

IV.—BOTANY.

ART. LIII.—*Descriptions of New Native Plants.*

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[Read before the Otago Institute, 11th June, 1889.]

1. *Ranunculus areolatus*, nov. sp.

A small, slender, almost glabrous herb. Radical leaves on slender, glabrous, striate petioles that are lin.—2in. in length; blade $\frac{1}{3}$ in. long, $\frac{1}{2}$ in. broad, thin, cut to the middle into three oblong gently-rounded obtuse lobes (of which the two lateral ones are often cut by a shallow, wide incision), glabrous, or with a very few simple hairs on the margin and under-surface; veins evident below, forming large oval areoles on the under-surface of each lobe.

Scapes simple, slender, elongating considerably after flowering, with two semi-amplexicaul cauline leaves, the lower cut to the middle into three long linear lobes, the upper broad and entire, sparsely clothed with delicate silky hairs at and below the apex.

Sepals not seen; petals five, oblong, with a narrow claw and three dark nerves, pubescent on the outer surface.

Achenes forming a shortly-oblong head, very numerous, small, turgid, sub-stipitate, rounded at the back; beak short, slender, at right angles to the axis of the achene.

Hab. Head of Lake Wakatipu. The species was collected by Mr. A. C. Purdie some years ago.

2. *Lepidium kirkii*, nov. sp.

A very small glabrous species, with entire linear leaves, and long prostrate branching stems.

Rootstock as thick as a crow-quill, subdivided at the crown. Leaves rosulate, entire, narrow-linear, $\frac{1}{2}$ in. long or less, the basal part broad, membranous, and sheathing; cauline leaves minute, linear, $\frac{1}{5}$ in. long.

Stems several, slender, prostrate, flexuous, branched, sparingly leafy, 2in.—4in. in length.

Flowers perfect, minute, in lax elongating terminal racemes. Sepals small, rounded, green, with scarious edges; petals narrow-linear-spathulate, as long as the sepals; stamens slender, twice the length of the sepals, or less.

Pods on slender pedicels not exceeding their own length, sub-orbicular, but sensibly acute at the apex; apical notch narrow, filled up by the short style.

Hab. Gimmerburn district, Maniototo Plain; 1,100ft.

A most distinct plant. Its small size, prostrate habit, and short linear entire leaves mark it off from all the other native species. It is named in compliment to T. Kirk, Esq., F.L.S., who has published an important paper on the New Zealand species of the genus.

3. *Aciphylla simplex*, nov. sp.

A branched, prostrate species, forming compact patches like *A. dobsoni*, Hook. f.

Stems slender, more or less branched, most densely clothed with simple closely-imbricating leaves.

Leaves $1\frac{1}{2}$ in.—3in. long; the lower half expanded into a thin but stiff sheath $\frac{1}{2}$ in. wide; the blade simple, linear-subulate, jointed, semiterete, concave or channelled above, with an ill-defined midrib on the under-surface that frequently projects as a short, blunt, or pungent mucro.

Flowering-stem as stout as the leaves, $1\frac{1}{2}$ in.—3in. long, striate, bearing at its top two small leaves like the radical and four or five short densely-capitate umbels of flowers.

Mature achenes not seen.

Hab. Mount Pisa, Mount Cardrona, and Hector Mountains, 6,000ft., on broken rock.

This species is very close to *A. dobsoni*, Hook. f., from which, as well as from all its congeners, it is clearly distinguished by its simple linear-subulate leaves. It flowers in February.

4. *Helichrysum purdiei*, nov. sp.

A much-branched, prostrate, spreading species.

Stems $1\frac{1}{2}$ ft.—2ft. long, rigid and woody below, the ultimate twigs wiry, very slender, and clothed with fine loose white tomentum.

Leaves alternate, at intervals of $\frac{1}{6}$ in.— $\frac{1}{4}$ in., uniform in texture and outline, membranous, $\frac{1}{4}$ in.— $\frac{1}{2}$ in. long, obovate-spathulate, bluntly rounded at the apex and abruptly apiculate; upper surface reticulate and pubescent (in old leaves nearly glabrous); under-surface densely clothed with loosely-appressed greyish-white tomentum concealing the midrib and nerves; the margin recurved.

Inflorescence corymbose, of 3 to 6 small heads, with

slender cottony pedicels and linear bracts (heads occasionally solitary or in pairs).

Outer involucrel scales half the length of the innermost, oblong, tomentose, pale yellowish-brown; the two or three inner series with white radiating tips, contracted into a narrow claw, and hardly longer than the florets.

Hab. Dunedin, at Vauxhall and Black Jack's Point. This plant has been repeatedly gathered by Mr. A. C. Purdie, in compliment to whom it is named. It seems to be confined to littoral sloping situations, and has been almost exterminated in its known habitats by the formation of roads and the spread of rank introduced grasses. The small heads and short radiating involucrel scales distinguish it from *H. prostratum* (Hook. f.) and *H. keriense* (A. Cunn.).

5. *Gnaphalium paludosum*, nov. sp.

Leaves $\frac{3}{4}$ in. long or less; the blade narrow-lanceolate, acute, gradually contracted below into a narrow petiole as long as the blade, one-nerved, glabrous and bright green above, below white with appressed tomentum except the green midrib, recurved.

Stems scapiform, few, when flowering no longer than the leaves, but afterwards elongating to three to five times that length, very slender, white with loose tomentum; bracts few, short, narrow-linear.

Involucrel scales in two series, the outer shorter, glabrous, narrow-linear, membranous, very pale green with darker patches at the tips.

Pappus hairs coherent at the base, few, fine.

Achene shortly oblong, pilose with very short stiff hairs. Receptacle deeply pitted.

Hab. Rangipo Plain, North Island, 3,500ft.; Ruahine Mountains, 4,000ft.; Dunstan Mountains (Otago), 3,500ft.; Kyeburn Crossing (Maniototo Plain), 1,100ft.; Hector Mountains, 3,000ft.

This has been hitherto reckoned a form of *Gnaphalium traversii* (Hook. f.). It differs from this in the very slender scape, the small head, the few involucrel scales that are darker at the tips, and the glabrous green upper surface of the leaves. Its characters are very constant in all my specimens. The plant is so small as to be easily overlooked.

6. *Agrostis dyeri*, nov. sp.

Culms tufted, erect, rigid, smooth, 6in.—10in. high, the uppermost sheath reaching to the base of the panicle.

Leaves flat, $\frac{1}{2}$ in. broad or less, the cauline with large green striate sheaths; ligule broadly-oblong, lacerate, variable in length.

Panicle, brownish-green, $1\frac{1}{2}$ in.— $4\frac{1}{2}$ in. long, contracted, oblong in outline, composed of 5–7 clusters of branches springing alternately from opposite sides of the rachis, the branches similarly divided into a short series of branchlets.

Spikelets $\frac{3}{8}$ in. or less.

Empty glumes almost equal, acute, glabrous, green or green tinged with dark-brown, three-nerved, scabrid on the keel. Flowering glume incurved at the edges, broad, truncate, pale, with five distinct greenish nerves produced at the apex into short teeth or points. Palea none.

Hab. Ruahine Mountains (west of Makaretu Bush), 5,000ft.; Tararua Mountains (Buchanan)!; Mount Arnoold (Upper Hawea), 3,000ft.—4,000ft. The specimens from Mount Arnoold are much smaller in all their parts except the spikelets than those from the mountains of the North Island, but they evidently belong to the same species.

7. *Agrostis tenella*, nov. sp.

Culms not branched or tufted, capillary, wiry, erect, smooth, 7in.—14in. high.

Leaves much shorter than the culms, involute, setaceous, the uppermost sheath not reaching to half the height of the culm; ligule oblong, truncate, lacerate.

Panicle $1\frac{1}{2}$ in.—3in. long, spiciform, very slender, of few short capillary branches.

Spikelets $\frac{1}{5}$ in. in length.

Empty glumes not spreading, very pale, shining, nearly equal, acute, glabrous, slightly scabrid at the keel. Flowering glume one-fifth shorter than the empty, hyaline, truncate, five-nerved, the nerves delicate and produced to the apex, where they usually project as minute teeth.

Palea, none in my specimens.

Hab. Macrae's, Waihemo County (Otago); 1,800ft.

8. *Triodia australis*, nov. sp.

A short, densely-tufted grass, with procumbent or ascending or erect culms.

Culms leafy below, $2\frac{1}{2}$ in.—6in. long, more or less branched at the base.

Leaves involute, almost filiform, deeply striate, as long as the culms or shorter; sheaths broad and deeply grooved; ligule represented by a band of fine hairs which form prominent tufts at the sides.

Panicle small, contracted, of six or fewer short branches bearing 6–12 pale-green, two- or three-flowered spikelets, each about $\frac{1}{8}$ in. long; pedicels finely pubescent, slender, not longer than the spikelets.

Empty glumes slightly shorter than the spikelet, nearly

equal; the lower obtuse, ovate, coriaceous, 3-7-nerved (usually 3-5-nerved), the nerves disappearing before reaching the transparent membranous margin; the upper similarly 3-nerved.

Flowering glume as broad as long, erose at the truncate top, 9-nerved, the nerves not reaching as far as the scarious transparent edge; palea 2-nerved, nerves ciliate.

Stamens 3, oblong, acute; styles 2, long, openly plumose.

Hab. Mount Ida Ranges, 3,500ft.-4,500ft.; Hector Mountains, 4,500ft.; and Mount Cardrona, 5,000ft. This is not a very characteristic member of the genus *Triodia*, but it seems to have more characters in common with it than with any other genus of grasses at present recognized. The flowering glumes are sometimes distinctly trifid. Its nearest native ally is *T. exigua*, Kirk. It is a nutritious grass, much relished by sheep and horses, and usually closely cropped.

9. *Poa maniototo*, nov. sp.

Culms numerous, filiform, smooth, faintly grooved, 3in. high or less, leafy below, bluish-green when dry.

Leaves very short; sheaths broad, white, membranous, broadly grooved; blade linear, sub-involute or almost terete, glabrous, not striate, with a single groove above, semi-pungent, $\frac{1}{3}$ in.- $\frac{3}{4}$ in. long.

Ligule rather long, usually divided into two acute projections of the broad sheath.

Panicle small, contracted, of 4-10 large shortly-pedicelled spikelets, each containing 4 or 5 flowers.

Empty glumes unequal, acute, compressed, green with white edges, the upper 3-nerved, the lower 1-nerved, nerves rather faint.

Flowering glumes silky all over, acute, 3-nerved, one nerve medial, two lateral, the latter much less distinct.

Palea 2-nerved, bifid at the apex, the nerves slightly or strongly ciliate.

Hab. Maniototo Plain, Upper Clutha basin, Mounts Pisa and Cardrona; altitudinal range 1,000ft.-4,000ft.

This grass is too small to be of economic value. Its nearest congener is *Poa lindsayi*, Hook. f., from which its larger spikelets and contracted panicles at once distinguish it. It seems to have been hitherto confounded with *Poa exigua*, Hook. f., a species with which it has but little affinity.