

the style (as in the Stylidiæ), which, though not complete in *Donatia*, nevertheless places the filaments really in the centre of the flower, and entirely away from the calyx; (2) the minute embryo similar to that of *Stylidium* though its position may not be near the hilum; (3) the placentation, which is that of *Stylidium*, and not that of the normal Saxifragæ; (4) the internal structure of the seeds, which agrees better with that of Stylidiæ than of Saxifragæ; and (5) the normal number of two stamens in *Donatia*, which is not represented in any other Saxifrage. From these various considerations he places the genus among the Stylidiæ, of which the following enumeration of the known genera is given, which will prove useful to New Zealand botanists.

Candollea, Labill. in Ann. du Mus. Paris, VI., 453, t. 63-64.

Stylidium, Sw. in Willd. Spec. Plant. II. 146, an. 1805.

Leeuwenhockia, R. Brown, Pr. 572.

Phyllachne, R. and G. Forst. Char. Gen. 115, t. 58.

Fostera, L. fl., in Nov. Act. Soc. Reg. Upsal, III., 184, t. 9.

Donatia, R. and G. Forst. Char. Gen. 9, t. 5.

ART. XXXV.—*New New-Zealand Plants*. By Dr. S. BERGGREN. Hon. Mem. N.Z. Inst. Communicated by G. M. Thomson, F.L.S.*

[Read before the Otago Institute, 29th June, 1880.]

Phyllachne haastii, Berggr.

Leaves imbricating at the oblong plano-convex base, semi-terete, scarcely thickened at the apex, with a simple nerve, upper half of the column exerted, stigmatic lobes oblong, recurved, capsule turbinate, seeds 6-12 on the central undivided placenta.

Kelly's Hill, Canterbury Alps.

This is the plant which I referred to *P. colensoi*, Hook f., in Lund's "Physiograph. Sältskaps Minnesskrift," 1878, tab. III., figures 1-27. From that plant this is distinguished by the dull olive-green leaves, the upper half of which is terete, and not swollen at the tips. The single nerve is unbranched, whereas in *P. colensoi* there is a lateral branch on each side. The seeds are few in number, and the upper part of the placenta is not divided into two branches as in that species.

* From the Journ. of Botany, Vol. IX., p. 104, April, 1880.

Dracophyllum kirkii, Berggr.

Shrubby; leaves patent, fascicled, with a sheathing base, dilated from above, not auricled, narrowed, broadly concave, truncate or mucronate at the apex, glaucous above, striate below; flowers solitary, shortly pedicelled, 2-3-bracteate, bracts and sepals ovate, acuminate, ciliated on the margins, filaments longer than the anthers, fastened all the way below the middle.

I wrongly referred (*l.c.* tab. IV., fig. 1-11) this plant to *D. uniflorum*, Hook f. It is distinguished from all the other species of this genus with solitary flowers by the shape of the leaves, which are almost canaliculate, and like the leaves of those species which have compound inflorescence, especially *D. strictum*. The relative length of the anthers and filaments, as well as the point of insertion of the stamens, presents some difference in this species from both divisions of the genus.

Mount Torlesse, in Canterbury Alps.

Carex buchanani, Berggr.

Reddish-brown; culms caespitose, graceful, strong, leaves subequal to the culm or longer, tenacious, semiterete, scabrid on the margin; bracts exceeding the culm, the lower sheathing, the upper not sheathing; spikes 5-6, oblong, the lowest distant from the others which are approximate, the terminal one cylindrical male, the rest female or male at the very base, scales obovate, at length hispid-cuspidate, pale, membranous, torn at the margin, perigynia elliptical, plano-convex, beaked, beak bifid, and with its upper margin ciliated, serrate, purple-spotted, nerveless, glabrous, covered by the scale, stigmas 2. (*C. tenax*, Berggr., *l.c.* tab. VII., fig. 1-7—a name already used for another species).

Distinguished from *C. raoultii*, Boott, by the very tenacious semiterete leaves, the terminal spikelet without female flowers, and the nerveless glabrous utricle.

ART. XXXVI.—On the Fertilization of Thelymitra.

By T. F. CHEESEMAN, F.L.S.

[Read before the Auckland Institute, 21st June, 1880.]

THAT cross-fertilization is the almost universal rule in the great family of Orchids is a generalization first propounded and sustained by reliable evidence by Mr. Darwin, in his "Fertilization of Orchids." Many memoirs and short papers on the subject have appeared since the publication of the first edition of this work in 1862, but, taking them collectively, they only give additional confirmation to Mr. Darwin's views. It is true that, to the