ART. IV.—*Descriptions of New Native Phanerogams, with other Short Notices.*

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[*Read before the Auckland Institute, 16th December, 1914.*]

1. **Aciphylla Cuthbertiana** sp. nov.

Caules caespitosi 25–35 cm. alti graciles ± 3 mm. in diam. leviter canaliculati.

Folia 20–30 cm. longa longe petiolata trifoliolata v. pinnata cum foliolorum paribus duobus (raro unifoliolata); foliolis 10–15 cm. longis anguste linearibus striatis basi iterumque subaltius articulatis acuminatis subpungentibus; petiolis foliolis aequilongis ac aequilatis basi articulatis; vaginis petiolis multo brevioribus a lateribus spinas breves subulato-acuminatas edentibus.

Inflorescentia feminea ± 9 cm. longa, umbellis parvis bracteis confertis latis longiusculis vaginantibus paene absconditis; bracteis apice trifoliolatis (raro unifoliolatis).

Fructus 5 mm. longus, carpellis distincte 4–5-alatis.

Stems tufted, 25–35 cm. high, long-petiolate trifoliolate or pinnate with 2 distant pairs of leaflets (rarely unifoliolate), glabrous; leaflets 10–15 cm. long, narrow linear, striate, acuminate, subpungent, ± 2 mm. broad, jointed at the point of origin and again some distance above, midrib prominent above and channelled, edges thickened smooth, venation very obscure; petioles as wide and as long as the leaflets, above concave or nearly flat, jointed at the base; midrib little prominent; sheaths much shorter than the petioles, polished, membranous, dilated downwards, with 2 short subulate acuminate spines at the top.

Male inflorescence broadly linear-oblong, peduncles much branched, the lower long, the upper gradually shorter; lower involucral bracts leaf-like, long-sheathing, the upper simple narrowed into an acuminate tip without lateral spines. Female inflorescence short and broad, ± 9 cm. long, umbels small with sparingly branched peduncles nearly hidden by the crowded broad long-sheathing bracts that terminate in an acuminate leaflet flanked by 2 lateral linear spines or are narrowed to a single fine point.

Fruits rather large, 5 mm. long, carpels strongly 4–5-winged.

Hab.—Subalpine meadow on the mountains of Fiord County, the Hump, and End Peak, J Crosby Smith! Mount Cleughearn; Messrs. Crosby Smith and Cuthbert!

The very narrow long rather flaccid leaves and their strongly marked articulations are ready distinguishing characters for this species. Mr. Cuthbert's services and kind assistance have made exploration in the neighbourhood of his "run" at Sunnyside a comparatively easy task.

2. **Aciphylla Crosby-Smithii** sp. nov. (preliminary notice).

This plant was collected by Mr. J. Crosby Smith in January last, at an elevation of about 5,000 ft., on Mount Cleughearn, Fiord County. It is

obviously distinct from any of the known native species, and seems most nearly related to *A. Spedeni* Cheesm. It differs from this in having rather long leafy stems closely covered by imbricating broadly cuneate coriaceous leaves, each with 3 pairs of leaflets, all nearly equalling the terminal one, and the lowermost pair somewhat remote. Above, the prominent midrib is thickened and channelled, while the margins of the glabrous pungent-pointed leaflets are yellowish and strongly thickened. The veins diverge obliquely from the midrib, forming narrow more or less oblong areoles. The flowers and fruit are still unknown, Mr. Crosby Smith having omitted to collect them, as he supposed the plant was *A. Dobsoni* Hook. f., to which it bears some resemblance in habit of growth, though otherwise very different. A fuller description is deferred until flowering specimens are obtained. Meanwhile this notice may serve to direct attention to an interesting novelty.

3. **Aciphylla cartilaginea** sp. nov.

Culmi 10–18 cm. longi e radice simplici v. ± divisa crassa elongata.

Folia omnia radicalia haud numerosa 6–9 cm. longa trifoliolata v. pinnata, foliolis 3–5 ad 3–4 cm. longis ± 3 mm. latis cartilagineis in apicem rigidum pungentem attenuatis; costa media prominente flava canaliculata, marginibus flavis incrassatis, venis obscuris a costa angulis fere paribus abeuntibus; vaginae foliis duplo breviores latae sensim deorsum dilatatae membranaceae striatae, nervis parallelis manifestis.

Inflorescentia feminea 5–7 cm. longa culmo subcrasso canaliculato recto folia plerumque excedente fulta, umbellis 5–6 confertis a bracteis breviusculis late vaginantibus ac in foliola tria longiuscula spiniformia pungentia continuatis paene absconditis.

Fructus lineari-ellipticus 3 mm. longus.

Stems 10–18 cm. high, from a simple or branched elongated tap-root as thick as the middle finger.

Leaves all radical, rather few, 6–9 cm. long, trifoliolate or more commonly pinnate with 2 pairs of leaflets and a terminal one, the lateral leaflets sometimes giving off a secondary leaflet on the outer side, stiffly cartilaginous; leaflets 3–4 cm. long, 2½–3 mm. broad, narrowed to a spinous pungent point with a conspicuous channelled yellow midrib and thickened yellow margins, veins obscure issuing from the midrib almost at right angles; sheaths half as long as the leaves, or rather more, gradually widening out below, membranous, striate, broad, with evident parallel veins.

Flowering-stems rather thin and flexuous in male plants, stouter grooved and straight in female ones; female inflorescence 5–7 cm. long, umbels 5–6 crowded small almost concealed by the rather short broadly sheathing bracts which end in 3 longish spinous pungent leaflets.

Fruit linear-elliptic, 3 mm. long.

Hab.—Wet alpine meadow of the higher hills of Stewart Island; Mount Rakiahua, P. Goyen! D. Petrie; Frazer Peaks, F. R. Chapman! G. M. Thomson! D. Petrie.

The present plant has its nearest ally in *A. Traillii* T. Kirk, to which Mr. Cheeseman refers it (Manual, p. 212). The leaves of the two species are very different, and are alone sufficient to distinguish them. The differences are partly noted in Mr. Kirk's original description of *A. Traillii*. The broad canaliculate yellow midrib, the thickened yellow margins, and

the obscure rectangular venation are characters that give it a quite distinct position. In very exposed situations the flowering-stems are greatly reduced and almost sunk among the leaves. So far as I am aware, it has not been collected on Mount Anglem.

4. **Celmisia glabrescens** sp. nov.

Species *C. glandulosae* Hk. f. affinis; differt foliis longioribus angustioribus integris infra tenuiter tomentosis, scapis elongatis glabris, capitulis majoribus ac radiis multo longioribus instructis.

Stems loosely tufted, slender, giving off lateral leafy stolons that frequently root at the base of the leafy tips.

Leaves numerous, erect or ascending, 5–9 cm. long, 1½–2 cm. broad, lanceolate-spathulate, acute, apiculate, shortly subulate-dentate at the edges, glabrous and green above, below clothed with thin appressed greyish-green tomentum, the midrib glabrous and prominent, gradually narrowed into an almost linear petiole ⅓ as long as the blade and expanding below into a broad strongly-veined sheath, venation obscurely reticulate.

Scapes as many as 4 on each branch, erect, or ascending at the base, 15–25 cm. high, striate, glabrous, slightly viscid above; bracts few, distant, linear, acute, with prominent midribs.

Heads ± 2·5 cm. across, involucral bracts in 2–3 series, linear-subulate, viscid, the outer reflexed, the inner paler and ciliate, hairy at the tips; rays numerous, narrow, spreading.

Achene silky.

Hab.—Meadow near Freshwater River, Stewart Island, 100 ft.; D. L. Poppelwell! I am indebted to Mr. Poppelwell for specimens of this species.

5. **Celmisia Poppelwellii** sp. nov.

Species *C. Haastii* Hk. f. affinis; differt foliis numerosis multo minoribus angustioribus integerrimis dense imbricatis, capitulis minoribus, scapis gracilioribus, foliorum parte petiolari quam lamina ⅓ angustiora.

Stems moderately stout, ± 10 cm. high, giving off several horizontal or ascending branches.

Leaves closely imbricating, ± 2 cm. long, 5 mm. broad, linear-subspathulate, rather coriaceous, acute or subacute, recurved at the edges, not toothed, suddenly expanded below the petiolar part into a broad glabrous strongly-nerved sheath with thin brown edges, above more or less plaited and covered with a rather loose pellicle of silvery-grey tomentum, clothed below with loose grey tomentum; midrib prominent below, more or less glabrous.

Scapes 1 to 3 from each branch, 8–12 cm. long, slender, more or less tomentose, bracts numerous, linear, sparingly or densely tomentose.

Heads 2–2·5 cm. across, involucral bracts in 2 or 3 series, linear-subulate, somewhat viscid; rays numerous.

Achenes glabrous.

Hab.—Subalpine meadow, on the Eyre Mountains, Central Otago; D. L. Poppelwell! I have seen only three or four specimens of this plant. Mr. J. Crosby Smith sends from Mount Cleughearn, Fiord County, what seems to be a smaller and narrower-leaved form; his specimens are not in flower.

6. Abrotanella filiformis sp. nov.

Minuta glabra breviter repens.

Folia pauca erecta v. ascendentia 8–12 mm. longa peranguste linearia enervia basi in vaginam striatam expansa.

Scapi gracillimi solitarii (raro bini) florigeri 5 mm. fructiferi 12 mm. longi; bracteis 4–5 brevibus peranguste linearibus.

Capitula solitaria parva 1 mm. longa ac lata; involucri squamae 8–10; flores minuti 5–6, squamas haud excedentes.

Achenia anguste fusiformia squamis fere aequilonga.

A minute shortly and loosely creeping glabrous plant giving off at intervals scattered few-leaved flowering-stems.

Leaves few, very narrow linear, 8–12 mm. long, nerveless, expanded below into a striate sheath.

Scapes solitary (rarely in twos), very slender, 5 mm. long when in flower, lengthening to 12 mm. in fruit; bracts 4–5, short, very narrow linear.

Heads solitary; small, 1 mm. long, and broad; involucral scales 8–10, shortly oblong, obtuse or sometimes subacute, greenish at the middle, with broad hyaline margins, obscurely 3-nerved; flowers minute, 5–6, not exceeding the scales.

Achenes narrow, spindle-shaped, distantly but not deeply ribbed, almost as long as the scales.

Hab.—Wet peaty puddles in open lowland moor near the head of Paterson Inlet, Stewart Island.

7. Abrotanella Christenseni sp. nov.

Folia rosulata 15–18 mm. longa 4 mm. juxta apicem lata anguste cuneata tenuia obtusa apice ac a parte superiore breviter dentata pilis gracillimis ex una cellularum serie constructis ± vestita; costa subtus conspicua.

Scapi complures inaequaliter provenientes erecti simplices sparse pilosi prope basim bibracteati in fructu ad 20 mm. elongati.

Capitula solitaria parva (1¼ mm. in diam.); flores numerosi minuti involucrum haud excedentes.

Achenia ad 20 1 mm. longa lineari-oblonga compressa margine ± incrassata.

Leaves radical, rosulate, 15–18 mm. long, 4 mm. broad, narrow-cuneate, thin, obtuse, shortly toothed at and near the tip, above sparsely clad with rather long slender hairs composed of a single row of cells, under-surface more glabrous except on the evident midrib.

Scapes several, erect, simple, slender, sparsely pilose, with 2 usually opposite linear bracts near the base, maturing irregularly and in fruit elongating to 15–20 mm.

Heads solitary, small (1¼ mm. in diameter); involucral bracts in two series, shortly oblong, obtuse, thin, crenately wavy at the top, the inner narrower; flowers numerous, minute, not exceeding the involucre.

Achenes 20 or fewer, 1 mm. long, linear-oblong, compressed, slightly thickened along the margin.

Hab.—Bare spots in dry fescue tussock steppe, Hanmer Plains. I have great pleasure in dedicating this curious species to its discoverer, Mr. C. Christensen, who is doing valuable work in botanical research in the Amuri district.

8. **Veronica cassinioides** H. J. Matthews (in litt.) sp. nov.

V. humilis erecta ramosa, ramis fastigiatis. Caules infra afoliati cicatricibus foliorum delapsorum confertis circularibus notati; rami foliosi foliis patentibus v. patulis instructi; ramuli bifariam pubescentes foliis imbricatis vestiti.

Folia decussata coriacea ± 4 mm. longa anguste lanceolata v. subtriangulari-lanceolata acute carinata supra ± convexa basi latiusculo sessilia vix connata subcompressa glabra integerrima, juniorum marginibus parce ciliatis; bracteae tenues ovatae marginibus ciliatae.

Flores spiciformi-racemosi terminales v. subterminales albi majusculi fere sessiles in paribus oppositis dispositi; calycis lobi 4, obtusi tenues ciliati, anterioribus duobus paene apicem tenus connatis; corollae tubus angustus subpilosus calycem excedens, limbus in lobos 4 latiusculos obtusos tubum aequantes sectus; stamina longe exserta; stylo stamina subaequante.

Capsula lata a dorso compressa obtusa 5–7 mm. longa calycem duplo superans, apice late emarginata.

A rather low erect shrub with numerous fastigate leafy branches, usually reddish when dried.

Stem and older branches leafless, marked by the prominent close circular scars of fallen leaves; younger branches with more or less scattered patent or spreading leaves; young shoots bifariously pubescent, clothed with close-set imbricating leaves.

Leaves decussate, coriaceous, ± 4 mm. long, narrow- or subtriangular-lanceolate, acute, keeled, more or less convex above, sessile by a wide base, entire, glabrous, subcompressed, the younger sparsely ciliate at the edges; bracts thin, ovate, obtuse, with ciliate margins.

Flowers in a spike-like raceme, terminal or subterminal, white, rather large, almost sessile, arranged in opposite pairs; calyx-lobes 4, thin obtuse ciliate, the two anterior connate almost to the tips; corolla-tube narrow, subpilose, longer than the calyx, limb cut into 4 rather broad obtuse lobes as long as the tube; stamens long, exserted; style nearly equalling the stamens.

Capsule broad, dorsally compressed, glabrous, obtuse, 5–7 mm. long, twice as long as the calyx, broadly emarginate at the top, the base of the style generally persistent.

Hab.—Moist subalpine meadow, Takitimu Mountains, *fide* H. J. Matthews; Blue Lake, Garvie Mountains, 4,000 ft., D. L. Poppelwell and D. Steadman! The nearest ally of this species is *V. anomala* J. B. Armstrong.

Of this plant Dr. Cockayne writes in one of his publications, "It appears to me to be without doubt a permanent juvenile form, intermediate between the early pinnatifid and adult scale-leaved stages of the whipcord Veronicas, the adult of which is probably extinct. A closely allied plant has recently been collected by Mr. D. L. Poppelwell on the Garvie Mountains, but not in flower, and it may turn eventually into the cupressoid stage."* The Garvie Mountain plant has for some time been in cultivation at the Waikaia Public School garden, and I have well-grown specimens from there, as well as others from Mr. Poppelwell, that clearly establish their identity with Mr. Matthews's *V. cassinioides*. I know of no valid reason for Dr. Cockayne's fanciful speculations about this plant.

* Report Aust. Assoc. Adv. Sci., vol. 13, p. 219.

Its life-history is in the main well known; at no stage does it show the foliage features peculiar to the whipcord Veronicas, and its course of development is quite normal. The adult stage of the plant has been known for several years, if a plant that bears flowers and fruit, and maintains the ordinary characters of its leaves and shoots to the last unchanged, is an adult. To postulate that the adult form is probably extinct, without a shred of proof, except that flowering and fruiting plants were unknown to the writer, is wholly unwarranted. Some six or seven years ago Mr. Matthews asked me to describe this species, and supplied me with specimens in flower and fruit that had been cultivated in his garden in Dunedin. A description of it was then drawn up, but I have deferred its publication until specimens growing wild had been secured. Mr. Steadman's and Mr. Poppelwell's discovery of wild plants near the Blue Lake, Garvie Mountains, has at length removed this obstacle. It gives me peculiar pleasure to publish this species, in which my late friend took so lively an interest.

9. Euphrasia integrifolia sp. nov.

Caules repentes et radicantes ± 5 cm. longi glabri graciles ramos complures breves edentes.

Folia in paribus oppositis disposita 3–4 mm. longa conferta glabra integra submembranacea lineari-lanceolata acuminata basi late sessilia, venis perobscuris.

Flores pauci in foliorum superiorum axillis laxe dispositi 8–10 mm. longi subsessiles; calyx corollae tubo multo brevior campanulatus glaber in lobos 4 triangulares acutos sectus; corollae tubus sublatus, labium superius vix arcuatum late emarginatum, inferius in lobos 3 breves rotundatos sectum; antherae maturae exsertae.

Capsula (submatura) obovata calyci subaequalis compressa glabrescens acuta v. subacuta.

Semina in cellula utraque compluria, matura haud visa.

A slender creeping and rooting loosely matted plant. Stems ± 5 cm. long, glabrous, rather slender, giving off several short or moderately long branches from the axils of the lower leaves.

Leaves in opposite pairs, 3–4 mm. long, sessile by a broad base, not connate, glabrous, linear-lanceolate, acuminate, submembranous, entire, veins very obscure.

Flowers few in the axils of the upper leaves, 8–10 mm. long, nearly sessile, white with a purple streak at the back of each lobe of the corolla; calyx ¼ the length of the corolla, campanulate, glabrous, shortly cut into 4 triangular acute lobes; tube of corolla rather wide, upper lip short, barely arched, broadly emarginate, lower divided into 3 short rounded lobes; anthers exserted when mature, style long.

Capsule about as long as the calyx, obovate, compressed, glabrescent, acute or subacute.

Seeds several in each cell; mature not seen.

Hab.—Wet alpine meadow and bogs on Mount Cleughearn, Fiord County, Southland, about 5,000 ft.; J. Crosby Smith!

Unfortunately, but little material of this very distinct species was secured by Messrs. Crosby Smith and Cuthbert. In no other native species

of this genus are the leaves entire. The plant has much the same look and habit of growth as *Anagosperma*, but there are certainly several young seeds in each cell, and it is likely that most of these would mature. Fresh or spirit-preserved specimens are needed to prepare a quite satisfactory analysis of the flowers and fruit.

10. Atriplex Buchanani T. Kirk var. tenuicaulis var. nov.

Culmi graciles teretes erecti v. ascendentes parum rigidi a radice longo gracili singuli v bini v. terni v. quaterni orientes, 12–20 cm. alti, interdum apicem versus ± divisi.

Folia pauca inferne distantia superne crebriora ovato-lanceolata, quam in typo longiora ac angustiora.

Cetera ut in forma typica.

Stems slender, terete, not stiff, glabrous below, more or less farinose above, springing singly or in twos, threes, or fours from the top of the long slender root, 12–20 cm. high, sometimes sparingly subdivided towards the top.

Leaves few, distant on the lower part of the stem, closer set above, ovate-lanceolate, subacute or obtuse, usually longer and narrower than in the type.

Flowers and fruit as in the typical form.

Hab.—Moist grassy stations by the seaside. Centre Island; T. Kirk! A small island off Ototara, near Oreti mouth; J. Crosby Smith!

At first sight it is hard to realize that this form can be conspecific with the type, but the differences, which appear to be quite constant, are confined to the height, the erect slender habit of growth, and the more scattered leaves, the floral characters showing no important deviation from the type. An examination of fresh or spirit specimens might perhaps show that such differences exist.

11. Uncinia uncinata (L. f.) Kükenth. var. pedicellata (Kükenth.) Petrie var. nov.

The present variety is *Uncinia pedicellata* Kükenth., which I am unable to regard as a valid species. It is a widely spread form, marked in the Stewart Island area by a prevalent reddish-brown colouring that is usually absent elsewhere, and is probably attributable to the more or less peaty soil in which it grows there. The rather long stipitate utricles do not differ in any conspicuous way from those of *U. uncinata*, and the supposed absence in the latter of the annulation at the apex of the nut, on which Kükenthal lays so much stress in distinguishing the species, has never been observed by me in any specimen I have collected or had access to in the collections of others. The variety is chiefly distinguished by the narrow inflorescence that is frequently longer than in the typical form, the somewhat shorter glumes, and the more decidedly stipitate utricles. The plant has been well known to New Zealand botanical workers for many years, all of whom referred it to *U. australis* Pers. (= *U. uncinata*). I have it from the following localities: Kaitaia (Carse!), Tamaki West, Ruahine Mountains, Hokitika (T. Kirk!), Half-moon Bay, Catlin's River, Chatham Islands (J. S. Tennant!), and Auckland Islands (Aston!).

12. Uncinia strictissima (Kükenth.) Petrie comb. nov.

This is the plant described by me in the "Transactions of the New Zealand Institute," vol. 17, p. 271, under the name *U. rigida*. That name proved to be preoccupied, having been previously applied by Boeckeler to a species from Tristan da Cunha. I am unable to regard it as a variety of *U. rubra* Boott, a view that commends itself to Cheeseman as well as to Kükenthal. The opinions of the latter have vacillated in a remarkable way in the course of his investigation of this genus, and at one stage in their development he went so far as to place *U. rubra* Boott as a variety of *U. riparia* B. Br.

The characteristics of this plant are well set out in Cheeseman's description of his var. *rigida* of *U. rubra* Boott. The characters that separate it from *U. rubra* appear to me more decided and more constant than are those distinguishing most of the species of this difficult genus. Of these the most important are the green colour of the subaerial parts, the rather stout terete rigid culms that greatly elongate in fruiting, the rigid erect deeply grooved leaves, the constantly bracteate spikes, the bristle always shorter than the utricle, and the densely compacted rush-like tufted habit of growth.

The range of the species is now better known. It extends from the base of Jack's Pass (Amuri County) to Stewart Island, and occurs also on the Auckland Islands, where it was collected in 1890 by Mr. F. R. Chapman. Dr. L. Cockayne, F.R.S., in his "Report on the Stewart Island Flora," recognizes the plant as a valid species.

13. Carex chathamica sp. nov.

Culmi ad 6 dcm. longi erecti leves triquetri moderate robusti.

Folia culmis breviora plana 8 mm. lata levia, supra 3-nervata, subtus striata ac costa media conspicua, basi haud vaginante.

Spiculae plerumque 7 simplices, summae tres masculae sessiles confertae, reliquae femineae v. floribus paucis masculis apice instructae, pedunculatae erectae ad 6 cm. longae distantes longe vaginatae, superioribus pedunculos gradatim breviores praebentibus; bracteis longis foliosis, superioribus gradatim abbreviatis.

Glumae 6 mm. longae anguste lineari-lanceolatae acutae v. acuminatae integrae v. apice leviter bifidae membranaceae 1-nervatae.

Utriculi glumis breviores ± 3 mm. longi turgide biconvexi conspicue 2-nervati aliter enervii brunnei politi nitentes breviter stipitati, supra in rostrum breve glaberrimum subobscure bidentatum subito contracti.

Nux late ovata, supra obtuse trigona. Stigmata 3.

Culms 6 dcm. high or less, erect or inclined at the top, smooth, triquetrous, moderately stout.

Leaves shorter than the culms, flat, 8 mm. broad, smooth, slightly thickened at the edges and finely serrate towards the gradually narrowed tips, 3-nerved above, below striate with conspicuous midrib, the base not sheathing and marked off by a conspicuous oblique purplish ligule.

Spikelets usually 7 simple (very rarely with a small secondary spikelet at the base), the 3 (rarely 4) topmost male, rather slender, sessile, and closely placed, the others female or with a few male flowers at the top, erect, distant, the lowermost with long peduncles, the higher with peduncles

progressively shorter, the bottom spikelet 5–6 cm. long, ¾ cm. broad, the higher progressively shorter; bracts long, leafy, getting shorter from below upwards, with long closed sheaths nearly equalling the peduncles.

Glumes 6 mm. long, narrow linear-lanceolate, acute or acuminate, entire or slightly bifid at the tip, and produced into a short mucro, membranous, 1-nerved, yellowish or pale brown with a lighter midrib.

Utricles shorter than the glumes, 3 mm. long, turgidly biconvex, strongly 2-nerved (otherwise nerveless), dark brown, polished and shining, very shortly stipitate, suddenly contracted above into a short smooth rather obscurely bidentate beak.

Nut broadly ovate, obtusely trigonous above. Stigmata 3.

Hab.—Swampy ground at Chatham Islands.

To Mr. W. R. B. Oliver I am indebted for the few over-mature specimens of this plant that have been examined. It is very distinct from the already-known native species. Mr. Oliver has the impression that it is not uncommon in swampy stations on the Chathams.

14. Carex kermadecensis sp. nov.

Folia radicalia haud visa.

Culmi (infra imperfecti) ad 6 dcm. alti moderate robusti erecti pallidi striati triquetri.

Spiculae 5–8 (forsan plures), infima longe distante simplici, superioribus plerumque ± confertis in 2–4 spiculas secundarias sessiles confertas longitudine inaequales divisis, erectae pallidae ± 5 cm. longae 6 mm. latae; supremis 3–4 mere musculis v. floribus paucis femineis apice instructis, reliquis femineis; bracteae longe vaginantes foliosae, infimis culmos valde excedentibus, superioribus cito abbreviatis.

Glumae dense confertae ovato-lanceolatae membranaceae 3-nervatae integrae v. apice bifidae, in mucronem brevem ± scabridum productae, utriculos aequantes.

Utriculi 4 mm. longi 1 mm. lati anguste elliptici breviter stipitati, supra sensim attenuati in rostrum tenue sublongum parce scabridum dentibus duobus longis tenuibus scabridis vix divergentibus instructum, leviter biconvexi nervis lateralibus duobus conspicuis ac aliis numerosis delicatulis a latere utroque praediti.

Nux elliptica aeque supra infraque contracta acute trigona ubique delicatule punctulata. Stigmata 3 (raro 2).

Radical leaves not seen.

Culms (imperfect below) 6 dcm. high or less, moderately stout, pale, smooth or slightly scabrid at the angles, striate, triquetrous.

Spikelets 5–8 or perhaps more, the lowermost long-distant and simple, the upper more or less closely placed (usually overlapping), subdivided into 2–4 secondary sessile crowded spikelets of unequal length, the lower on long slender flattened peduncles, the upper sessile or nearly so, erect, pale, 5 cm. long or less, ± 6 mm. broad, a few of the uppermost purely male or with a few female flowers at the top, the rest female; bracts long-sheathing, leafy, the lower greatly exceeding the culms, the upper rapidly shortening.

Glumes densely crowded, ovate-lanceolate, membranous, 3-nerved, pale brown with a lighter median stripe, acute, entire or bifid at the top, and

produced into a short thin more or less scabrid mucro, as long as the utricles.

Utricles 4 mm. long, 1 mm. broad, narrow elliptic, shortly stipitate, gradually narrowed above into a rather long slender slightly scabrid beak ending in 2 long slender scarcely diverging scabrid teeth, thin, flatly biconvex with two prominent lateral nerves and numerous other delicate nerves along either side.

Nut elliptic, equally narrowed above and below, sharply trigonous, delicately punctulate.

Style branches 3 (rarely 2), short.

Hab.—Denham Bay, Sunday Island, Kermadecs.

Mr. W. R. B. Oliver discovered this plant, which he has kindly placed in my hands for description. The material is imperfect, only the culms being represented. Freshly gathered specimens are needed to allow of a more accurate description of the singular inflorescence, but I hope that my account will not prove very wide of the mark. The lowermost simple spikelet may not always be present, while the compound spikelets, that are usually closely placed, are widely distant in one of the specimens examined. The plant was formerly referred to *C. Forsteri* Wahl. as subspecies *insularis* Oliver, but it does not appear to me closely related to that species, or, indeed, to any other of the native forms.

15. **Calamagrostis (Deyeuxia) Youngii** (Hook. f.) Cheesm. var. **Petriei** comb. nov.

Planta a forma typica differt arista a gluma florigera media oriente.

The present variety is the *Deyeuxia Petriei* of Cheeseman's "Manual of the New Zealand Flora" (= *Calamagrostis Petriei* Hackel). Its only important difference from the typical form is in the position of the awn, which springs from the middle of the back of the flowering-glume. Neither Hackel nor Cheeseman had seen Hooker's plant when their descriptions of *Calamagrostis (Deyeuxia) Petriei* were made out. The figures of *Deyeuxia Youngii* in Buchanan's "Indigenous Grasses of New Zealand" probably represent a form of *Deyeuxia quadriseta* R. Br., though the enlarged drawings of the spikelet may represent the real plant. Buchanan considered it a common grass in the hilly parts of southern Otago. If this was formerly the case, the plant must have been largely eaten out by stock, for it is now, I believe, quite rare in these districts.

16. **Poa Colensoi** Hook. f. var. **brevi-ligulata** var. nov.

Differt a typo ligula valde brevi v. obsoleta crassiore haud vaginante, vaginis angustioribus.

This variety differs from the typical form in possessing very short or obsolete more coriaceous non-sheathing ligules and narrower sheaths. The leaves are usually more erect and rigid and often more or less pungent-pointed, while the plants frequently form firmly compacted sward-like patches of considerable size.

In all the extant descriptions of *Poa Colensoi* the ligule is said to be very long and sheathing; as Mr. Cheeseman puts it ("Manual of New Zealand Flora," p. 908), "Ligules very large and long, sheathing, membranous, hyaline." This condition is, however, very far from constant. My col-

lection contains specimens of this grass from some twenty-five widely separated stations, and in more than half of these it is the short-liguled form that occurs. The only North Island station for this form known to me is Mount Egmont. In the South Island both forms are widely spread, but the short-liguled form seems to predominate at considerable elevations in the southern and south-western districts.

17. **Poa caespitosa** Forst. f. var. **planifolia** var. nov.

Culmi validi, florentes folia aequantes vel paullo excedentes, fructiferi ± elongati, 5–6 dcm. alti, vaginis longis scabriusculis sulcatis ad paniculi basim vestiti.

Folia plana ± coriacea a parte media 5 mm. lata, laminis glabris erectis v. ascendentibus, carina prominente.

Panicula 2–3 dcm. longa anguste ovata, ramorum longorum scabridorum complurium parce divisorum fasciculis distantibus.

Spiculae subsessiles majusculae 6–7 mm. longae, glumis ubique delicate scaberulis.

Densely tufted, forming large dark-green tussocks.

Stems stout when in flower equalling or slightly exceeding the leaves elongating more or less later, 5–6 dcm. long, clothed to the base of the panicle by the long scaberulous grooved sheaths.

Leaves on each culm rather few, blades flat, smooth, 5 mm. wide at the middle, stiff, usually coriaceous, erect or ascending, with prominent keel and numerous fine veins, edges smooth except at the tips.

Panicle 2–3 dcm. long, narrow ovate, with distant rather numerous long little-divided scabrid branches.

Spikelets nearly sessile, rather large, 6–7 mm. long, empty and flowering glumes everywhere finely scabrid; palea almost equalling the flowering-glume.

Hab.—Antipodes Island; H. J. Matthews.

I have seen only garden-grown specimens of this grass, propagated from the seed of a plant brought by Mr. Matthews from Antipodes Island. It is most likely identical with the grass which Mr. T. Kirk referred to *Poa anceps* Forst. f. (see vol. 3, p. 231, of the "Report of the Australasian Association for the Advancement of Science"). To this species it shows some approximation, but its true place seems to be in *Poa caespitosa*, a species that is known to form the principal pasture grass on Campbell Island. It is highly improbable that *Poa anceps* should extend to any of the subantarctic islands of New Zealand, as it does not range as far south as Otago, or even South Canterbury. Mr. Cheeseman has, indeed, recorded that it extends to Foveaux Strait, but this statement is most likely incorrect. I am pretty well acquainted with the vegetation of the Bluff Hill, but have never seen *Poa anceps* there. The most southerly localities for this grass known to me are the Broken River basin in North Canterbury, and Fox's River, near Brighton, in south-west Nelson. The late Mr. Buchanan at one time believed that *Poa anceps* was a common plant in Otago, and on a botanical outing with me he expressed great surprise at not meeting with it. From that time I kept a close lookout for the grass, but I have nowhere seen it south of the limits mentioned above. Dr. Cockayne did not observe it on Stewart Island.

18. Note on **Corallospartium crassicaule** (Hook. f.) Armstrong.

Mr. A. W. Roberts, of the Ranfurly State Nursery, lately sent me a packet of ripe pods of this species. Both Armstrong and Cheeseman state that the the ripe pod contains a single seed, though the latter notes that the ovules are 2–4 in number. An examination of some two dozen of the pods from the Maniototo district showed that the usual number of ripe seeds in each pod is two, three were present in a few cases, and with about equal frequency the number was one. Mr. Armstrong is probably mistaken in saying that the valves of the pod open. I have never seen any evidence of this in any of the numerous specimens that have at various time come under my notice.

19. Note on the Rediscovery of **Myosotis (Exarrhena) Lyallii** Hook. f.

This plant has not been collected since Dr. Lyall discovered it in the neighbourhood of Milford Sound, during the cruise of the surveying-ship "Acheron" in the years 1847–51. Last January, however, Messrs. Crosby Smith and Cuthbert again collected it on the shingle-faces of Mount Burns, Fiord County, at an altitude of about 5,000 ft. Their plant quite accords with the description of *M. Lyallii* in the "Flora Novae-Zelandiae." My *Myosotis oreophila* is quite unlike this species, under which Cheeseman has suggested placing it.

ART. V.—*Some Additions to the Flora of the Subantarctic Islands of New Zealand.*

By D. PETRIE, M.A., Ph.D.

[*Read before the Auckland Institute, 16th December, 1914.*]

1. **Uncinia strictissima** (Kükenthal) Petrie (*ante*, p. 55).

This species was collected in 1890 on the Auckland Islands by Mr. F. R. Chapman (now Mr. Justice Chapman), from whom I have several characteristic specimens. *U. rubra* Boott. has not as yet been found on our subantarctic islands, but their plant population is still too incompletely known for us to feel sure of its absence.

2. **Uncinia compacta** R. Br.

Mr. B. C. Aston collected some dwarf specimens of this on Campbell Island in January, 1909. They differ from the typical plant as it occurs at elevated stations in New Zealand only in having nearly sessile flowering-spikes, a condition that is practically present in a form of the species growing a little below the snow-line on the Sealey Range near Mount Cook, of which I collected a number of specimens.

3. **Uncinia australis** Pers. var. **pedicellata** (Kükenthal) Petrie comb. nov. (*ante*, p. 54).

Mr. Aston collected this on the Auckland Islands, and contributed several specimens to my collection.

4. **Uncinia Hookeri** Boott.

Kükenthal and Cheeseman refer this plant to *U. riparia* R. Br. This conclusion does not commend itself to me. Mr. Aston most kindly gave