pollen grains forming them are bound together into small wedge-shaped masses. The flowers are somewhat sweet-scented, and though dull-coloured are tolerably conspicuous, but there appears to be no trace of a nectary. Nor from the position of the parts is it very probable that an insect could remove the pollinia, so as to place the loose, incoherent grains on the stigma of another flower. The species is evidently well fitted for self-fertilization. In nine spikes examined by me, containing altogether 75 open flowers, only four appeared to have the pollinia partially removed, and, even in these, pollen grains were adhering to the stigma and anthers.

Imperfect as the foregoing notes are, they still point to the correctness of the general principle that where it is advantageous to a plant to have its flowers cross-fertilized by pollen from another plant, there we find agencies for attracting suitable insects. Thus *Earina* has conspicuous flowers, sweet scent, and succulent tissue at the base of the flower; *Dendrobium* has showy flowers and a tolerably perfect nectary; while *Corysanthes* has conspicuous flowers and sweet juice. In all three, assistance from insects appears to be absolutely necessary. Again, *Caladenia*, which appears to be fitted for both means of fertilization, has tolerably conspicuous flowers, while *Microtis*, which is similarly favoured, has the rudiments of a nectary, but the former would seem to be more dependent on insect aid than the latter. In *Pterostylis* there seems to be nothing to attract insects, as the flowers are green, and, as pointed out by Mr. Cheeseman, do not appear to secrete any nectar, nor do they have any decided scent. Yet in none of the New Zealand orchids are the appliances to secure the desired end so perfect or so complex. In this plant only one species of insect appears adapted to each particular species of the genus. It would be interesting to discover whether this applies to other New Zealand genera. In those genera which are almost, if not altogether, exclusively self-fertilized, no special provision for attracting insects occurs, if we except the handsome perianth of *Thelymitra*.

Art. LXII.—*Description of a new Species of* Coprosma.

By D. Petrie, M.A.

[*Read before the Otago Institute, 8th October*, 1878.]

Coprosma virescens, Petrie.

A compact shrub, six to ten feet high, with numerous interlaced, slender, tortuous branches and twigs and greenish glabrous bark; leaves glabrous, membranous, elliptico-spathulate, quarter of an inch long or less, in distichous fascicles on the twigs; stipules connate, forming a short two-lobed tube around the twigs.

Male flowers terminal on the short lateral branchlets, in fascicles of three or sometimes more; each fascicle enclosed at its base by a cupular involucel, apparently formed of metamorphosed stipules; calyx short, cupular, with four or fewer short blunt lobes; corolla bell-shaped, four-partite almost to base; stamens exserted; the fascicles of male are often on twigs destitute of leaves.

Female flowers terminal on the short lateral branches, usually solitary, but sometimes two or three together, with a four-lobed tubular more or less ciliated involucel enclosing the calyx; calyx tubular, indistinctly four-lobed at the ciliated margin; corolla four-partite to base; the lobes narrow, oblong; styles papillose, twice as long as the corolla lobes; drape not seen.

Habitat: Dunedin, Water of Leith, Vauxhall, Saddle Hill, where it was first gathered by Mr. A. C. Purdie.

The species belongs to the group with fascicled female flowers, and is very distinct and well marked in its characters. It appears to be closely allied to another undescribed species growing near Dunedin, and forming a link between it and *C. rotundifolia*.

ART. LXIII.—*Description of a new Species of* Celmisia. By J. BUCHANAN.

Plate XVIII.

[*Read before the Wellington Philosophical Society, 11th January*, 1879.]

Celmisia cordatifolia, n.s.

LEAVES entire, with the petiole 6–8 inches long, 2 inches broad, obtuse or acute at tip, and cordate at the base, thickly covered below with rusty brown tomentum, glabrous and dull green above in old leaves, and in young leaves sprinkled with white silky hairs, which are more abundant at base and on midrib; petiole and petiolar sheath ribbed, covered and fringed with pale brown tomentum; inner surface glabrous, purple. Scape 10–12 inches high, with long linear bracts, the whole covered with rusty brown tomentum, which often disappears on the bracts after flowering, leaving terminal tufts. Head 1½ inches in diameter; involucral scales numerous, in two series, outer series with terminal tufts of rusty-brown tomentum; rays narrow, ¾ inch long; pappus ¼ inch long; achene large, glabrous.

Collected by Mr. A. McKay, January, 1879, on Mount Starvation, Nelson.