

ART. LVI.—Notes on New Zealand Plants. By J. BUCHANAN, F.L.S.

[Read before the Wellington Philosophical Society, 21st February, 1880.]

*Mesembryanthemum equilaterale*, Haw.

Baron von Mueller informs me that this species is often found accompanying *Mesembryanthemum australe*, Soland., and may be distinguished by the longer acutely trigonous leaves and pulpy fruit.

*Zannichellia palustris*, Linn.\*

According to Baron von Mueller, there is little doubt that the plant under this name belongs to the genus *Lepilæna*. The difference between *Zannichellia* and *Lepilæna* consists in the male flowers. These may be easily found all the year round in New Zealand at the swollen bases of the leaves, and generally on distinct plants from the female.

*Solanum vescum*, F. Muell.

Respecting this species, its author states that it may often be found growing with *Solanum aviculare*; Forst. It is a smaller shrub, and is distinguished from the latter by the angular dark-green branches, small entire dark-green leaves, darker coloured flowers, with somewhat different stamens, berries small, roundish, and green, never egg-shaped or orange-colour when ripe. The natives of Australia always avoid the fruit of *S. aviculare*, as poisonous, but eat with impunity that of *S. vescum*.

The following plants have been recently added to the flora of New Zealand :—

*Oreostylidium*, Berggren, nov. gen.

This genus is founded on a small alpine, *Stylidium subulatum*, Hook. fil., *Handb. N.Z. Flora*, I., 168; placed in that genus by Hooker from imperfect flowering specimens. *Oreostylidium* differs from *Stylidium* in the deeply divided corolla, short erect column, and indehiscent capsule. Habitat in New Zealand, Ruapehu Mountain, Swampy Hill near Dunedin, Invercargill, Berggren; Nelson Mountains, Travers; Haast. *Trans. Roy. Soc. Lund*, 1878, p. 1.

*Abrotanella linearis*, Berggren, n. sp.

A larger plant than *A. pusilla* of Hook. fil., *Handbook N.Z. Flora*, I., 139. Scape longer and bracteate. Leaves long, obtuse, spreading. Otira Gorge, Canterbury, 3,000ft. *Trans. Roy. Soc. Lund*, 1878, p. 14.

*Dracophyllum acerosum*, Berggren, n. sp.

Mount Torlesse and Bealy River, Canterbury. *Trans. Roy. Soc. Lund*, 1878, p. 15.

\* [For reference to the occurrence in New Zealand of *Zannichellia* (*Lepilæna*) *palustris*, Linn., and *L. preissii*, F. Mueller, see papers by T. Kirk, F.L.S., in *Trans. N.Z. Inst.*, III., 143; VII., 508; X. App. xl.—Ed.]

*Plantago triandra*, Berggren, n. sp.

Differs from other New Zealand species in the solitary flowers, which are subsessile in the woolly axils of the leaves. Corolla 3-lobed, sepals minute, capsule scarious, seeds numerous. Otira Gorge, Canterbury. *Trans. Roy. Soc. Lund*, 1878, p. 16.

*Thelymitra intermedia*, Berggren, n. sp.

Bay of Islands, *l.c.*, 1878, p. 21.

*Kelleria (Drapetes) villosa*, Berggren, n. sp.

Distinguished from all its congeners by the ramifying stems and leaves, which are woolly on the back. Mount Torlesse, 5000ft., *l.c.*, 1878, p. 18.

*Isolepis subcucullata*, Berggren, *l.c.*, p. 22.

*Cladium complanatum*, Berggren, *l.c.*, p. 23.

*Oreobolus strictus*, Berggren, *l.c.*, p. 25.

*Carex tenax*, Berggren, *l.c.*, p. 27.

„ *dipsacea*, Berggren, *l.c.*, p. 28.

„ *comans*, Berggren, *l.c.*, p. 28.

„ *pulchella*, Berggren, *l.c.*, p. 29.

„ *cirrhusa*, Berggren, *l.c.*, p. 29.

„ *buchanani*, F. Muell., n. sp. MS. This species belongs to the section with 2 stigmas.

*Danthonia ovata*, Buchanan, *Indigenous Grasses of New Zealand*, plate XXIX., 2.

„ *australis*, Buchanan, *l.c.*, plate XXXI.

„ *pilosa*, R. Brown, var. *stricta*, Buchanan, *l.c.*, plate XXXIII., 1, A.

„ *pilosa*, R. Brown, var. *racemosa*, Buchanan, *l.c.*, plate XXXIII., 2, B.

„ *semiannularis*, R. Brown, var. *alpinus*, Buchanan, *l.c.*, plate XXXIV., 2, A.

„ *pauciflora*, R. Brown, *l.c.*, plate XXXVI., B.

„ *thomsonii*, Buchanan, *l.c.*, plate XXXVI., 2.

*Poa foliosa*, Hook. fil., *l.c.*, plate XLII.

„ *foliosa*, Hook. fil., var.  $\gamma$ , Buchanan, *l.c.*, plate XLIII., B.

„ *anceps*, Forst., var.  $\epsilon$  *debilis*, Buchanan, *l.c.*, plate XLVI., E.

„ *anceps*, Forst., var.  $\zeta$  *minimè*, Buchanan, *l.c.*, plate XLVI., F., equals

*Poa pusilla*, Berggren, *Trans. Roy. Soc. Lund*, 1878, p. 31.

„ *intermedia*, Buchanan, *l.c.*, plate XLVIII., A.

„ *acicularifolia*, Buchanan, *l.c.*, plate XLIX., A.

„ *uniflora*, Buchanan, *l.c.*, plate XLIX., B.

„ *pygmaea*, Buchanan, *l.c.*, plate L., A. *Poa enysi*, Kirk, undescribed, *Trans. N.Z. Inst.*, Vol. IX., p. 500.

- Poa albida* Buchanan, *l.c.*, plate L., C. Equals *Poa anceps*, Forst., var.  $\epsilon$  *alpina*, Hook. fil., *Handb. N.Z. Flora*, I., p. 339; also *Poa sclerophylla*, Berggren, *Trans. Roy. Soc. Lund*, p. 30, 1878.
- „ *mackayi*, Buchanan, *l.c.*, plate LI., A.
- „ *kirkii* Buchanan, *l.c.*, plate LI., B. *Poa purpurea*, Kirk, undescribed, *Trans. N.Z. Inst.*, Vol. IX., p. 500.
- „ *sclerophylla*, Berggren, *Trans. Roy. Soc. Lund*, p. 30.
- „ *pusilla*, Berggren, *Trans. Royal Soc. Lund*, p. 31.
- Agrostis amula*, R. Brown,  $\beta$  *spathacea*, Berggren, *l.c.*, p. 32.
- Schedonorus littoralis*, R. Brown, var. *triticoides*, Bentham, *Fl. Austral.*, VII., p. 655. *Indigenous Grasses of New Zealand*, plate LIV.
- Triticum scabrum*, R. Brown, var. *tenue*, Buchanan, *l.c.*, plate LVIII., B.
- Stipa petriei*, Buchanan, *l.c.*, plate XVII., 2.
- Deyeuxia scabra*, Bentham. *Indigenous Grasses of New Zealand.*, plate XXVI., 2.

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ART. LVII.—*On Grasses and Fodder Plants.* By S. M. CURL, M.D.

[Read before the Wellington Philosophical Society, 13th September, 1879.]

AMONG the thousands of species of grasses that grow, and are indigenous to various parts of the world, and very many of which are known to possess peculiarities for which they are esteemed in the several localities, how very little has been done to cultivate them and ascertain their merits under careful test culture, upon various soils, and in differing climates. Excepting the few *Poas*, *Loliums*, *Bromes*, *Fescues*, and a small number of others, hardly any of the known grasses have been sown and used by farmers and graziers, in either Great Britain, America, Europe, these colonies, and elsewhere. They have been by so-called practical men entirely neglected, and the few men who have devoted themselves to growing and testing them by scientific methods, are small in number, and yet when we consider the enormous interests involved, this seems incomprehensible, knowing, as we all do, that cattle, sheep, horses, and many other creatures that are used as food, or for draught purposes, are principally dependent upon grasses for their sustenance, and that the better the grass, the more of it and its varieties suited to the several conditions, so will be the increase and perfection of the animals fed upon it, and the greater will be the profit to the persons owning the animals eating these grasses.

When, however, any good grass has been cultivated under favourable conditions, cultivation has developed its merits, and its qualities have been changed, or improved. The *Loliums* (ryes) were originally much less valuable