

VARIETIES OF TIMBER TREES, AND USES.

2. *Totara*.—Habitat: North and South Islands, but most plentiful in the North Island. Generally distributed through forests. In this district it is distributed as follows: In South Wairarapa and open parts of North Wairarapa, in odd clumps of a few trees. Most of the lower parts of the main bush have been worked out. On the west coast a few odd trees occur. In the Awarua Block, generally eastward from Utiku, there is a good extent of totara, and a little in Kaitieke, Wangaehu Valley, and Waimarino. It is a very durable timber, easily worked, and taking a good polish, but it is rather brittle. It is probably the best timber for general purposes in the Dominion. It is used for wharves, bridges, fencing, firewood, cabinet-work, and for building purposes; especially for piles, sleepers, bottom plates, floor-joists, and floors, as it lasts well in damp places—fifty years or more. The Maoris used it for their canoes, and the bark for lining their whares. Totara-knots are in demand for cabinet-work, owing to the beautiful grain and the fine polish they will take. The royalty-value averages about 4s. per 100 sup. ft., but varies very much according to locality and access to mills. The market price, after working at mills, on truck, is 15s.

3. *Totara kiri kotukutuku*.—Habitat: North and South Islands. This is the mountain species, usually occupying the upper spurs and the upper parts of valleys. Economically the tree is distinguished from the true totara by a smaller size, more sap-wood, and a woolliness of fibre. It is also not so durable. It is distributed generally throughout the district, usually in small patches, and in inaccessible places.

4. *Matai*.—Habitat: North and South Islands, generally distributed. In this district the main forests are in Wairarapa and along the Main Trunk Railway, as Awarua, Rangataua, and Horopito, and in the blocks to the westward. It is generally found on rather dry river or shingle flats and on the summits of ranges or spurs up to an elevation of 1,800 ft., or rather higher in the northern parts. It is a durable timber, lasting thirty or forty years if cut when the sap is down and seasoned. It lasts well either in or out of the ground. It is used for bridges, buildings, fences, firewood. It makes excellent flooring, as it shrinks with the grain only. It is very hard, and takes an excellent polish. It is a strong timber, with a high breaking-strain. It is becoming scarce, and in some parts the supply is only sufficient for the use of the settlers; but there is still a fair quantity in some localities, and doubtless other uses will be found for it when the softer timbers, such as totara and rimu, become scarce. Its royalty-value is about 2s. per 100 sup. ft., but, after working, the value at mills, on truck, is 12s.

5. *Kawaka, or Kaikawaka*.—Habitat: Hilly parts of the North Island. Mr. F. A. Thompson says that this species of *Libocedrus* is, as far as he can ascertain, absent from the Wellington District, the tree commonly called kaikawaka, or kawaka in the Waimarino Forest, seems always to be the pahatea, or cedar. Messrs. H. Lundius and J. Ammunson, Crown Lands Rangers, refer to two varieties—viz., dark and pale, the former lasting about forty years, and the latter only about five years. It is only used for small bridges at present, and has no commercial value just now, as it grows in remote and, until lately, inaccessible places; but it will doubtless be used for many more purposes when better known. It is a rather small tree, the average diameter being 15 in., and length of barrel 21 ft. Mr. H. E. Girdlestone says it is found on the slopes of Ruapehu. A young forest of this tree is found in the high portion of the Motukawa Block, near Turangarere, and by the time these trees reach maturity the timber will have become better known and more valuable.

6. *Pahautea, or Cedar*.—Habitat: Mountainous districts of North and South Islands, at altitudes of from 1,000 ft. to 3,000 ft., but seldom below 1,500 ft. This tree has possibly been confounded with the kawaka, or kaikawaka. Mr. A. M. Roberts says, "It is hard and durable, and well adapted for bridge and other constructive works. It is also utilised for building, and is specially valuable for wharf-piles or bridges, being well known as a resistant to all water-microbes." Mr. O. N. Campbell says, "It is a poor timber, but might be used for pencil-cases; it is not used; is generally called kaikawaka, and often mistaken for totara." Mr. T. A. Johnston says, "It is not very durable when exposed. Has not so far been milled, on account of its inaccessibility. It is found in large quantities in the Waimarino, at an altitude of about 2,300 ft. to 2,600 ft. Average barrel, about 18 in. It splits and chips easily." Mr. F. A. Thompson says, "This tree occurs on the summit of the Ruahines, behind Raumai, and forms part of the forest from Makatote northwards to Whakapapa, at altitudes of from 3,000 ft. to 1,000 ft., but rarely below 1,500 ft. It is chiefly remarkable for its lightness and fissileness, and is evidently a very durable timber, but is apt to split in seasoning." This species is often erroneously called kawaka, but, so far as Mr. Thompson can discriminate, the kawaka does not grow in our district, though perhaps it may be found higher up on the mountains.

7. *Northern Manoa*.—Habitat: Mr. H. E. Girdlestone says that it is grown on the slopes of Ruapehu; Mr. F. A. Thompson, that it appears to be restricted to the district north of Auckland City; and Messrs. Lundius and Ammunson say that it is found chiefly in the Waimarino district, at altitudes of over 200 ft., and that it is used for bridge-work, but has no present commercial value. It is a durable timber not well known as yet, but it will no doubt be more used when better known, as it works up well and easily. It grows the same size as kaikawaka.

8. *Southern Manoa*.—The southern manoa and Westland pine appear to be identical. The trees grow on the Ruahines, behind Raumai, and in the Waimarino Forest near the plains. The timber is excellent for bridge purposes, and very durable.

9. *Westland Pine*.—There is a diversity of opinion with reference to this timber, probably due to its being better in some localities than others. It appears to be identical with the southern manoa. Mr. O. N. Campbell says, "Habitat, high altitudes. An occasional tree, mostly stunted, and of no value." Mr. T. A. Johnston says, "Habitat, North and South Islands. Tough and durable. Slow-growing. Used for sleepers. Not worked in the Waimarino Bush. Good firewood. Found in the Hautangatahi Forests, and at high altitudes in the Waimarino Forest, from 2,400 ft. Not very plentiful. Trees small,"