

But it is not to be supposed that Mrs. Fisher is prepared to cut down a beech for identification purposes, so we provide a very simple method of distinguishing the species simply by studying the leaves. Hard-beech has five to six distinct pairs of veins per leaf while red-beech has only three to four.

Now study the leaf margin and you will find that red-beech has 6-8 deep acuminate teeth on each side while hard-beech has 8-12, which are both shallow and blunt. Furthermore, on trees and saplings above 6-10 feet high you will find on the under surface of red-beech leaves, little pits (domatia) at the axils of the one or two lower side veins. These have never been recorded in hard-beech.

There are too, slight differences in the flowers, but I shall not discuss these, as one may miss the flowering season and further, the flowers are small and not at all easy to study, indeed in his study of them L. Poole used a X7 to X20 binocular microscope.

(2) Mrs. Fisher's second problem as to why the beeches seem to be dying out and why there are no seedlings to speak of, raises a very interesting issue. It should be noted, however, that it is held that some time during the thirteenth century there was a change in climate in this country involving an initial fall of temperature. New Zealand however, has greatly varied physical features, which cause it to show as Garnier put it "intense climatic regionalism", so that various types of climatic change affected different parts of the country. If then different species of our forest trees flourish best in different climates it follows that there will be an alteration in the composition of our forests, some species will tend to move out and others tend to move in.

We take this opportunity of thanking her for her careful records, and hope that it will be possible to obtain from her in the future further observations on other beeches in her area.

---

We had a truly exciting meeting on Thursday 17th September when Dr. Godley, a past president of our Society and now head of Botany Division spoke of his experiences in South America as a member of the Darwin Memorial Expedition to Chile. The meeting was held jointly with the Auckland Branch of the Royal Society of New Zealand, the National Institute of Horticulture and the Auckland University.

Dr. Godley was heard by a large and enthusiastic audience while much pleasure and information was derived from his beautiful colour slides. He has been kind enough to forward some notes on his trip.

In a letter to the Editor he remarked:

"I'll try to put down the things that gave me the greatest pleasure on the trip. The first was to see the huge columnar cacti at Santiago in the latitude of our North Cape. And further to see the stems decorated by bunches of red fruit of the parasite Phrygilanthus aphyllus. I saw the south Chilean sophora growing in only two localities as my expedition only collected near the northern extremity of its range. But I obtained specimens and above all, seed, from which I have five month old seedlings growing alongside some of our own kowhais of similar age. The kowhai there overhangs the streams just as it may do with us. In the same district I saw the South Chilean species of Coriaria which is very like the species we were taught to call C. ruscifolia. In Southern Chile, however much the plants may remind one of home, one can't escape the fact that to the north the land stretches uninterruptedly to the tropics of the New World. While looking at the kowhais I saw tiny green humming-birds visiting the flowers. And I saw groves of Nothofagus dombeyi (in almost the same latitude as Blenheim) alive with flocks of green noisy parrots.

Another curious assemblage was a Nothofagus nitida forest with an undergrowth of almost pure samoo whicket.

Between 41° and 48° in Southern Chile the forest is of two main kinds. The Eucryphia-Weinmannia-Laurelia forest is equivalent to our Podocarp-dicotylous forest, and there is also Nothofagus forsteri. This latter type increases in importance as 48° South is approached, and N. dombeyi is the dominant tree. South of 48° the country becomes desolate with much bare rock and bog, and with only patches of N. betuloides forest in sheltered gullies or along the shore.

There the bogs are the most fascinating association of plants. The genera here are just those found in New Zealand - cushion bogs Astelia pumilo, Donatia fascicularis, Gamardia australis, Oreobolus obtusangulus, sometimes Phyllachne colensoi, Drosera uniflora and Dacrydium fonckii. Here, if there exists such a thing, is a group of genera which could be imagined to have existed on the fringe of the Antarctic in just such conditions as we see them growing now. There is one puzzle however - Donatia does not occur in our own sub-antarctic islands.

---

Mr. A.D. Mead, who earlier in the year gave us a talk with colour slides, of his Christmas trip to the Ruahine Range, supplies the following note of the botany of the area.