

The most significant factors, then, may be climatic. Very little measurement of these factors was possible. A series of humidity readings showed that the humidity on the north-west face during a strong dry north-west wind was up to ten per cent. lower than on the south-east face and five per cent. lower than on the north-east face. The scorching of kamahi leaves on the north-west face, mentioned before, supports the idea that dryness in the growing season is a significant factor preventing regeneration in the more exposed parts. But dryness may not be the only factor, for beech does occur well up the north-west faces of ridges 500 feet lower down on the same burn. Other work (Raeside 1948, Holloway 1949) has suggested that climatic change is causing a lowering of vegetation belts in New Zealand. Perhaps a change towards a colder, less humid climate has affected regeneration of forest at the altitude of Mt. Reeves, 600 to 800 feet below the timber-line of the eastern side of the Tararuas.

References

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Field Trip to Western Lake, Wairarapa

R. Mason

On December 2 a party of about fifteen travelled by private car to the reserve at the edge of Lake Wairarapa, on the Western Lake Road, and spent the morning looking at the plants at the lake edge and the afternoon in the bush above the road.

The shore of the lake is stony with the stones in places overlaid by silt. On this silt and around the base of clumps of *Leptocarpus simplex* there is a close turf with many interesting plants. Some of these—*Hydrocotyle tripartita* var. *hydropila*, *Myriophyllum votschii*, *Pratia perpusilla*, *Mazus pumilio*, and *Isotoma fluviatilis*—had recently been noted as new records in Bulletin No. 23. The last three were in flower at the time of our visit. Other plants growing here were *Limosella lineata*, *Selliera radicans*, *Triglochin striatum* var. *filifolium*, *Asperula perpusilla*, a species of *Lilaeopsis*, and a *Schoenus*, possibly *Schoenus nitens* var. *concinus*. Dr. Oliver found *Dichondra brevifolia* in flower; and a few plants of the native sea holly *Eryngium vesiculosum* were seen—this is usually a coastal plant.

On the damp ground beneath the kanuka (*Leptospermum ericoides*) which grows near the shore, there were such plants as monkey musk (*Mimulus guttatus*), mint, lesser stitchwort (*Stellaria graminea*), *Pratia angulata*, buttercup (*Ranunculus repens*), hyssop loosestrife (*Lythrum hyssopifolia*), *Eleocharis acuta*, and *Cardamine*. Plants growing here but not usually seen about Wellington were *Viola lyallii*, *Gunnera strigosa* and *Ranunculus acer*.

The Mosses of South Westland

W. M. Martin

A branch of New Zealand botany which only recently has received the attention it deserves, is that of bryology which is concerned with the mosses and hepaticas now known to exceed one thousand species; but there still remain vast areas of which practically nothing is known. One of these is South Westland, where, in the space of less than a week, the writer recently collected no fewer than 130 species in close proximity to the Fox and Franz Joseph glaciers, mostly at levels below the subalpine zone.

As will be noted in every locality in New Zealand, most of the mosses will be found to be common and widespread, while others, rare or absent over wide areas, will have a strong local development. This applies to South Westland; and, as is usual, the mosses of the forest floor, of the vertical tree trunks, of the branches, of shrubs in the open, of rocks, of stream-beds, or of soils in the open will in general be distinct, though the commonest species are rarely restricted to a single substratum. On the present occasion time did not permit attention to the hepaticas, which, however, are equally worthy of investigation.

The climate is such that the forest trees often carry a heavy burden of epiphytes—mainly mosses and filmy ferns—growing in great luxuriance. Even from a speeding motor-car the pendant tresses of *Weymouthia* and *Papillaria* are conspicuous, hanging as trailing festoons from twigs and branches. Two species of each are common, pale cream in the former case, golden in the latter; slender in one species, rather robust in the other. No less conspicuous is pincushion moss (*Leptostomum inclinans*) forming cushions sometimes of massive proportions on the trunks and limbs of trees exposed to full sunlight, and heavily studded with setae and spore-capsules which form the “pins.” A hepatic that necessarily attracts attention especially on Mt. Hercules, where it blankets the shady roadside banks in a mantle of pink or red, is *Isotachis lyallii*. Nearby I found *Ditrichum cardotii* (?).

On wet forest soils near the Franz Joseph Hotel one meets many mosses of which the commonest are *Atrichum muelleri*, *Hypnoden-*