

XXIX.—*Floræ Insularum Novæ Zelandiæ Precursor; or a Specimen of the Botany of the Islands of New Zealand.* By ALLAN CUNNINGHAM, Esq.

[Concluded from p. 26.]

FLACOURTIANEÆ, *Rich. in Mém. du Mus. DC.*

MELICYTUS, *Forst.*

Flores dioici v. polygami. *Mas. Cal.* monosepalus, 5-dentatus, dentibus brevibus persistentibus. *Petala* 5 calyce duplo longiora, discohypogyno basi coalita. *Filamenta* 5 clavata cyathiformia antherifera petalis alternata. *Antheræ* erectæ, adnatæ, quadrato-cordatæ, biloculares introstæ, loculis appositis longitudinaliter dehiscentes. *Fæm. Calyx* et *petala* ut in masc. *Discus* e squamis 5, petalis oppositis glandulosis. *Ovarium* liberum sessile, stigmate depresso, 2—5-lobo, terminatum. *Fructus* baccatus, 1-ocularis, indehiscens polyspermus, calyce persistente nec aucto basi cinctus. *Semina* parietalia inæqualia angulata, latere exteriore convexa, testa minutissime scrobiculata.—*Arbusculæ glabræ*. *Folia* alterna, petiolata, exstipulata, oblonga, acuminata, calloso-dentata, membranacea, penninervia, venosa. *Flores parvi albi axillares fasciculati, pedicellati, pedicellis basi bracteolatis.*

623. *M. ramiflorus*, dioicus, foliis obovato-oblongis, fasciculis subsexfloris, petalis ovali-lanceolatis acuminatis, fructu sphæroideo, stigmate 4—5 lobato. *Forst. Prod. n.* 371. *Gen. Char. t.* 62. *DC. Prodr. i.* p. 257. *A. Rich. Fl. Nov. Zel. p.* 313.

Mahöé, indigenis. *R. C.*

New Zealand (Northern Island).—1769, *Sir Jos. Banks*. On the skirts of forests and banks of rivulets, Bay of Islands &c.—1833, *R. Cunningham*. Middle Island.—1773, *G. Forster*.—1827, *D'Urville*.

624. *M. macrophyllus*, polygamus, foliis ovato-oblongis versus petiolum angustatis, fasciculis 8—10-floris, petalis oblongis obtusis, fructu obovato, stigmate 2—3-lobato.

New Zealand (Northern Island). Shady forests in the country between the Bay of Islands and Hokianga river.—1826, *A. Cunningham*.—1833, *R. Cunningham*.

CRUCIFERÆ, *Juss.*

1. NASTURTIIUM, *R. Br. in Hort. Kew.*

625. *N. sylvestre*. *Br. in Hort. Kew. ed. 2. v. iv. p.* 110. *DC. Prodr. n. i. p.* 137. *A. Rich. Fl. Nov. Zel. p.* 309.—*Sisymbrium sylvestre*. *L. E. Bot. t.* 2324.

Chiqui ab incolis vulgo dicitur. *D'Urville*.

New Zealand (Middle Island). On barren spots, Cook's Strait.—1827, *D'Urville*.

2. CARDAMINE, *L.*

626. *C. debilis*, (*Banks and Sol. Ms.*) foliis petiolatis glabris pinnatisectis,

segmentis petiolulatis ovatis subsinuatis subbijugis cum impari reniformi caule debili, siliquis erectis. *DC. Prodr. i. p. 153.*—*Sisymbrium heterophyllum. Forst. Prodr. n. 250. A. Rich. Fl. Nov. Zel. p. 310. Willd. Sp. Pl. iii. p. 505.*

New Zealand (Northern Island).—1769, *Sir Jos. Banks.* In humid woods among ferns on the Kana-Kana river, Bay of Islands.—1826, *A. Cunningham.*

3. ALYSSUM, *DC., L.*

627. *A. maritimum*, caulibus basi suffruticosis procumbentibus, foliis lineari-lanceolatis acutis subincanis, siliquis ovalibus glabris stylo brevi apiculatis. *DC. Prodr. i. p. 164. Willd. Sp. Pl. iii. p. 459.*—*A. halamifolium. L. Curtis Mag. 101.*

New Zealand (Northern Island). Sandy shores of the Bay of Islands.—1833, *A. Cunningham.*

An species indigena?

4. LEPIDIUM, *R. Br., DC.*

628. *L. oleraceum*, siliculis ovatis acutiusculis, foliis glabris elliptico-oblongis profunde serratis, superioribus integris apice subserratis. *DC. Prodr. i. p. 207. Forst. Prodr. n. 248. Willd. Sp. Pl. iii. p. 437. A. Rich. Fl. Nov. Zel. p. 310. t. 35.*

Eketara, indig. *D'Urville.*

New Zealand (Northern Island).—1769, *Sir Jos. Banks.* Shores of the Bay of Islands.—1826, *A. Cunningham.* (Middle Island), shores of Queen Charlotte's Sound.—1773, *G. Forster.*

Brassica sativa (rather *oleracea*, *L.*) and *Raphanus sativus*, *L.* are enumerated by M. Ach. Richard in his 'Essai d'une Flore de la Nouvelle Zélande,' although he admits them not to be indigenous, but originally introduced by European visitors, and like the potato, had become generally wild on the Northern Island, as well in the drier woods as in the waste grounds in the environs of native villages.

MAGNOLIACEÆ, *DC.*

DRIMYS, *Forst., D.C.*

629. *D. axillaris*, foliis oblongis utrinque acuminatis, pedicellis unifloris. *DC. Prodr. i. p. 78. Forst. Gen. Char. t. 42. A. Rich. Fl. Nov. Zel. p. 290.*—*Wintera axillaris. Forst. Prodr. n. 229. Willd. Sp. Pl. ii. p. 1240.*

New Zealand (Northern Island).—1769, *Sir Jos. Banks.* Damp shady forests on the Kana-Kana and Hokianga Rivers.—1826, *A. Cunningham.*—1833, *R. Cunningham.*

RANUNCULACEÆ, *Juss.*

1. RANUNCULUS, *L.*

630. *R. rivularis*, foliis glabris longe petiolatis 3-partitis, partitionibus cuneiformibus apice incis, caule natanti-reptante, pedunculis oppositifoliis unifloris, petalis lanceolatis remotis unguiculatis. *DC. Prodr. i. p. 34. Banks et Sol. Ms. in Bibl. Banks.*

New Zealand (Middle Island). In the channels of rivulets at Totara-nui near Queen Charlotte's Sound.—1769, *Sir Jos. Banks*. On the Kana-Kana and Hokianga Rivers, Bay of Islands.—1826, *A. Cunningham*.

Herba tenella, glabra; caules graciles, reptantes s. nutantes. *Folia* (fere *Trifolii suffocati*) 3-partita, lobis cuneatis apice in lobulos 2—3 divaricatos incis. *Flores* parvi, pallido-flavi, petala lanceolata, remota, elongata unguiculata, unguibus limbos petalorum æquantibus. *Stam.* 8—12. *Ovaria* 6—12. *Carpella* totidem obovata, subcompressa, lævia, stylo rectiusculo filiformi aristata, in capitulum sphæroideum basi villis nonnullis cinctum aggregata.

631. *R. acaulis*, foliis glabris, radicalibus longe petiolatis 3-partitis, lobis ovalibus integerrimis, scapo unifloro nudo petiolis brevior, calyce patente, petalis lanceolatis remotis erectis. *DC. Prodr. i. p. 34. Banks and Sol. Ms.*

New Zealand (Northern Island). In muddy water-courses and wet grounds on the shores of Mercury Bay (Opuragi).—1769, *Sir Jos. Banks*.

Herba glabra, tenella (fere facie *Trifolii uniflori*). *Folia* omnia radicalia, petioli graciles 2—3 poll. longi, limbi 3-partiti, lobis obtusis integerrimis lateralibus ovalibus, medio obovato paulo majore. *Scapus* vix 2-pollicaris nudus 1-florus. *Petula* longe unguiculata, erecta, angusta, acuta (pallide flava v. alba?) staminibus paucis longiora.

632. *R. acris*, foliis pubescentibus subglabrisve palmato-partitis, lobis inciso-dentatis acutis, summis linearibus, caule erecto multifloro subpubescente pedunculis teretibus, calyce subvillosa, carpellis mucrone subrecto terminatis. *DC. Prodr. i. p. 36. A. Rich. Fl. Nov. Zel. p. 289. E. Bot. t. 652.*

Ponkou-Ponkou, s. *Ponkookoo* incolarum. *D'Urville*.

New Zealand (Northern Island). Shores of the Bay of Islands.—1827, *D'Urville*.

633. *R. plebeius*, caule erectiusculo dichotomo basi petiolisque patentim pilosissimo apice subglabro, foliis trisectis villosis, segmentis petiolulatis ovatis inciso-dentatis, summis linearibus integris, caule subreflexo. *DC. Prodr. i. p. 39. R. Br. Ms. ined.*

New Zealand (Northern Island). Banks of the Kahio River, Wangaroa, and elsewhere in moist places in the vicinity of that harbour.—1826, *A. Cunningham*.—1833, *R. Cunningham*.

Caulis suberectus, pedalis sesquipedalisve, apice dichotomo-ramosus, valde hispidus, pilis rigidulis patentibus longis, apice pilis raris adpressis pubescens. *Folia* radicalia et caulina longe petiolata, trisecta, segmentis petiolulatis ovato-cuneatis, inciso-lobatis utrinque villosis; floralia summa linearia parva, integra, pauca. *Pedunculi* graciles, elongati, uniflori. *Flores* lutei vix magnitudine *R. arvensis*. *Calyx* hirsutus, primum patens dein reflexus, petalis obovatis brevior. *Carpella* compressa lævia, stylo uncinato terminata, in capitulum subrotundum aggregata.

The specimens from the above-mentioned localities accord so perfectly with M. DeCandolle's character of Brown's plant, originally found in New South Wales, as to leave no doubt of the identity of the species. The nearest affinities of our plant appear to be with

R. Cappaceus (Sm.) and *R. pimpinelloides* (Hooker, Journ. Bot. i. p. 243.): from the former, however, it differs in its smaller solitary flowers, and from the latter in its leaves being uniformly ternate and each segment deeply incised.

634. *R. hirtus*, caule erecto dichotomo petiolis pedunculisque pilosissimis, foliis caulinis petiolatis inferioribus trisectis, segmentis petiolulatis ovatis dentatis, mediis trilobatis, summis ovali-oblongis, calycibus retroflexis. *DC. Prodr. i. p. 39. Banks and Sol. Ms.*

New Zealand (Northern Island). Shores of Mercury Bay, also at Howa-Howa Bay (Tolaga) in grassy places.—1769, *Sir Jos. Banks*. Near Tauraki on the Hokianga River.—1833, *R. Cunningham*.

Species antecedenti proxima. *Caules* 2—3 erecti ad apicem iisque pilis patentibus rigidis hispidi, dichotomi. *Folia* radicalia et caulina longe petiolata, petiolis hispidis, segmentis grosse dentatis pilosis. *Flores* minimi longe pedunculati, lutei calyces retroflexi, carpella compressa lævia stylo brevissimo recto apiculata, et in capitulum ovatum aggregata.

2. CLEMATIS, L., DC.

635. *C. indivisa*, floribus paniculatis, foliis ternatim sectis, segmentis petiolatis ovalibus obtusis integerrimis mucronatis coriaceis adultis utrinque glabris, foliolis perianthii 6—8 elongato-oblongis obtusis utrinque lanuginosis, staminibus duplo longioribus, antheris submuticis ramulis pedunculisque tomentosis. *Willd. Sp. Pl. ii. p. 1291. DC. Prodr. i. p. 5. A. Rich. Fl. Nov. Zel. p. 288.—C. integrifolia. Forst. Prodr. n. 231. non Linn.*

New Zealand (Northern Island).—1769, *Sir Jos. Banks*. Margins of woods on the shores of the Bay of Islands, and on the Hokianga River, where it was detected flowering in September.—1826, *A. Cunningham*.

Scandens, ramis vetustioribus glabris. *Petoli* cirrhiformes. *Foliola* obtusa, cum mucronulo vel emarginata, coriacea integerrima basi rotundata, aut subcordata interdum obliqua. *Paniculæ* axillares, versus extremitatem ramulorum foliis longiores, ramis oppositis unifloris bracteatis, tomentosis. *Foliola perianthii* plerumque sena, oblonga, obtusa, nervosa, lana crispa dense tecta, nervis anastomozantibus. *Filamenta* complanata sepalorum dimidium æquantia. *Ovaria* numerosa in caudas barbato-plumosas abeuntia.

636. *C. parviflora*, floribus racemoso-paniculatis axillaribus hexasepalis, foliis ternatim sectis, segmentis elliptico-cordatis acuminatis membranaceis venosis integerrimis vel grosse serratis lobatisve, subtus pedunculisque ferrugineo-tomentosis, sepalis oblongo-lanceolatis acuminatis, intus glabris extus pilosis, staminibus paulo longioribus, antheris ovatis apiculo brevi obtuso terminatis.

New Zealand (Northern Island). Thickets on the skirts of forests, Wanga-roa.—1826, *A. Cunningham*.

Frutex scandens, ramis elongatis striatis glabris, ramulis sulcatis, pilis raris conspersis. *Petoli* cirrhiformes. *Foliola* ovali-cordata integra vel inciso-serrata, petiolo duplo longiora. *Paniculæ* laxæ, axillares, folia æquantia, petiolisque tomentosæ. *Flores* hexasepali, sepalis lanceolatis extus ferru-

gineo-pilosis. *Stamina* numerosa, sepala vix æquantia. *Pericarpia* ovata, compressa, villosa, in caudas pilosas attenuatas desinentia, pilis longis simplicibus patentibus.

Closely allied to the following species, but differs in having leaflets of a much thinner texture and uniformly tomentose on their under-side; its flowers also are in loose racemes, much smaller and hermaphrodite.

637. *C. hexasepala*, floribus paniculatis dioicis hexasepalis, foliis ternatim sectis, segmentis ovato-cordatis late crenatis reticulatim venosis glabris coriaceis, sepalis oblongis staminibus triplo longioribus. *DC. Prodr. i. p. 5.*—*C. hexapetala*. *Forst. Prodr. n. 230. Ic. in Bibl. Banks, ined. t. 170.*—*C. odorata*. *Banks et Sol. Mss.*

New Zealand (Northern Island).—1769, *Sir Jos Banks*. (Middle Island.) Queen Charlotte's Sound.—1773, *G. Forster*.

Frutex scandens, ramis teretibus substriatis. *Foliola* ovato-cordata, crenis latis obtusissimis subincisa, petiolata, glaberrima, obsolete trinervia. *Pedunculi* pluries dichotomi, pedicelli elongati foliis triplo longiores v. æquales. *Flores* patentes, 6-sepali sepalis oblongis albido-flavescentibus (in sicco). *Stamina* sepalis ter breviora. *Pericarpia* ovalia, compressa, pubescentia, vix apice attenuata, in caudam barbatam producta*.

GENERA INCERTÆ SEDIS,

vel

quoad Ordines dubia.

1. CORYNOCARPUS, *Forst.*

Calyx inferus pentaphyllus, foliolis oblongis concavis deciduis. *Petala* 5, subrotunda. *Nectarium* (stamina sterilia) e foliolis 5 erectis petaliformibus, cum petalis alternantibus, basi glandula globosa. *Stamina* 5 e basi petalorum. *Antheræ* erectæ oblongæ. *Stylus* brevis, stigmate obtuso. *Drupa* (nux) turbinato-clavata oblonga, 1-sperma.

638. *C. lævigata*. *Forst. Prodr. n. 114. Gen. Char. t. 16. Willd. Sp.*

* Nova satis distincta species est:

C. cocculifolia, floribus paniculatis dioicis 4-sepalis, foliis indivisis longe petiolatis orbiculato-ovalibus obtusis membranaceis 5-nerviis integerrimis glabris, basi sæpius cordatis, sepalis oblongis margine lanatis, antheris ovatis obtuse apiculatis. Crescit in locis apricis præsertim in marginibus sylvarum cæduarum Insulæ Norfolk, ubi Augusto Septembrique floret.

Caulis scandens, uti reliquæ partes, glaberrimus, sulcatus. *Petioli* elongati sæpe cirriformes. *Folia* opposita, petiolata, orbiculata, obtusa, integerrima, basi simplicia rotundata crebre cordata. *Flores* parvi paniculati dioici. *Perianthium* 4-sepalum, sepalis oblongis ovato-lanceolatisve nervosis intus glabris, extus villosis, marginibusque lanigeris, staminibus paulo longioribus. *Stamina* numerosa, filamentis basi complanatis. *Antheræ* ovatæ (post anthesin lineares) apiculatæ, apiculo obtuso. *Pericarpia* ovalia, compressa, villosa, in caudas barbato-plumosas desinentia, apicibus nudis. *A. Cunningham*.

Pl. i. p. 1178. Rœm. et Sch. Syst. Veg. v. p. 345. A. Rich. Fl. Nov. Zel. p. 365.—*Merretia lucida. Sol. Mss. in Bibl. Banks.*

Karaka ab incolis vocatur.

New Zealand (Northern Island).—1769, *Sir Jos. Banks.* In moist shady woods on the shores of the Bay of Islands.—1826, *A. Cunningham.*

Arbor spectabilis (facie *Ardisiæ*) 40-pedalis et altior, ramosa, ramis terebintibus patentibus, glabriusculis apice foliosis, cortice cinereo-brunneo vestitis. *Folia* alterna, petiolata, sesquipalmaria (sæpe 3-pollices lata) obovata v. ovato-oblonga, obtusa, integerrima, glaberrima, lævia. *Panicula* terminalis, simplicissima, racemosa. *Flores* parvi albi pedicellati. *Petala* 5 erecta, æqualia, concava, calyce paulo majora, ungue angusto. *Nectarium* (stamina sterilia), foliola 5 adscendentia, oblonga, acuta, petalis paulo minora et cum eis alternantia, et singula aucta corpusculo glanduliformi globoso, fere ovarii magnitudine. *Ovarium* superum globosum. *Stylus* brevis filiformis. *Stigma* obtusum. *Drupa*, —.

Obs. An *Myrsineis* affine?

This tree, upon which the eye of the traveller rests with pleasure, by reason of its rich dark glossy leaves and highly ornamental growth, furnishes a plum-like fruit, of which the drupaceous coat being when fully ripened of a sweetish taste, is eaten by the natives. The nut or kernel also, upon being deprived (by steaming and maceration in salt water) of the poisonous property which it is said to possess, is held in considerable estimation by the New Zealanders, who collect and store it for food in seasons of dearth. If eaten without this necessary preparation, the body of the person becomes seized with severe spasmodic pains and convulsions, from which the sufferer in some cases does not recover, but has been observed to die in great agony in a few hours. The timber is not used for any other purpose than as fire wood, being of short fibre and very soft.

2. GRISELINÆ, *Forst., Prodr.*

Flores polygami dioici. *Herm. Calyx* superus 5-dentatus. *Corolla* 5-petala. *Stamina* 5. *Styli* 3, cylindrici brevissimi, stigmatibus simplicibus. *Ovarium* 3-loculare? loculis 1-ovulatis. *Masc. Calyx* 5-dentatus. *Corolla* 5-petala. *Stamina* 5. *Antheræ* subrotundæ.

639. *G. lucida. Forst. Prodr. n. 401. Willd. Sp. Pl. iv. p. 1128. Rœm. et Sch. Syst. Veg. vi. p. 641. Spreng. Pugil. i. p. 63.*—*Scopolia lucida. Forst. Char. Gen. t. 70.*

New Zealand (Northern Island). On the shores of Mercury and Howa-Howa Bays, upon the east coast.—1769, *Sir Jos. Banks.* (Middle Island.)—1773, *G. Forster.*

Arbuscula, ramis erectiusculis, ramulis divaricatis sulcatis, cortice fusco-olivaceo tectis. *Folia* alterna, petiolata, oblonga, coriacea, basi inæqualia, hinc attenuata, inde rotundata, integerrima, obtusa, utrinque glabra, supra nitida, subtus opaca venosa, fere spithamæa, palmam lata. *Panicula* termi-

nalis aphylla: rami divergentes bractea suffulti, pedunculis subtrifidis. *Flores masculi* fæmineis interpositi, illorum calyx pentaphyllus rotatus, stamina calyce parum longiora. *Antheræ* 4-loculares. *Fæmineus*: calyx 5-dentatus, styli 3 lanceolati. *Fructus* trigonus trispermus videtur. Hinc potius ad Cl. xxi. releganda inter *Tricocca*, *Crotonopsin* inter et *Polychroam*.—*Spr. loc. cit.*

Forsan ad *Euphorbiaceas* pertinet?

Quid *Cliffortioides cordata*, *Sol. Mss. ex Forst. p. n. 660.* absq. descr. vel *C. oblongata*, *Sol. Mss. in Bibl. Banks.?*

Frutices Novæ Zelandiæ: ad sylvas juxta Totara rivi, prope littora Freti Cook, incolunt, 1769. *Illustr. Banks.*

XXX.—Information respecting Botanical Travellers.

Mr. Schomburgk's recent Expedition in Guiana.

[Continued from p. 199.]

ON our march over the savannahs we discovered them frequently grazing in groups, some of the older bulls keeping the outposts. As soon as danger is approaching they give the signal by loudly bellowing, and the whole herd is immediately on the alert; they stand gazing, and snuff the air as if they intended to ascertain by smell the extent of danger. On nearer approach, the bulls which stood guard are seen to show their dissatisfaction of the interruption; they stamp with their feet and bow to the ground with their head, tossing up the sand and grass high in the air. If the assailants are numerous and continue their approach, the bull retreats for a short distance, but turns and repeats the former manœuvre; and if this does not intimidate the enemy, they then consider it time to follow speedily the retreating herd.

I consider the number of wild cattle scattered over the savannahs at about 4000, but I doubt whether they are on the increase, as man and jaguars commit fearful ravages among them. To judge from what I have seen I should say the number of bulls amounts to about a third. The general colour of the wild cattle is brown or black, and there are very few spotted among them. Their most deadly enemy is the greater jaguar, *Felis onca*, Linn., which hovers in such quantities about Fort San Joaquim, that during the month of June 1838, twelve individuals were killed by the cattle-drivers. They are very daring, and sometimes kill cattle within a few yards of houses that are inhabited. They care very little for the fires which are made to prevent their encroachments. If one or a pair of these animals should take up their quarters in the vicinity of a cattle farm,



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