

not eager for more? What do most of us know of Gaultier, of Sutton, of Parsons, of Zammitelli? Can any of you throw light on the elusive Paeser?

Thank you, Professor Wall; more please! And maybe we shall crown you with a Wallia, for Arnoldia we cannot bestow on you. Alas! I find that Wallia is gone too, stolen away back in 1861 by Alefeld to name a walnut! But honour you, we do.

E.H.Allan.

#### SOIL MICROBIOLOGY.

On Monday, May 15th, Mr. Warcup, a research student at Victoria College gave a lecture to the Botanical Society on Soil Microbiology. He explained to us at the beginning that the soil actually consisted to a considerable extent of living organisms. Many kinds of worms and insects, large and small, and many smaller animals scarcely visible to the human eye lived within the soil. A great variety and a very large number of microscopic plants were also represented. These were soil bacteria, soil algae and soil fungi, and the growth was largely concerned with the decay and breaking down of all the waste organic material which came from the death of larger plants and animals. It was realised that within the soil there lived a very complex community.

Very little work has so far been done in New Zealand in exploring the soil fungi but Mr. Warcup showed that he had made a good beginning. By taking samples of soil from different localities and growing small amounts in petri dishes on sterilised nutrient jelly he had discovered the presence of many different fungi. Particular attention was paid to isolating *Fusarium* spp. because these fungi are important in causing root and stem diseases in many cultivated crops. They do not confine their activities in the soil to dead roots and other dead organic material but can invade growing plants as well. *Fusarium* spp. had been found in virgin bush soil as well as in cultivated farm lands. The fungal colonies, as the spreading plants are called, which were exhibited growing in dishes and tubes, showed the bright colours, especially pink and red which are characteristic of this genus. The writer of this note grew a large number of renga lilies (*Arthropodium cirratum*) from seed but lost a lot of young plants from the evil intervention of a similar *Fusarium* sp. which invaded the stems, reducing them to a mush. Characteristic pink streaks were formed on the dead plants.

One of the lecturer's most interesting exhibits was a dish containing colonies of a soil fungus very like the ordinary bread mould. Colonies of two kinds had been separated and planted side by side. The white cotton wool-like growth had spread from each till it touched its neighbour. Lines of black fructifications formed where the two growths met. The two strains of the fungus were in fact 'plus' and 'minus', that is, they showed a very simple form of sexuality. The two fungi were apparently identical but neither could fruit alone but had to exchange some material with the other before developing the black fructification.

The large amount of sampling and isolating of different fungi which Mr. Warcup had accomplished showed that he already was well acquainted with his very interesting subject.

C. B. Cone.

#### NATURAL HISTORY IN DEVONSHIRE.

On the evening of July 17th, after the business of the Annual General Meeting, we were entertained by Miss Drake, a visitor to Wellington, and a former President of the Exeter Field Club. In lively fashion she outlined for us the composition and activities of the Club and its background.

The county of Devon, in which Exeter lies, has a flora of some 1142 species, of which about 30 are ferns, one of them the famous *Camanda regalis*. The animals include 300 kinds of birds, various deer, otter, badger, stoat, and hedgehog. The wilds of Dartmoor, covering 3-400 square miles and rising to 2050 feet are