

manures have controlled potato scab and cotton root rot respectively. Such methods are unpredictable, however, and by no means generally effective.

I was fortunate to be able to work for two years in London on another type of disease-producing fungus, one of the group of wound parasites, viz. the grey-mould Botrytis cinerea. It attacks many plants, but only after first starting growth on dead tissue, e.g. old or frost-damaged leaves; spores will germinate on green leaves but will not penetrate and attack. I found that a great number of harmless soil bacteria and fungi which grew saprophytically on dead lettuce leaves in the field prevented attack if inoculated a day or so before Botrytis on wounded leaves. The same result was achieved if a water suspension of seedbed soil was placed on dead leaf tissue a day or more before Botrytis, though if both the soil and the Botrytis were inoculated together the latter attacked the plants. In this way, under natural conditions, providing spores of the disease do not arrive too early, the growth of soil micro-organisms on the old and damaged leaves protect the plants from grey-mould attack by means of antibiotic activity.

There are many reasons why we cannot at present expect any spectacular cures of plant diseases by means of antibiotic substances, e.g. plants have no circulatory system to carry the drugs to all parts in quite the same way as animals and in any case many antibiotic substances are themselves harmful to the plant or are rendered ineffective by the sap.

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On Saturday, October 15th, an excursion was held to Nihotupu Dam. Unfortunately it rained discouragingly during the morning. Notwithstanding, a few brave souls hied themselves forth and their optimism was rewarded and the weather improved and was quite pleasant during the afternoon. Apparently an enjoyable day was spent but further details are lacking as the editor was of those who remained at home.

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If the weather was unkind for Nihotupu nothing could have been better than the conditions for the Goldie's Bush

excursion here on Saturday, November 15th.

The cream lorry (eventually) met the party at Waitakere station and bore us to the entrance of the Bush, whence a pleasant walk of about  $\frac{3}{4}$  mile brought us to the beautiful Mokoroa Falls. The big kauri have been removed from the area, and it is good to see how the young ones are springing up and the bush is regenerating itself. Matai appears quite common here and both juvenile and mature forms were collected and examined. The native passion vine (Tetrapathaea tetrandra) was producing clusters of its small white star-shaped flowers. Members could observe for themselves how it differs from the imported vines in having unisexual flowers and possessing floral parts in fours rather than in fives.

A feature of the locality is the abundance of divaricating shrubs. In addition to the various Coprosma spp. and the common milk-tree or turepo (Paratrophis microphylla) we found kaikamako (Pennantia corymbosa) in both mature and juvenile state and poataniwha (Melicope simplex). We did not find the juvenile form of poataniwha, which is trifoliate like its brother the wharangi (Melicope ternata) but we found plenty of mature plants which possess single leaves. Their petioles are characteristically winged or flattened and the small roundish toothed leaves possess dots signifying oil glands, a feature characteristic of the family (Rutaceae) to which they belong, which includes citrus plants, rue etc. The flowers of our Melicope spp. are insignificant, but those of their cousin mairehau (Phebalium nudum) our only other member of the rue family, are most attractive while the whole plant is aromatic.

Another divaricating plant of the area is Nothopanax anomolum. It is well named for it is most unpanax-like, and outside the flowering season no one would connect it with the sturdy five-finger (Nothopanax arboreum) which grows in company with it. It is a small-leaved, shrunken twisted creature and though in the young state it has trifoliate leaves with long petioles, as the plant develops the petioles shrink often to almost nothing and the leaves become single and smaller - not more than two-thirds of an inch long.

We were fortunate in having with us Mr. Atkinson, who not only handled the billies in masterly fashion, but was of great help in locating trees and shrubs characteristic of the region.

Unfortunately our excursion clashed with a number of others, consequently our numbers were somewhat depleted. Perhaps we can arrange a further excursion to this delightful spot.

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