

lished in the Transactions of the N.Z. Institute. After settling in Auckland, he collaborated with Lucy Cranwell in that admirable little handbook "The Botany of Auckland".

Professor Wall has many interests and his services to the study of both the spoken and written work have been noteworthy, while his poems, so varied both in theme and in rhythm, have made their own distinctive contribution to our New Zealand literature

Professor Wall is retiring to Christchurch where he intends to settle at Sumner.

Our heartfelt wishes go with him! May his retirement be "lovely and pleasant" and may his garden (and who can imagine our Professor without one?) be always lovely with flowers and beloved of singing birds.

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#### EGMONT.

Mr. & Mrs. Millener have gladdened the editorial heart by forwarding a most attractive and instructive account of a recent trip to Egmont early in December. The article is somewhat longer than as usual in the Newsletter, but the Editor, on reflection, decided it would be undesirable to divide it since it would be so much more useful to members if printed all under one cover.

"Mt. Egmont and Dawson Falls in particular, should be the Mecca of any member of the Botanical Society who has not yet been fortunate enough to visit the mountain. Mt. Egmont offers the most perfect example in N.Z. of an altitudinal zonation of vegetation. The belts, controlled primarily by temperature, are often remarkably sharply separated from one another. Within a square mile may be seen a dozen distinct and very interesting plant communities.

At the lowest levels there is luxuriant sub-tropical forest dominated by Rimu (Dacrydium cupressinum), Rata (Metrosideros robusta) and Kamahi (Weinmannia racemosa). The rich soil is often very moist, and every rotting log, every stone, even the ground itself may be covered with a green mantle of mosses and liverworts. The shining fronds of Asplenium bulbiferum and the giant deep reddish-green tufts of Blechnum discolor are in places waist-high. The trunks of the trees are invested with delicate, translucent filmy ferns. Perching ferns, orchids and Astelias are common. From the green cover of

rotting log, stone and tree base spring seedlings of the dominant trees. The undershrub stratum (with *Coprosma* and *Nothopanax* spp. most common) is not dense.

At nearly 3000 ft. this truly sub-tropical forest is replaced by a weird "goblin forest" of low, gnarled kamahi (*Weinmannia racemosa*) trees. Trunks, branches, even the ultimate twigs often are clothed with such a profusion of filmy ferns that hardly a tree leaf emerges from the trembling cover of delicate green. Of these "filmies" the beautiful *Hymenophyllum pulcherrimum*, our only *Hymenophyllum* which does not creep, but grows from a tufted rhizome, and the drab little *Hymenophyllum Malingii* with its curious cylindrical frond segments and its penchant for *Edwells*'s *Ced*<sup>ar</sup> are noteworthy. With the Kamahi are associated massive *Fuchsia* trees with peeling bark or naked rusty-red trunks, the mountain broadleaf (*Griselinia littoralis*) and Hall's totara (*Podocarpus hallii*). Beautiful indeed is the dominant undershrub, horopito (*Wintera colorata*), its leaves blotched with warm reds and yellows. The ground in many places is carpeted with a wealth of ferns especially the handsome pale-green rosettes of *Blechnum fluviatile*. The sword-like leaves of *Astelia nervosa* may almost everywhere be seen above the ferns.

At about 3200 ft. the kamahi vanishes, and from the branches of the broadleaf, *Fuchsia*, and totara trees depend the long pale tresses of the moss *Weymouthia*, swaying with every current of cool air. The prickly shield-fern (*Polystichum vestitum*) ousts the *Blechnum* as the dominant floor fern.

Above about 3600 ft. the forest trees are displaced, in the keen struggle for existence, by a low, densely-tangled growth of hardy shrubs of many kinds, especially the koromiko (*Hebe salicifolia*), the leather-wood (*Senecio elaeagnifolius*), a brownish-red needle-leaved heath (*Dracophyllum filifolium*) and two mountain five-fingers (*Nothopanax*).

Above this again is a belt of waving reddish-gold tussock, the tall grasses sheltering buttercups, eyebrights, daisies and other alpine flowers.

At 5000 ft. the climber treads a springy carpet of mosses, tiny rosette plants, cushion plants and others. Everywhere dotting this turf (in December) are bright clusters of orange berries belonging to a *Coprosma* no more than an inch or two high (*C. repens* Hook. f.). In many places where the slope is very steep, and the wind particularly

flower.

A few notes concerning special aspects of the Mt. Egmont vegetation (at least that seen near Dawson Falls) may be appended.

The most unusual feature is the mysterious absence of Nothofagus (beech) which is present on every other high mountain in N.Z. Again the botanical visitor is struck at once by the noteworthy absence of a great many species common or physiognomically important on the mountains of the central plateau and of the central chain, perhaps not a hundred miles away. The following, representing a very wide range of families of flowering plants, are only a few: Dacrydium intermedium ("mountain pine") and related species, Phyllocladus alpinus (Mountain toatoa); many grasses and sedges; the dainty Libertia pulchella; Ranunculus insignis (perhaps the most beautiful of all buttercups) and other species; several kinds of Clematis; Aristotelia fruticosa (mountain wineberry); Pimelia prostrata; Suttonia Nummularia; Coprosma foetidissima, the evil-smelling hupiro; Olearia colensoi (a most handsome tree-daisy with purplish flowers), O. nummularifolia, Senecio bidwillii, Celmisia spectabilis (common cotton plant), C. incana (white mountain musk) and several other members of the daisy family. In most cases the absence of these species on Mt. Egmont is not due to there being no suitable stations for their establishment.

The Egmont flora, apart from the sub-tropical forest of the lowermost levels, is unusually fragmentary in nature. At first sight this might seem easily explicable on the grounds that the mountain has always been very isolated: the plains between it and the mountains further east have acted as an insuperable barrier to the dispersal of many higher-level plants. But on this hypothesis (and it is only that) unless Mt. Egmont is much younger than generally believed, one would expect a considerable degree of endemism among the plants,--and varying degrees of endemism correlated with the times of arrival of the various species. There is, however, on Egmont hardly a distinctive endemic species, and the endemic varieties (e.g. of Carmichaelia australis, Hebe salicifolia and Celmisia glandulosa) are not far removed from the type species or other varieties. One is forced to the conclusion that the vegetation of Egmont is relatively young; but whether this is because of volcanic activity within recent times, geologically speaking, or otherwise, cannot be said.

A smaller yet very intriguing problem, possibly related to the last, is the almost entire absence of seedlings in the high-level kamahi "goblin forest" although seeds are shed in enormous numbers

each year, and although Kamahi seedlings are readily found in the lower-level forests. It is impossible at present to reconstruct the conditions under which this Kamahi forest rose to dominance: but it does not appear at present to be in equilibrium with its environment. It may be added that the lack of seedlings can hardly be due to animal interference. Unhappily opossums are plentiful, but seedlings of trees other than kamahi are present; and in the kamahi-mixed forest of lower altitude, where there are kamahi seedlings, the marsupials are far more numerous. A score or more can usually be picked up by the headlights of a car during the ascent of the hostel road by night. Happily it can be reported that the devastation caused by goats on the N. Egmont side is not, as yet at any rate, paralled on the Dawson Falls side. Nevertheless the removal of introduced mammals of all kinds from Egmont is a problem of the gravest moment if the whole character of the, at present, unique vegetation is not to be changed within a generation or so.

Perhaps other Botanical Society members who have visited Egmont would care to send in comments on the vegetation of this botanically most interesting region."

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