

NOTES

A POCKET OF SILVER BEECH—WEST TAUPO

In the North Island silver beech (*Nothofagus menziesii*) is usually a tree of the montane and subalpine forest belts. At the lower elevations within these belts it occurs with red beech (*N. fusca*) while at the upper elevations it usually forms pure forests. In the South Island it has the same occurrence except that it migrates to low altitudes down rivers and streams as a riparian species, and in the far south, where the climatic conditions become wet and cool, for instance in the Fiordland, it forms extensive forests down to sea-level.

In the wet forests of the Kaimanawa mountains silver beech descends to 2,500 ft. about which elevation it mingles with red beech to form extensive forests. Westwards of the Kaimanawas it occurs on Pihanga Mountain at Tokaanu, again with red beech, and further west still there is a curious occurrence on the eastern slopes of the Hauhungaroa Range. This range is, except for the pocket of silver beech and for vegetation on the highest points, covered with podocarp-broadleaf forest. The pocket of silver beech lies towards the head of the Waihaha River eleven miles from Lake Taupo at an elevation of about 1,400 ft. and below the podocarpus forest where the main forest abuts upon the *Leptospermum* scrub. It has the appearance of being a remnant and of being rapidly invaded by podocarps.

Confined to a valley, this small forest of a few hundred acres in extent, extends down the valley from the main forest. In the lower parts it is almost confined to the valley floor but further up the valley it extends 200-300 ft. up the sides to the top of the valley. Throughout the main part silver beech forms a pure stand in which trees reach heights of 80-90 ft. and d.b.h.'s of 2-3 ft. Regeneration of all ages is present in spite of extensive pig rootings and the remains of germination from a 1949 seeding is to be found against and on damp mossy logs. The main species in the shrub understory are those found in some silver beech forests in other parts of New Zealand, viz. *Myrtus pedunculata*, *mingimingi* (*Leucopogon fasciculatus*), *Coprosma rhamnoides*, *Nothopanax arboreum*, *kamahi* (*Weinmannia racemosa*) etc.

Many seedling totara (*Podocarpus totara*) are present and where the forest abuts the scrub there is the semblance of an edge of tanekaha (*Phyllocladus trichomanoides*), a species which occurs as seedlings scattered throughout the scrub. Some distance up the valley, before the main forest is reached, podocarp seedlings, saplings and young trees make their appearance. These are mainly tanekaha, matai (*Podocarpus spicatus*), totara and rimu (*Dacrydium cupressinum*).

Occasional riparian trees of silver beech, some old and gnarled, occur in rocky gorges along the Waihaha river between the forest and

Lake Taupo. These trees grow with some of their roots in the water.

Peat samples collected from one of the natural clearings in the West Taupo forest did not yield silver beech pollen in any part of the profile so it is possible that silver beech forest has not been widespread in this part of the range at least and the pocket described is purely fortuitous.

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THE DISTRIBUTION OF TOATOA

Cheeseman in his "Manual of the New Zealand Flora" (1925) gives the southern limit of toatoa (*Phyllocladus glaucus*) as Rainbow Mountain and Titiraupenga and the maximum altitude as 2,000 ft. This species, however, occurs well south of the limits Cheeseman gives and at higher elevations.

It is present in fair quantity about the Waihora Stream catchment area on the eastern slopes of the same range, the Hauhungaroas, upon which Titiraupenga rises. Here at elevations between 2,000—2,500 ft. it grows with Hall's totara and rimu, and occasional trees up to 2 ft. in diameter are being milled. The timber is sold as tanekaha. Smaller trees and seedlings of toatoa are to be found up to the top of the range, elevation 3,700 ft., at about the same latitude. There also occurs at the same elevations scattered trees of tanekaha (*Phyllocladus trichomanoides*), alpine toatoa (*Phyllocladus alpinus*), and pure stands of the last-named species surround natural clearings in the forest.

Another record, at an altitude exceeding Cheeseman's limit, was that of Adams (Trans. N.Z. Inst. XXI p. 32) who collected toatoa on the summit of Te Moehau, 2,750 ft. Growing in association with it were also tanekaha and alpine toatoa. Toatoa has since been collected on Te Moehau summit by several botanists.

N. L. Elder, R. M. Greenwood and A. P. Druce record that toatoa also grows between 2,500 and 3,000 ft. in the catchment area of the Waimarino River on the northwest slopes of Ngapuketurua in the Kaimanawa Mts. The trees were of frequent occurrence on a steep ridge in red beech forest. Other trees present in small quantities were silver beech, kamahi, Hall's totara and haumakaroa (*Nothopanax simplex*).

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NOTES ON SEEDS AND SEEDLINGS OF MATASEQUOIA GLYPTOSTROBOIDES

This species was discovered in 1945 and named in 1948 in Szechuan Province of China by Chinese botanists. The species, besides publication of its formal scientific description, has been described in several American publications under the name of the Dawn Red-