

remarkably dense piece of forest; in some places the trunks are not more than from 6ft. to 10ft. apart, and would give a return of fully 60,000 superficial feet to the acre. In general appearance it reminded me strongly of some of the best parts of the Westland and Nelson forests, although the trees were of inferior height. Unfortunately the area is small, but forms a valuable Native reserve. This fine section, however, speedily thins out as it ascends the hill, and is succeeded by a belt of fine tea-tree, much of which is suitable for small piles. Tipau, hinau, rewarewa, &c., are not unfrequent, and are gradually succeeded by entire-leaved beech, as already described.

In its general features the forest of the Mangaone bears a considerable resemblance to those of the Pourewa. The pines are frequently of large size, but as they often grow on steeper declivities are not unfrequently scattered; tawa and northern rata are abundant. But the most valuable feature of this valley is the abundance of black maire (*Olea Cunninghamii*), which frequently attains large dimensions. It affords a compact dense timber of great durability, and is now coming largely into use for the framework of railway carriages, waggon, &c., for which purpose it is second only to the puriri. White maire (*O. lanceolata*) is occasionally met with, and the narrow-leaved maire (*O. montana*) is still rarer.

The general quality of the timber in this valley is excellent, and the dimensions are unusually large, especially of the pines, black maire, hinau, and rata; much of the latter formed straight symmetrical trunks.

RANGATAUA FOREST.

Rangataua Forest is situated on the south-western slope of Ruapehu, and on the Karioi side consists almost exclusively of silver-beech, which forms a belt fully half a mile in width. The trees are frequently of large dimensions; in a few places specimens were observed with trunks from 4ft. to 6ft. in diameter, although somewhat below the usual height.

Inside the forest the silver-beech is replaced by white-pine and rimu of exceptionally large size, but in some places rather scattered, so that frequently the tops are larger than usual. Many stems were fluted, wrinkled, or warted, so that in all probability a large proportion of figured wood, suitable for ornamental cabinet-work, would be obtained. The matai was frequent and of fine growth.

I observed a few scattered trees of totara, and measured a beautifully-symmetrical specimen, 60ft. to the first branch, and 36in. by 36in. I was assured that patches of good specimens occurred in other parts of the forest, but failed to come across a good clump even.

Tooth-leaved and entire-leaved beeches occur in larger or smaller patches, but rarely attain more than average dimensions. At greater altitudes mountain-beech replaced all other kinds, and runs out at about 4,000ft.

Black maire is not infrequent up to 2,000ft., although not nearly so plentiful as in the Mangaone Valley and in the Maire-pai Forest. Trunks from 22in. to 32in. in diameter were observed on Ruapehu. White maire occurred sparingly. Kamai, here called tawhero, was common, but rarely of large size. I was assured that totara was more plentiful to the north and north-west of Karioi, but, owing to the flooded state of the creeks and the absence of any passable track through the forest, I diverged from the central railway-line and passed round the southern and eastern flanks of Ruapehu to Waimarino.

The abundance of first-class convertible timber of large dimensions at an altitude of 2,000ft. and upwards was quite unexpected by me. As the forest extends for many miles along the railway-line, it may be expected to contribute largely to the traffic, while the mere fact of its being traversed by a railway will afford facilities for conversion and carriage to a port of shipment.

WAIMARINO.

At Waimarino the railway enters the forest at an altitude of 2,546ft., the forest in this place consisting chiefly of kaikawaka (*Libocedrus Bidwillii*), a handsome conical-headed tree, termed cedar by the bushmen. The cedar extended for fully a mile; the trunks averaged from 30ft. to 40ft. in length, and from 15in. to 24in. or 30in. in diameter. One fine specimen was 4ft. in diameter but only 25ft. in length. In the South Island this tree affords timber of great durability, fully equalling totara in this respect. It is, however, rather short in the grain, and therefore unfitted for constructive works in which great strength is required.

Crossing the Makaretu Stream and ascending the opposite bank, moderate-sized specimens of the Westland silver-pine (*Dacrydium Westlandicum*) were found, but much scattered, and nowhere in large quantity. Its occurrence at so great an altitude as 2,500ft., was quite unexpected; and, on account of its great durability, it is to be hoped that it may be found in abundance. The largest specimens observed were from 30ft. to 35ft. high.

From Waimarino the forest extends for many miles, consisting of large red- and white-pine, totara, and matai of fine growth, with the addition of tawa.

On the table-land between the edge of the forest and the base of Ngaruhoe large patches of good pines occurred, mixed with fine kaikawaka, totara, Westland silver-pine, broadleaf, &c., all of which ascended the mountain to fully 3,000ft., when they are gradually replaced by mountain-beech, which runs out a little below 4,000ft. Above 2,700ft. the patches of forest are often fringed by fine specimens of the toi (*Cordylina Hookeri*), a grand palm lily, with leaves from 4ft. to 6ft. long and from 5in. to 6in. wide, which afford a fibre of great strength and remarkable elasticity.

On a run leased from the Natives at Tongariro by Messrs. Studholme and Morrin numerous clumps or patches of totara of rather small size were dotted over the grass country. They rarely exceeded 35ft. to 40ft. in length and 2ft. in diameter, but would be of considerable value for small piles and other purposes. The patches which were sometimes of considerable size exhibited a remarkable undergrowth of broadleaf, large-leaved matipo, and various panaces, &c.