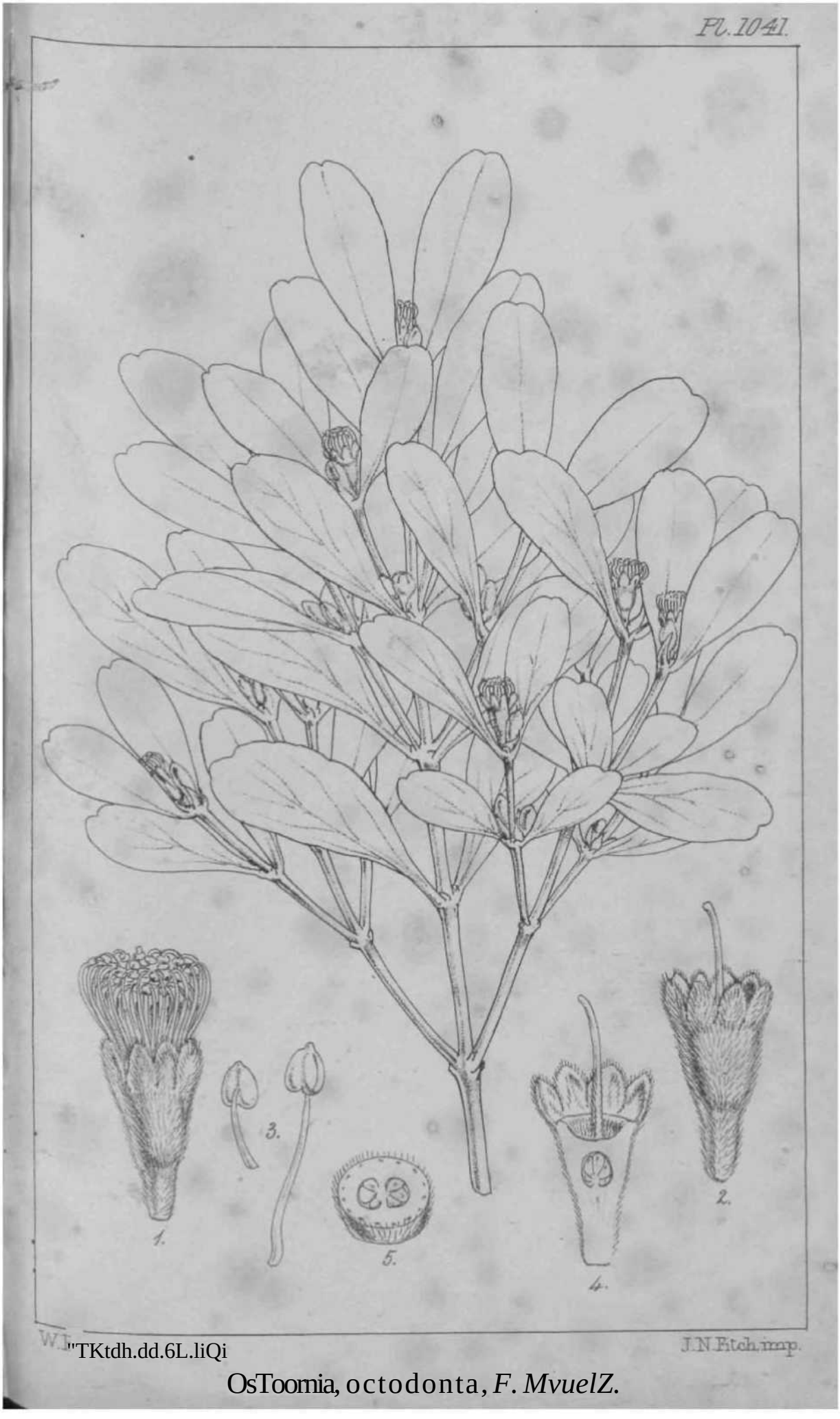


Brduchyioma encoides, *Solder*

Admajidra Marran, *OLw*

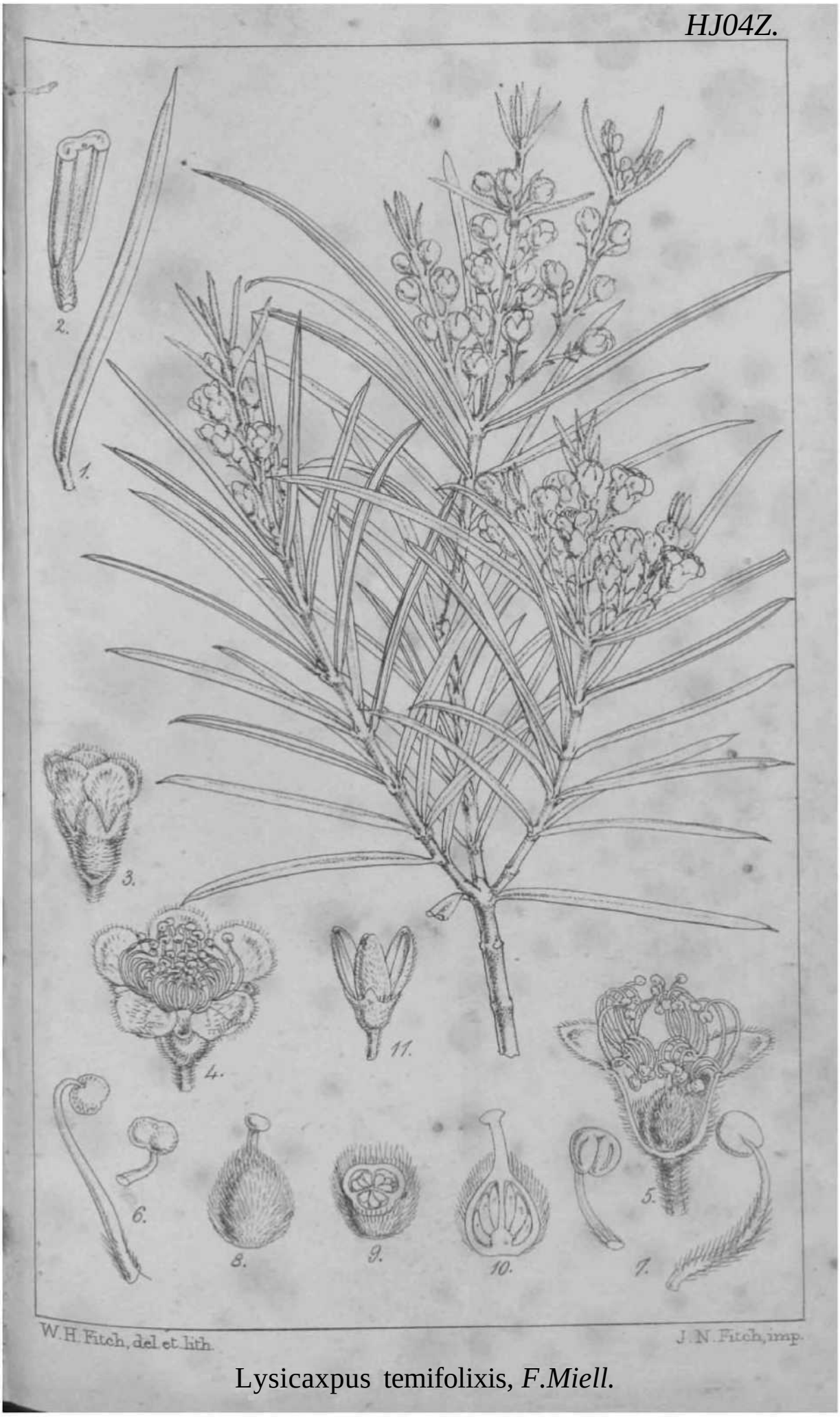
W.H.Fitch, del. et lith. J.N.Fitch, imp.

Xanthostemon chrysanthus, *F.Muell.*



"TKtdh.dd.6L.liQi

OsToomia, octodonta, *F. MvuelZ.*

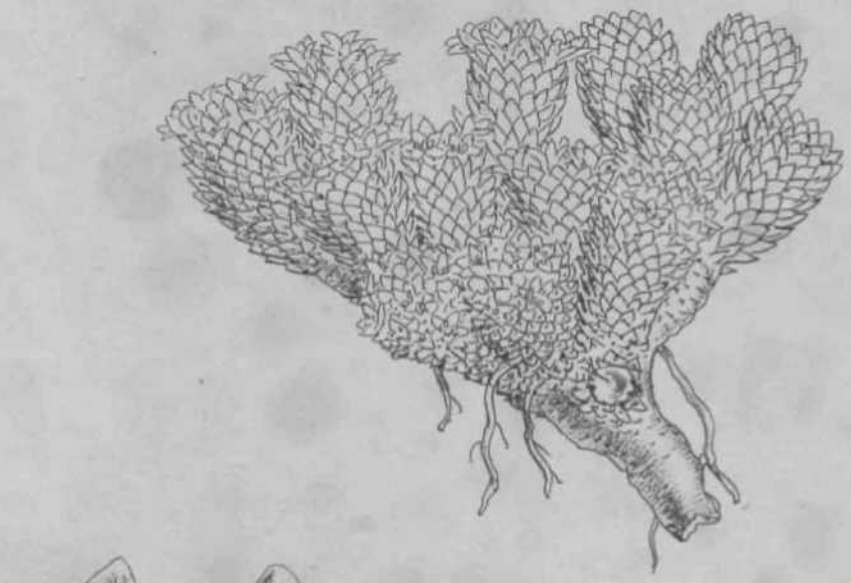


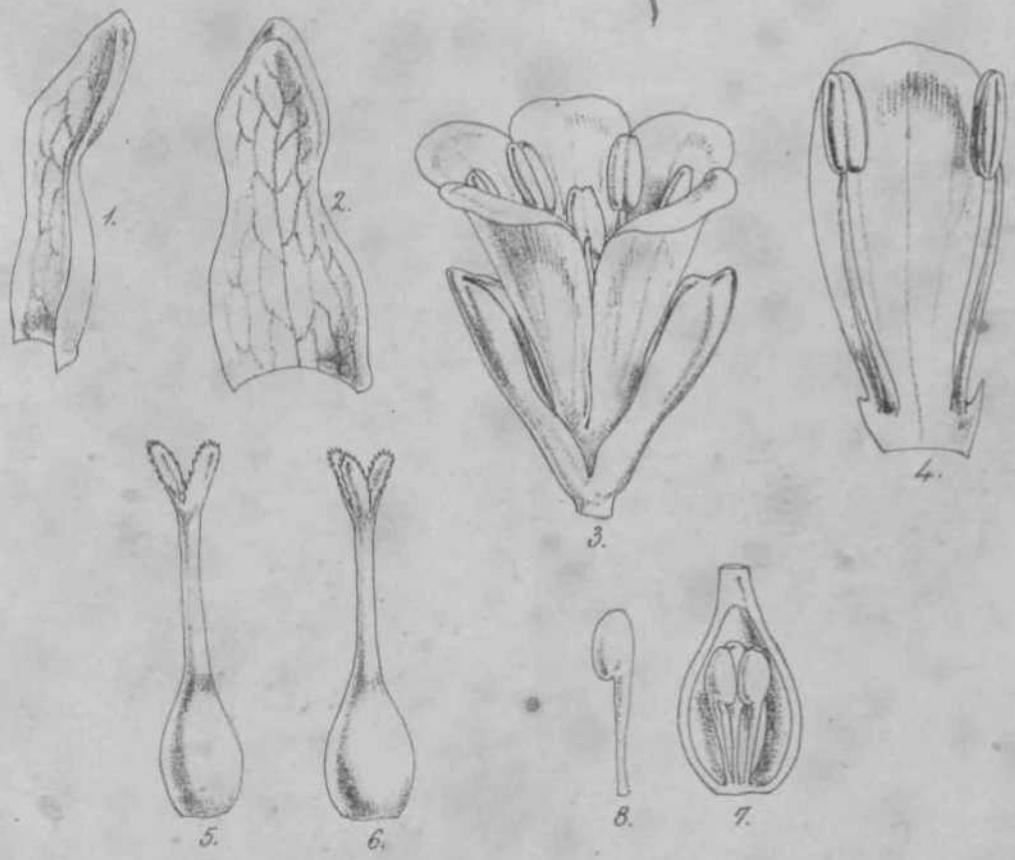
Lysicaxpus temifolixis, *F.Miell.*

Rliodomyrtos maxrocarpa., *Benth.*

Leitnena Flori&ana., *Chap*

Melanodendron integrifolium, *D. C.*



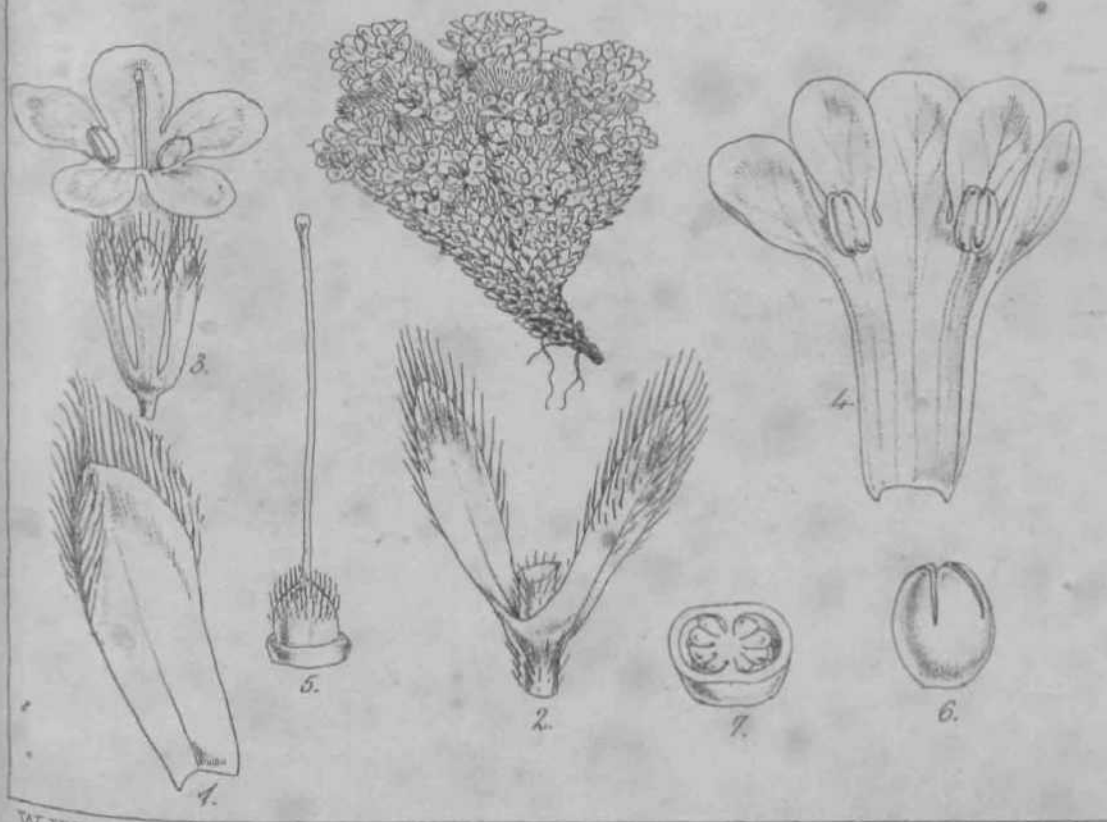


W.H.Fitch, del et lith.

J.N.Fitch, imp.

HectoreEa caCespitosa.,JZfe *f*

ry£msCea, ciKolaXa., *Sk. f.*



W. H. Fitch, del et lith.

J. N. Fitch, imp.

Pygmaea pulvinans, *Hk.f.*

W. H. Fitch, del et lith.

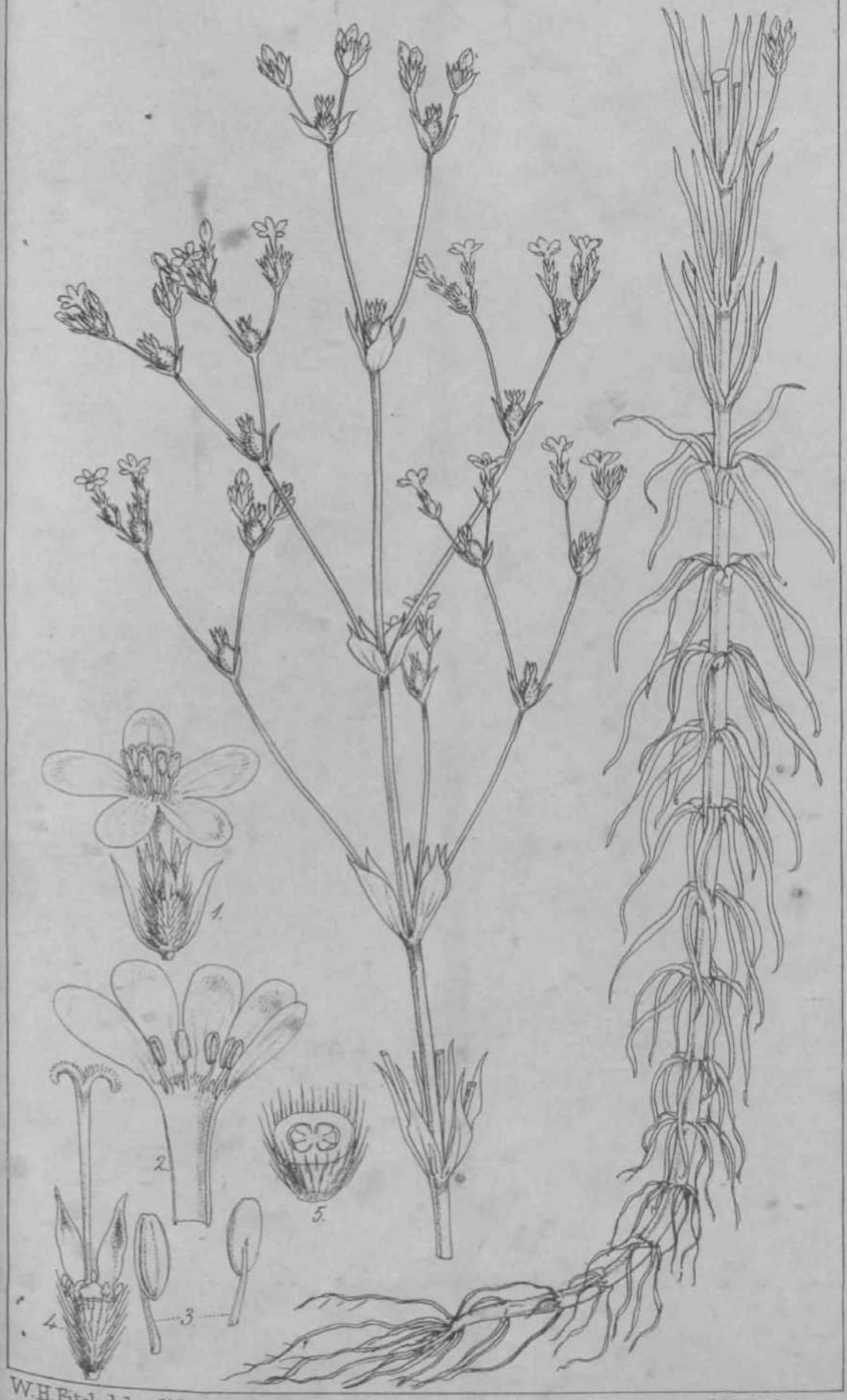
J. N. Fitch, imp.

Silvianthus bracteatus, *Hk. f.*

W.H. Fitch, del. et lith. J.N. Fitch, imp.

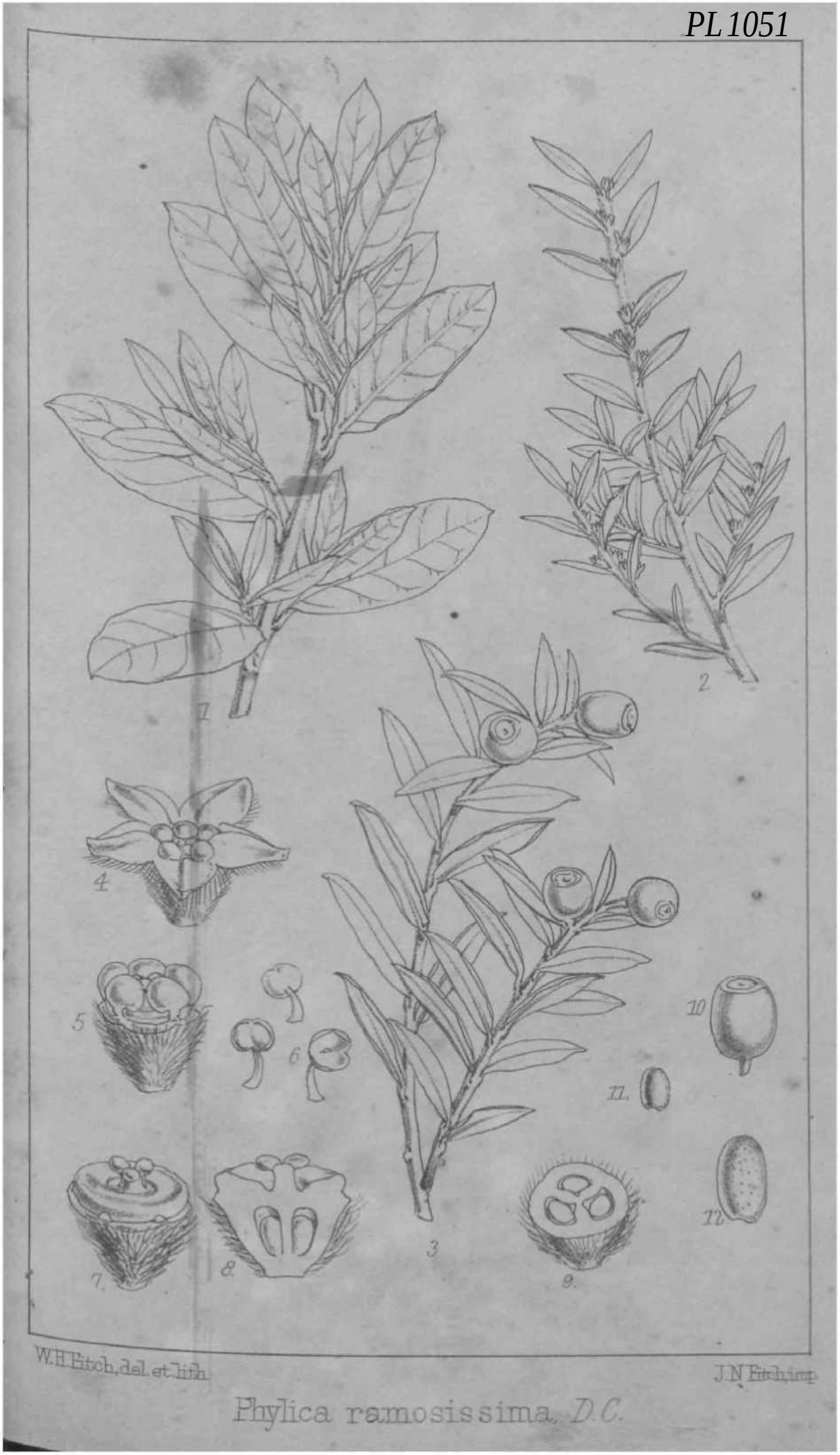
Polyura geminata, *Hk. f.*

n.ioso



Lim.no sip a n e a, S''pru.cea2LSL, *Ek.f.*

PL 1051



W.H. Fitch, del. et lith.

J.N. Fitch, imp.

Phylica ramosissima, D.C.

W.H. Fitch del. et lith.

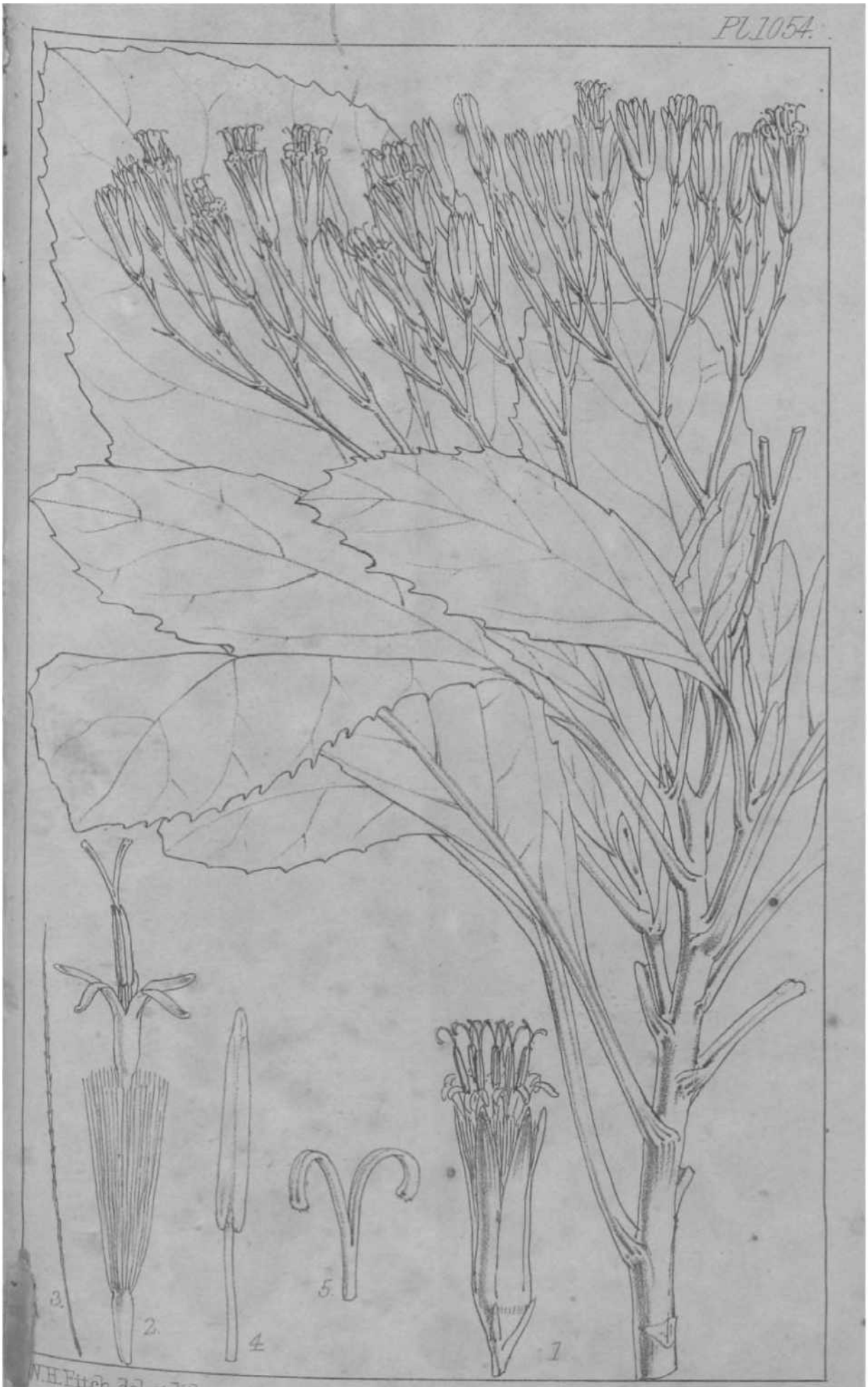
J.N. Pitchimp.

13"e siota elliptica, *Hook. fil.*

W.H.Fitch.del. et lith.

J.N.Fitch.imp.

Petrobium arborcum, J.D. *Br.*



W.H. Fitch, del. et lith.

J.N. Fitch, imp.

Lachanodes prenanthiflora, *Burch.*

W.H. Fitch del. et lith.

J.N. Fitch imp.

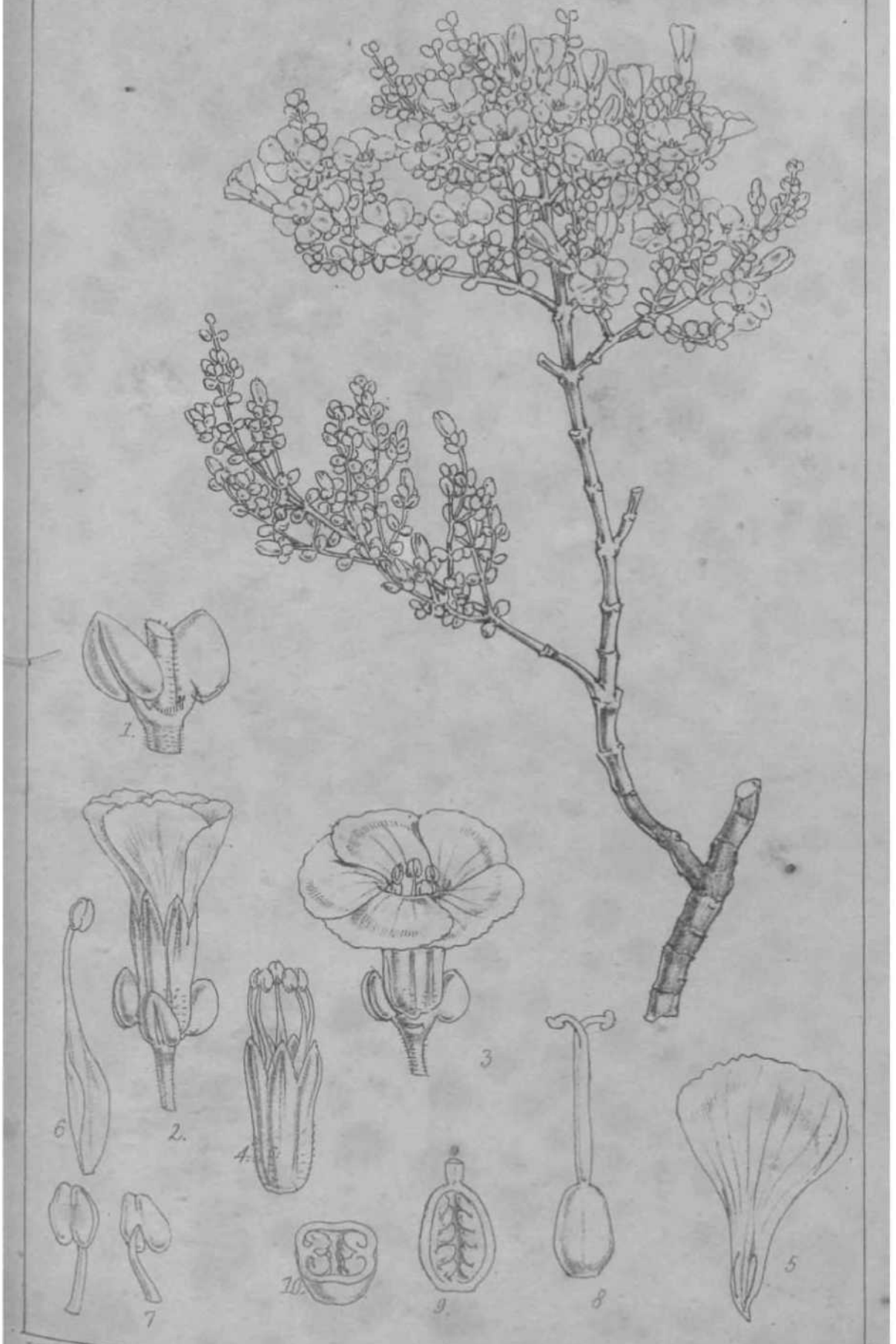
-Pl[illegible]oxyloii leucadendron, *Hook. fil.*

W.H. Fitch. del. et lith.

J.N. Fitch. imp.

Aster gummiferus, *Hook. fil.*

Aster glutmo sus, *Hooch.*



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

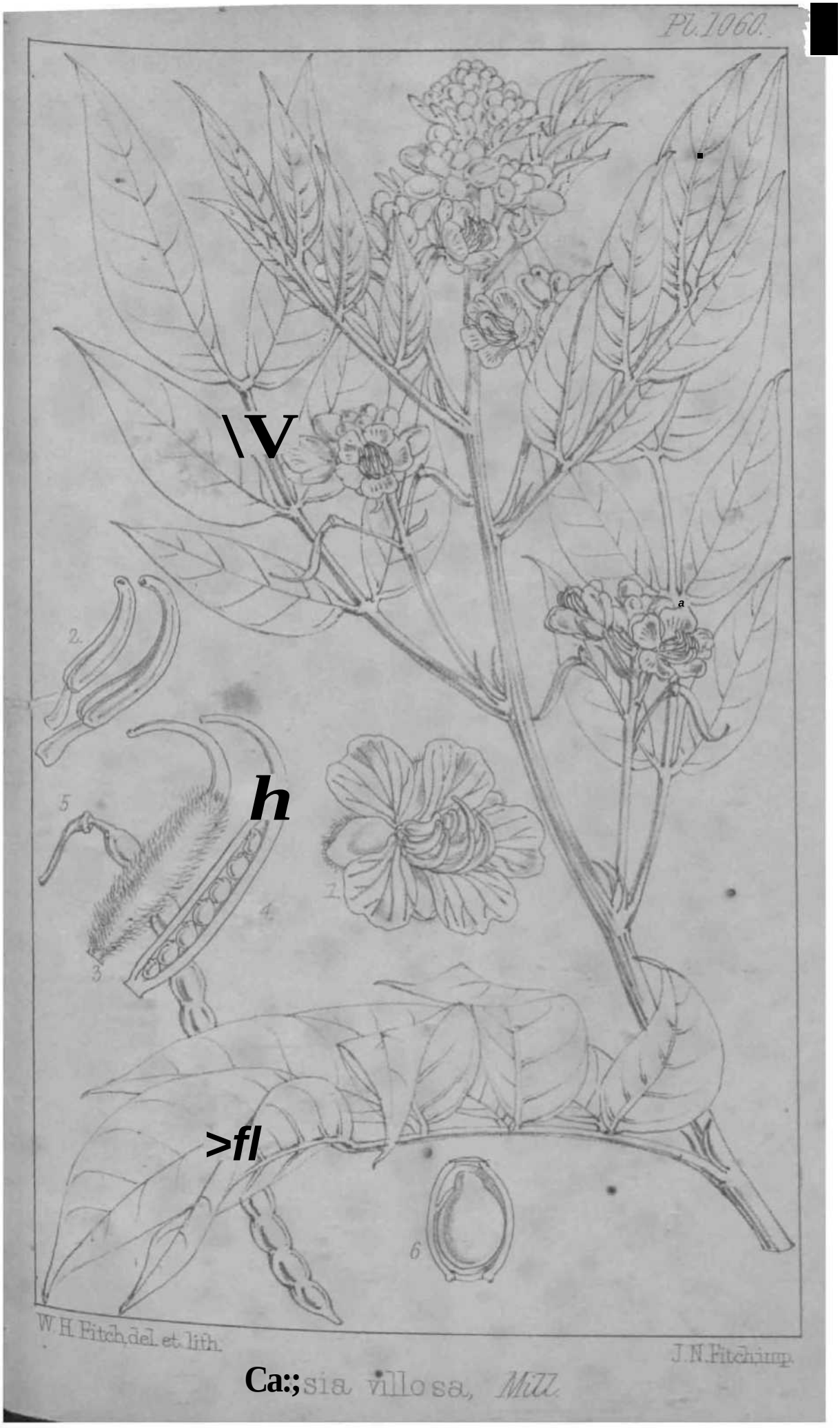
J.N. Fitch, imp.

Frankenia portulacifolia., *Sprang*

Pl.1059.

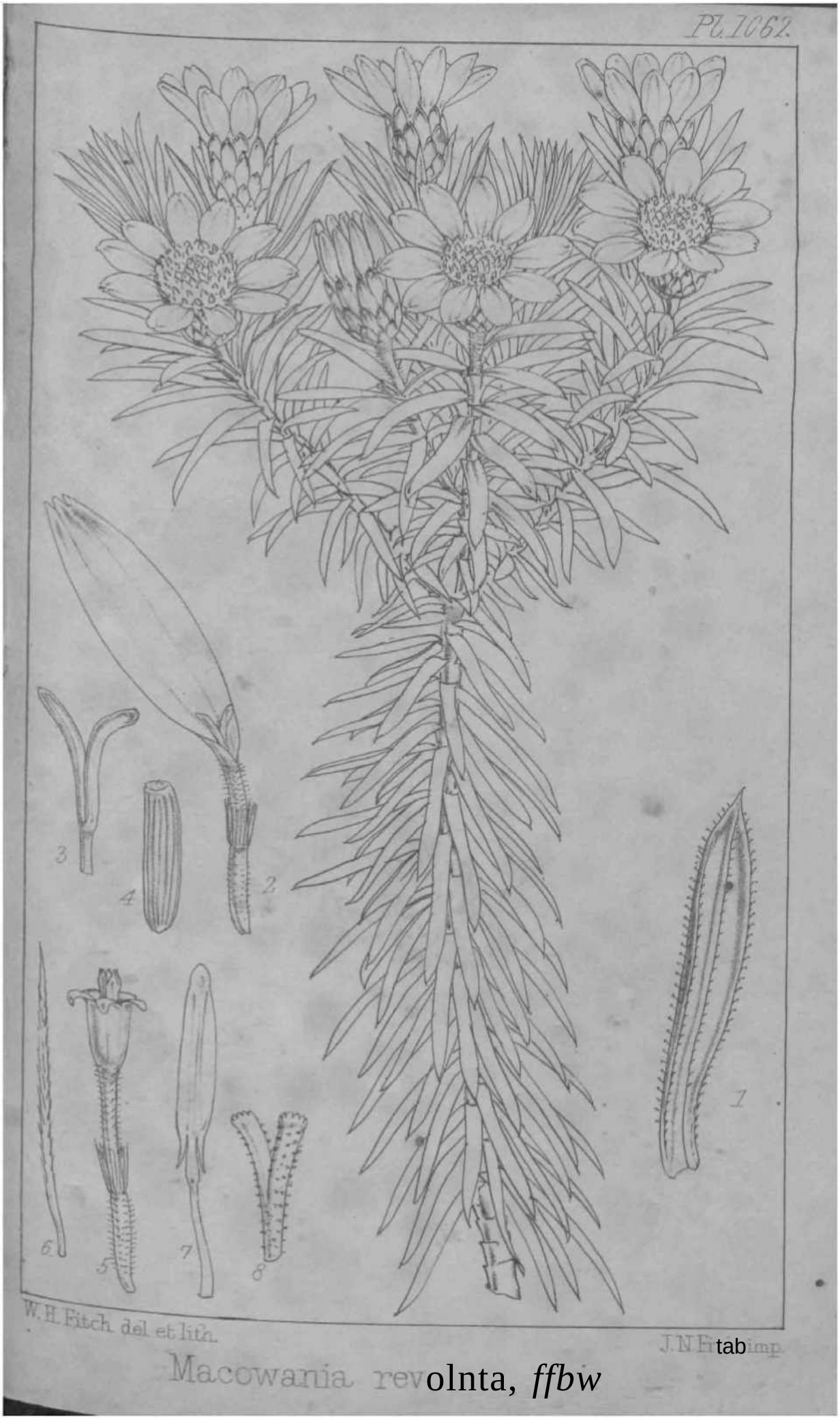
* * I itch. del. et. lith. J. N. Fitch, imp.

Hemiarrhena plantaginea, *Benth.*



Ca:;sia villosa, Mill.

Cassia goniodes, *ACunn*



Macowania revolnta, *ffbw*

tab

W.H.Fitch del. et lith.

J.N.Fitch imp.

Cassia crassiramea, *Benth.*

Swartzia M. , . i *B&*

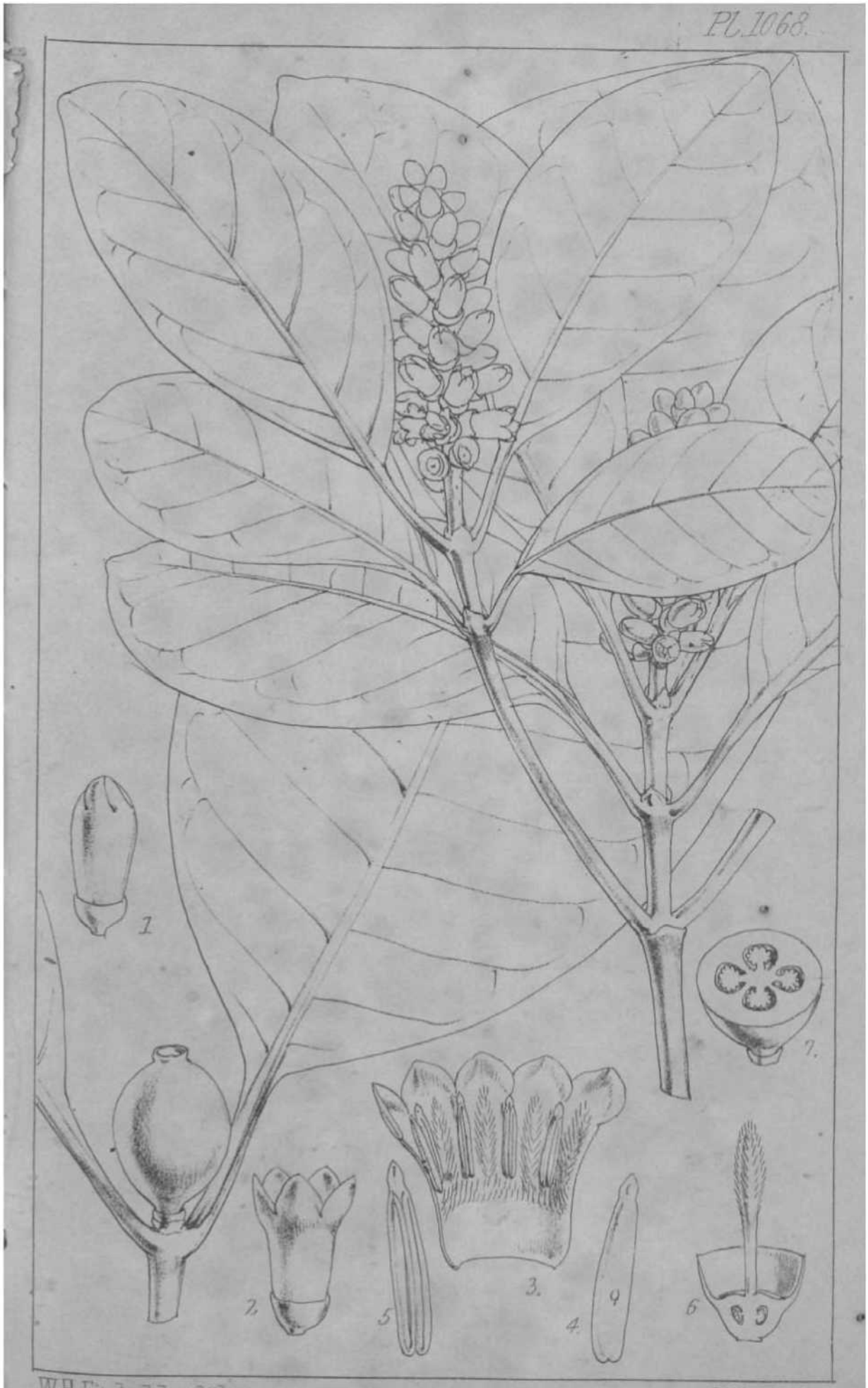
W. H. Fitch del. et lith. J. N. Fitch imp.

Coursetia orbicularis, *Benth.*

iplianocalyz cmometcoittes, *Obk*

W. H. Fitch, del et lith. J. N. Fitch, imp.

Senecio sneeuwbergensis, *H. Bolus.*



W.H. Fitch, del, et lith. J.N. Fitch, imp.

Stachyarrhena spic. Hook. fil.

W. H. Fitch. del. et lith. J. N. Fitch, imp.

Bothriospora corymbosa, *Hook. fil.*

W.H. Fitch, del. et lith.

J.N. Fitchirup

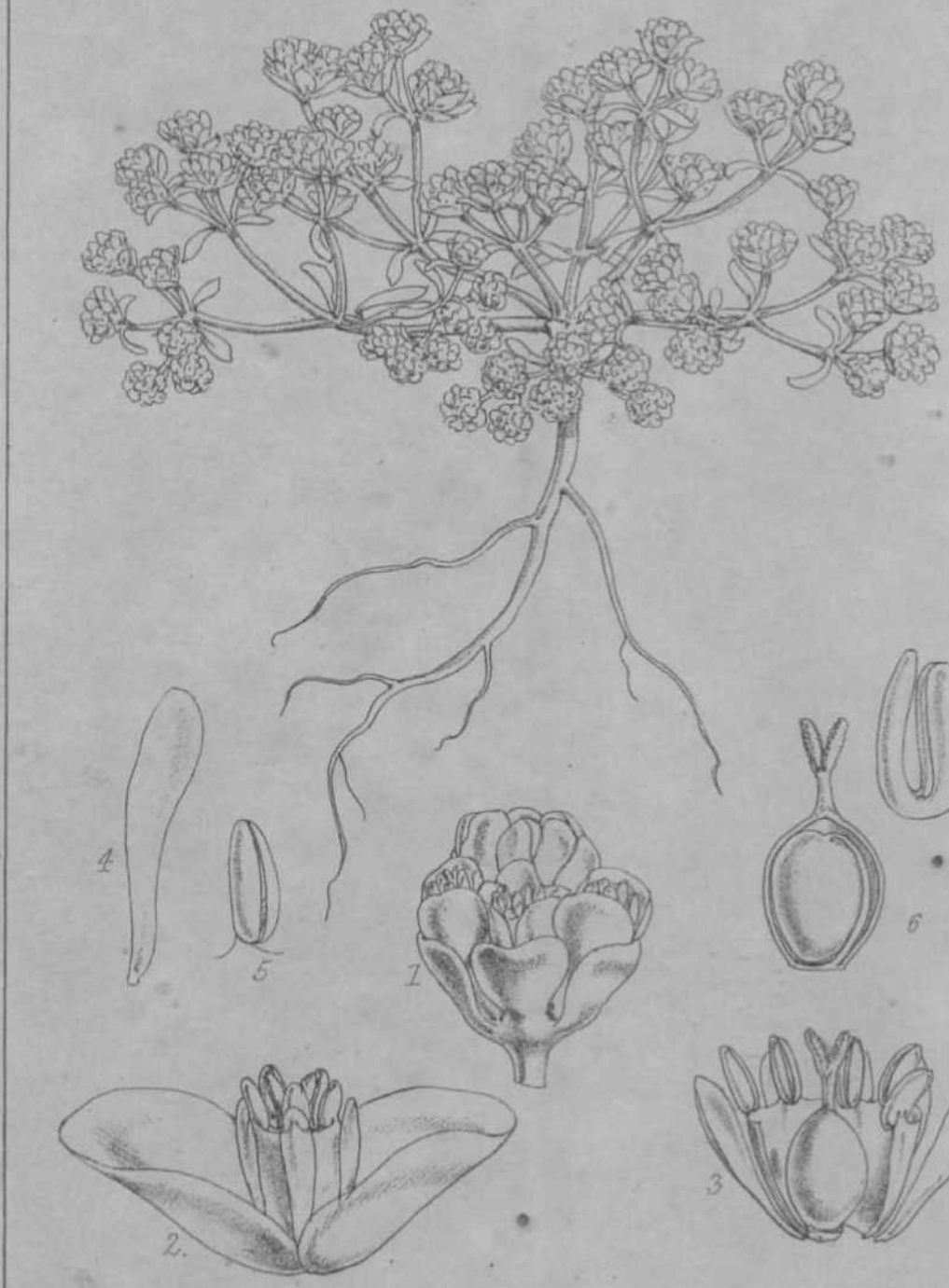
Obbea Timonioides, *Hook. fil.*

Rylidotus Sandviceaasis, *JfaoL fiL*

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

J. N. Fitch, imp.

letralopha Motleyi, *Hook. fil.*



W.H. Fitch del. et lith. J.N. Fitch. imp.

Gomphrena Pearcei *iMv.*

R.1074

W.H.Fitch, del.et.lith. J.N.Fitch,imp.

Synaptolepis Kirkii, '01

Gerrard Mmfoliosa, *(Jbw.*

W. ILEtaSi, aal etifh

J.N.Fitch. imp.

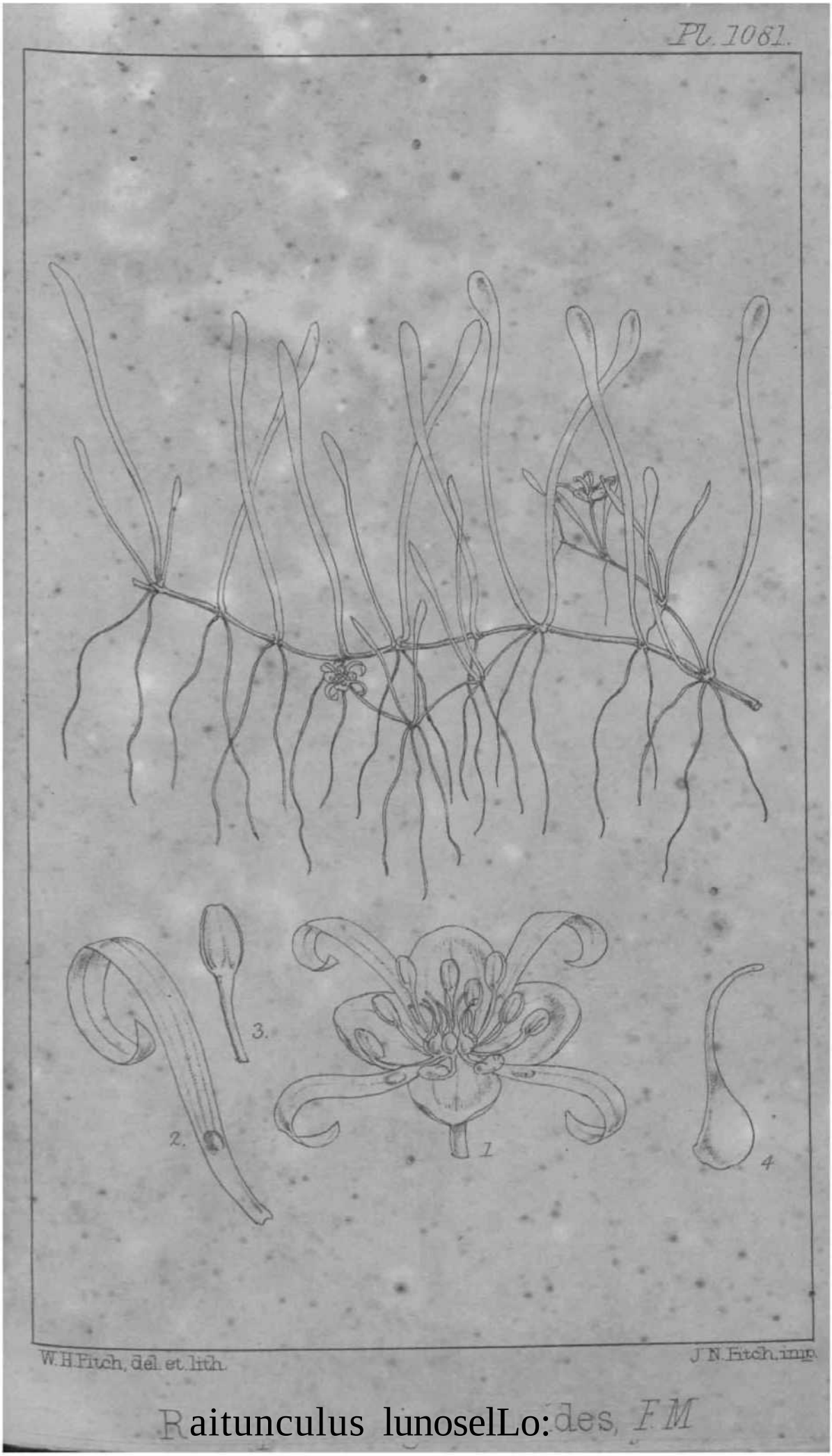
Sclerolaēna paradoxa, R.Br.

Monococcus echinophorus, F.M.

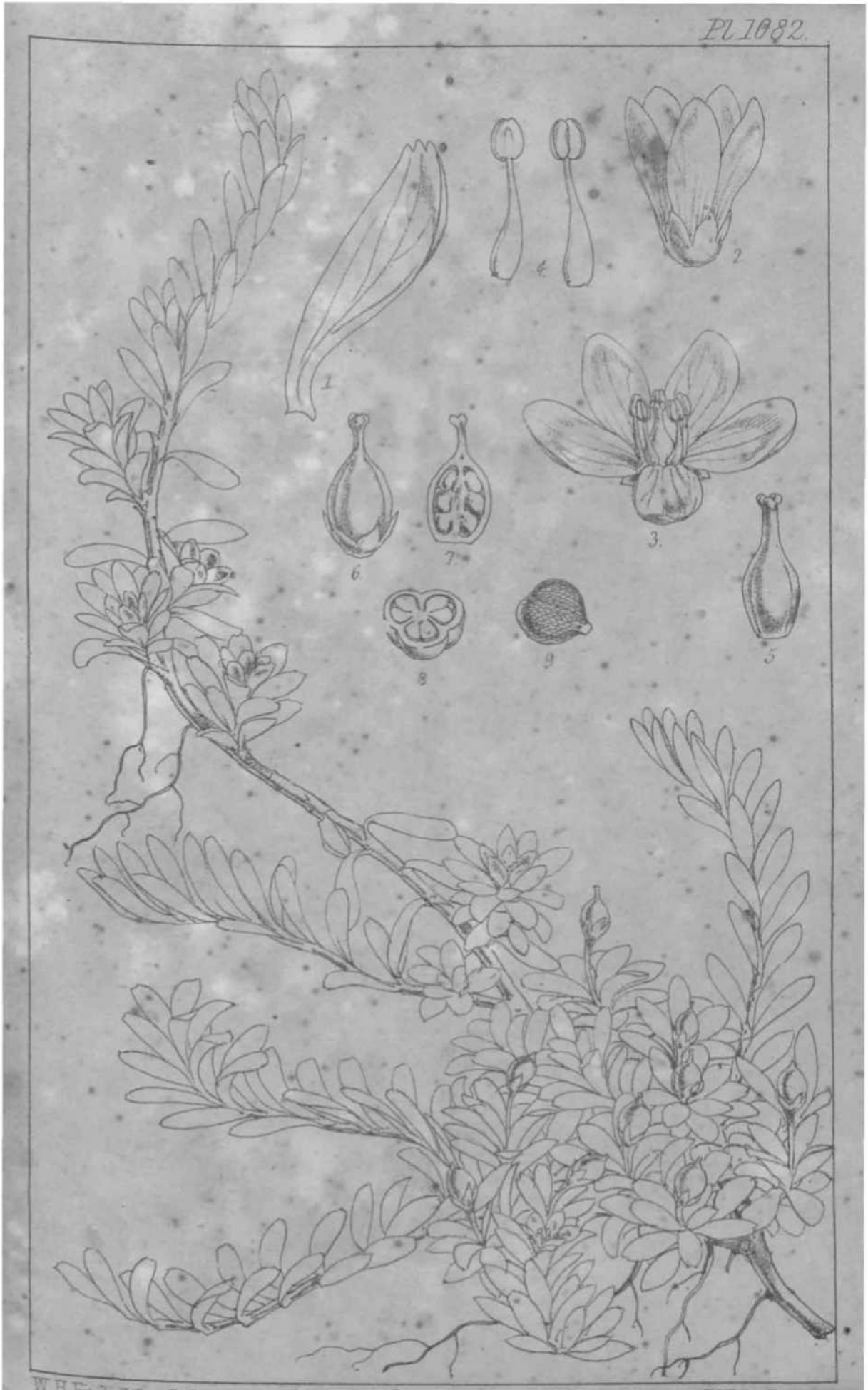
BabbagLa dipteroca rpa, F.M.

"Phyl • i liuz Krebsianum, Bth.

Buttonia natalensis, McKen



Raitunculus lunoselLo: des, FM



W. H. Fitch, del et lith.

J. N. Fitch, imp.

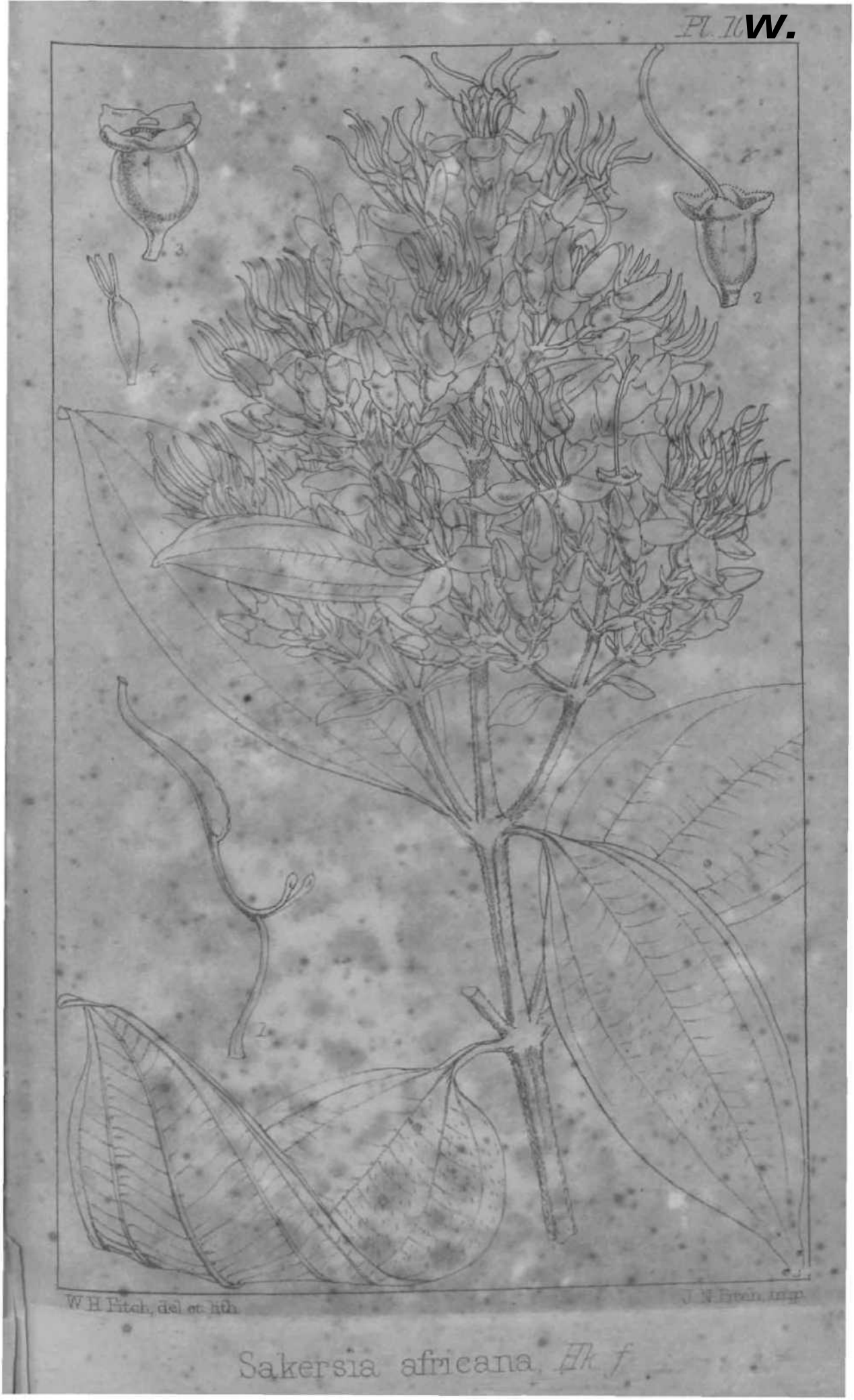
Chalepoa magellanica, Hk f.

Fuchsia Kirkii. Hk. f.

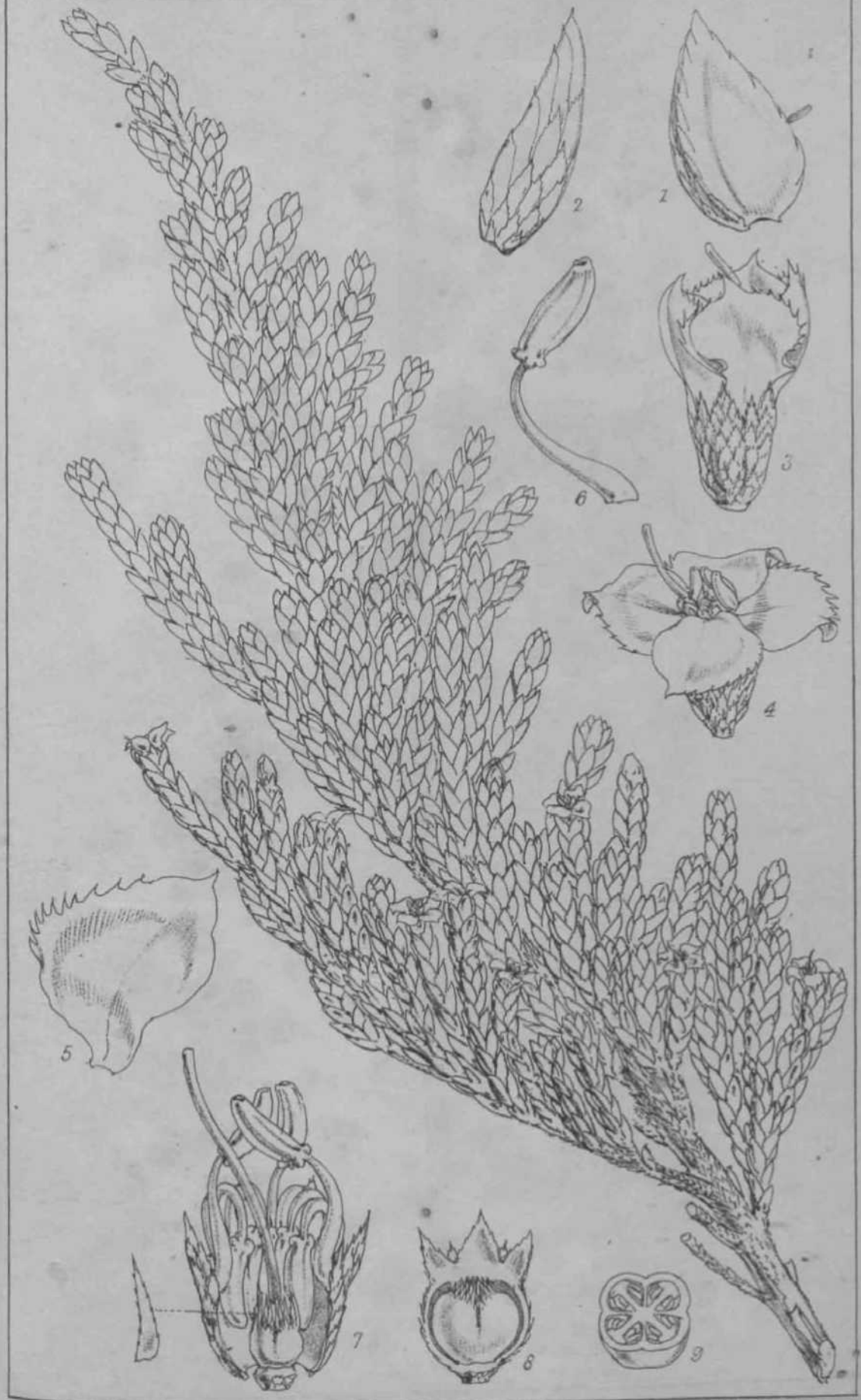
Raphanocarpus [illegible] Hk. f

vrrkti

Bredia Oldhainii *Hk.f*



Sakersia africana Hk f



W. H. Fitch, del. et lith.

J.N. Fitch, imp.

Chaetolepis loricarella, *Triana*

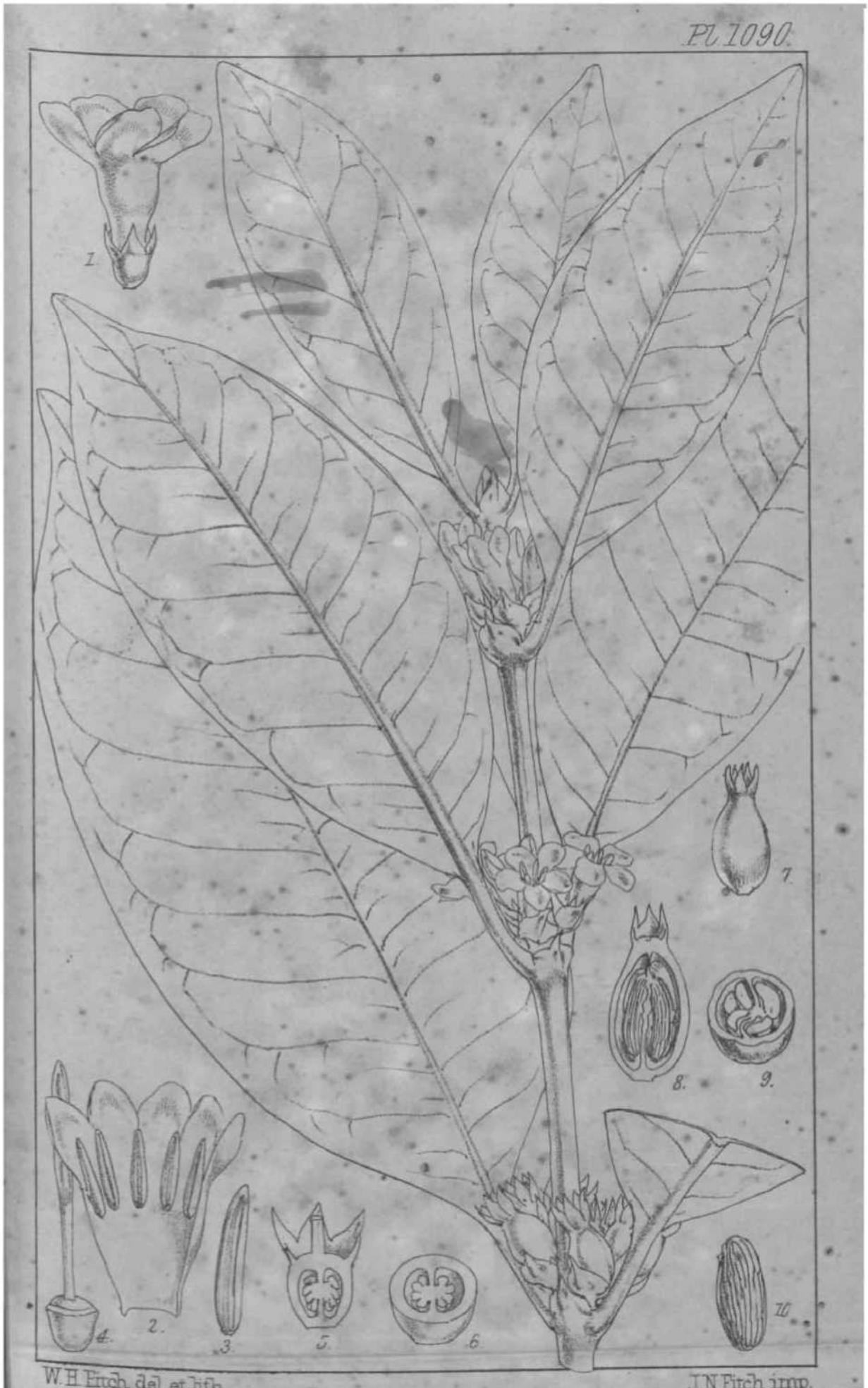

Pl. 7088.
1
2
3.
6.
6.
7
4
W. H. Fitch, del et lith
J. N. Fitch, imp
Brachytome Wallichii Hk. f.

Pl. 7089.

W.H. Fitch, del. et lith.

J.N. Fitch, imp.

Coptosapelta Griffithii *Hk. f.*



Tamatavea .Meller:., Hk. f.

Empogona Kirkii, Hk. f.

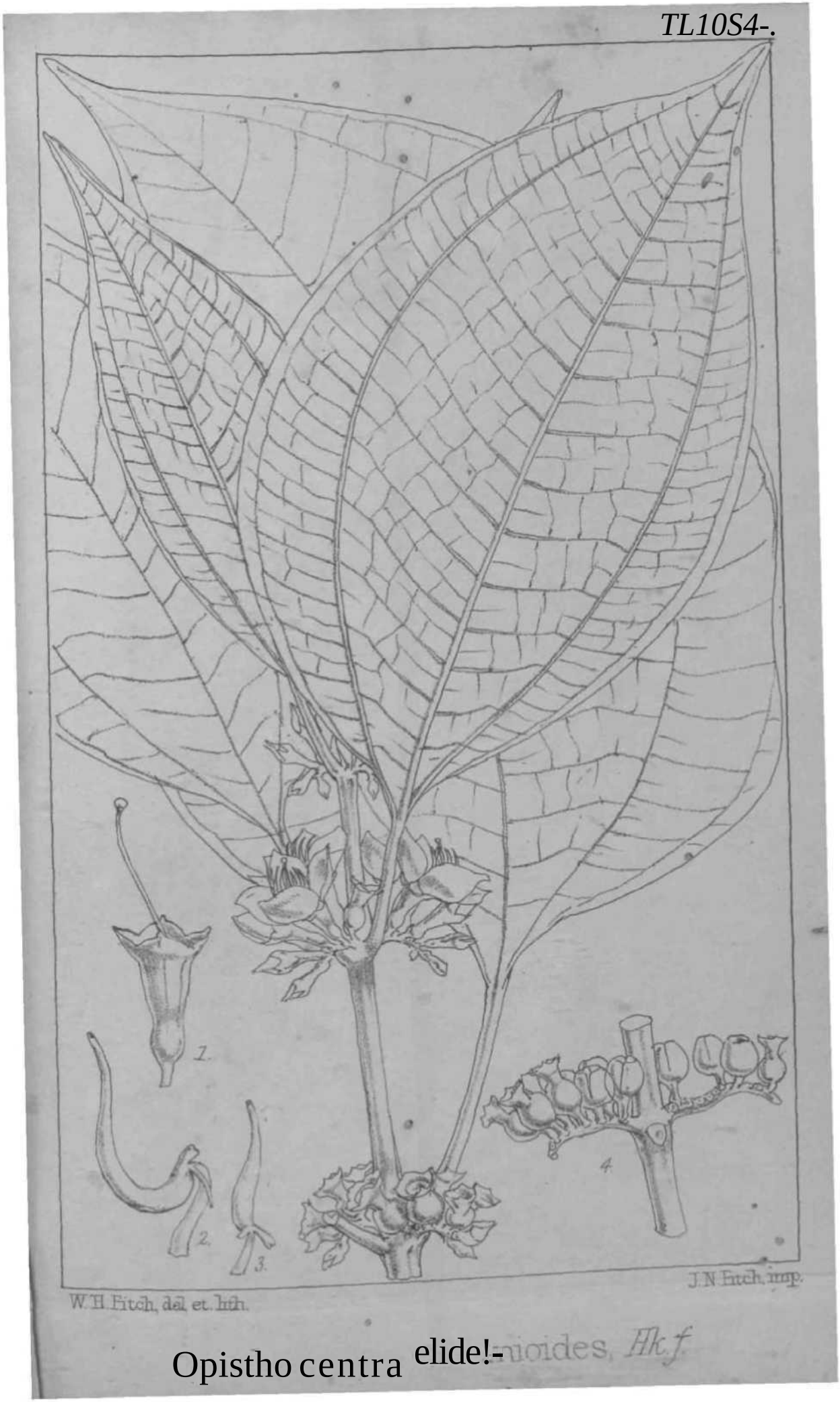
"Leptactina Mannii, Hk. f.

W.H. Fitch, del et lith.

J.N. Fitch, imp.

Phitopis multiflora. Hkf.

TL10S4-.



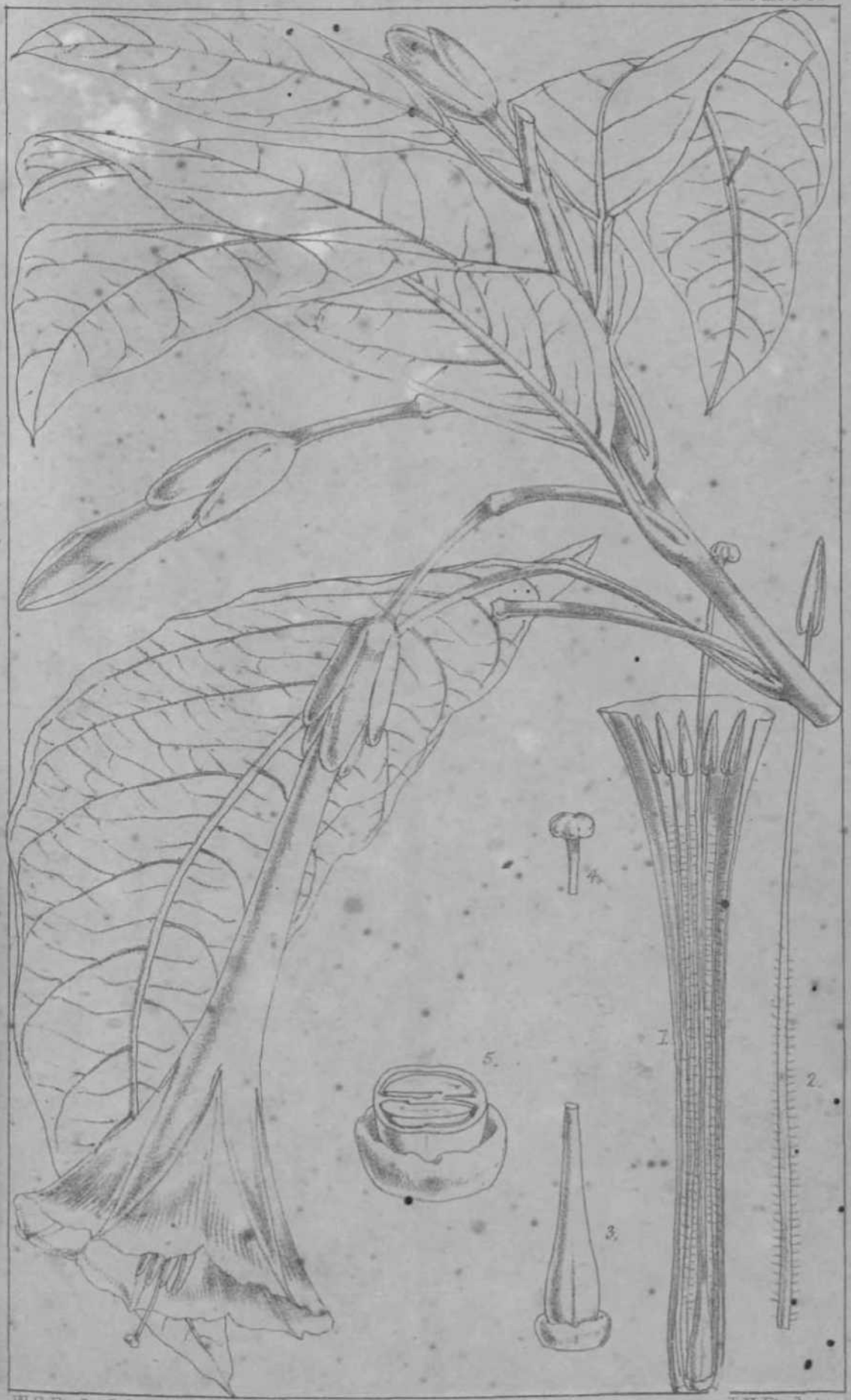
Opistho centra elide!-

Holax anthus Grisebachianus, Hk. f.

W.H. Fitch, del et lith. J.N. Fitch, imp.

Brackenridgea zanguebarica, *Oliv.*

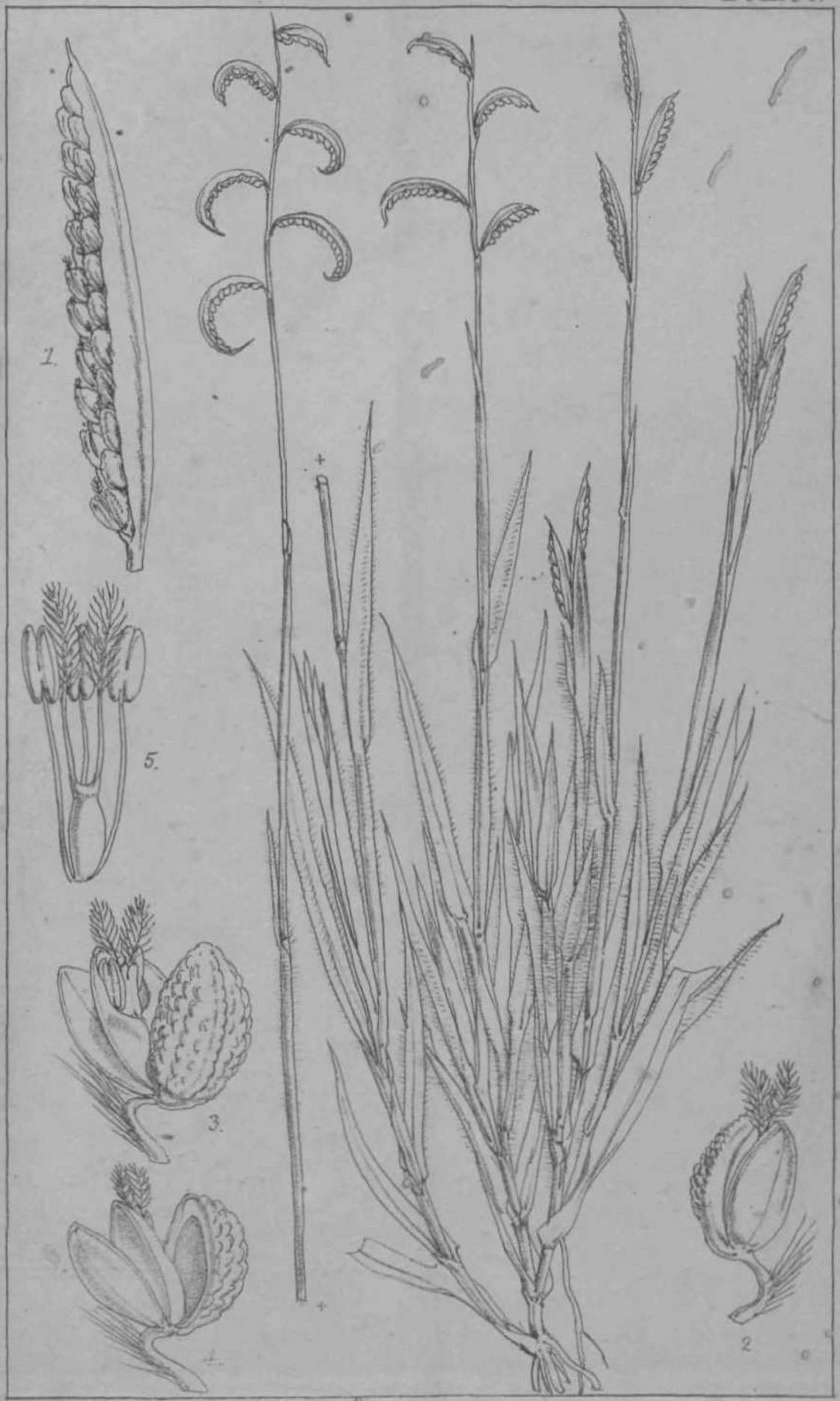
Majidea zanguebarica, Hook.



W.H. Fitch, del. et lith.

J.N. Fitch imp.

Ipomaëa Habeliana, *Ait.*



W. H. Fitch, del. et lith.

J. N. Fitch, imp.

Paspalum Burchellii, *Munro*.

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