

perfectly sound. On the other hand, piles in marine works in Auckland and Dunedin have remained sound after twenty years' use, which may probably be taken as the average limit of its durability. In Lyttelton Harbour a piece of shore piling is perfectly sound after being constructed fourteen years. In Otago, it is considered to resist the attacks of teredo better than any other timber, but I observed some fender piles at Port Chalmers much perforated. In Auckland I have seen it attacked within two years, and seriously injured in less than four years. Mr. D. E. McDonald, engineer to the Auckland Harbour Board, informs me that he has found manuka piles, cut during the growing season, resist the attacks of teredo much longer than those cut in the winter.

In the North it is generally used for fencing-rails, for which it is considered superior to all other timbers.

17. KOWHAI.—(*Sophora tetraptera*.)

Found throughout the colony; varying in size from a small shrub to a tree 30 to 40 feet high, with a trunk 1 to 3 feet in diameter. The timber closely resembles the European laburnum, and is of great strength and durability; but the supply of large timber is extremely limited, the tree being often reduced to a mere bush.

It has been occasionally used for sleepers, piles, house blocks, &c., and is everywhere valued for its durability. Fencing posts, piles, and house blocks, which have been fixed for nearly twenty years, in Dunedin and other places, are still sound and good.

18. BLACK MAIRE.—(*Olea apetala*, Vahl.)

The value of this noble olive as a timber tree is but little known. It is the largest of all the species termed maire by the Natives, and grows from 50 to 70 feet high, with a trunk 2 to 4 feet in diameter. Its foliage is large and glossy, but not so smooth and bright as that of *O. Cunninghamii* and *O. lanceolata*, with which it is generally confused. It yields a very hard, dense timber of great durability and strength, and is sufficiently smooth to admit of its being used for wood engraving. It might form an item of export.

Most of the specimens labelled *Santalum Cunninghamii* in the New Zealand museums belong to this species. It is found in many parts of the North Island.

19. MAIRE-TAWHAKE.—(*Eugenia Maire*.)

A small tree about 40 feet high, 1 to 2 feet in diameter. Common in swampy land in the North Island. Timber compact, heavy, and durable.

This has been utilized for mooring-posts and jetty-piles on the Waikato, where I observed many instances in which it was perfectly sound after having been in use for seven years. It is highly valued for fencing, and, in localities where it is plentiful, might be advantageously employed for railway sleepers.

CLASS II.

TIMBERS adapted for GENERAL BUILDING or SPECIAL PURPOSES, but not possessing great durability.

Systematic Name.	Family.	Native Name.	Settlers' Name.
20. <i>Dacrydium cupressinum</i> , Soland.	Coniferae ...	Rimu ...	Red pine.
21. <i>Podocarpus dacrydioides</i> , A. Rich	"	Kahikatea ...	White pine.
22. <i>Podocarpus ferruginea</i> , Don.	"	Miro ...	Miro.
23. <i>Fagus Solandri</i> , Hook. f.	Cupuliferae ...	Tawhai ...	Entire-leaved beech.
23A. <i>Fagus Cliffortioides</i> , Hook. f.	"	" ...	"
24. <i>Weinmannia silvicola</i> , Banks & Sol.	Saxifrageae ...	Towai ...	Towai.
25. <i>Weinmannia racemosa</i> , Forst	"	Tawhero ...	Tawhero.
26. <i>Atherosperma Nova-Zelandiae</i> , Hook. f.	Monimiaceae ...	Pukatea ...	Pukatea.
27. <i>Elaeocarpus dentatus</i> , Vahl.	Tiliaceae ...	Hinau ...	Hinau.
28. <i>Elaeocarpus Hookerianus</i> , Raoul	"	Pokako ...	Pokako.
29. <i>Nesodaphne Tawa</i> , Hook. f.	Laurineae ...	Tawa ...	Tawa.
30. <i>Nesodaphne Taraire</i> , Hook. f.	"	Taraire ...	Taraire.
31. <i>Alectryon excelsum</i> , D. C.	Sapindaceae ...	Titoki ...	Titoki.
32. <i>Ixerba brexioides</i> , A. Cunn.	Saxifrageae ...	Tawari ...	Tawari.
33. <i>Tetranthera calicaris</i> , Hook. f.	Laurineae ...	Mungeao ...	Mungeao.
34. <i>Knightia excelsa</i> , Br.	Proteaceae ...	Rewarewa ...	Honeysuckle.
35. <i>Hedycarya dentata</i> , Forst.	Monimiaceae ...	Kaiwhiria ...	Whitewood.
36. <i>Dysoxylum spectabile</i> , Hook. f.	Meliaceae ...	Kohekohe ...	Cedar.

20. RED PINE—RIMU.—(*Dacrydium cupressinum*.)

A tree from 40 to 80 feet high; trunk, 3 to 5 feet in diameter. Found throughout the colony, but increasing in frequency from the Auckland Isthmus southwards.

This timber has been extensively used in the construction of public works, especially in the southern part of the colony, and has hitherto had a higher reputation for durability than it deserves.

Its chief drawback arises from its liability to decay under the influence of wet. Wherever moisture can penetrate, as at joints, sun-cracks, shakes, or even the concavities on the surface of hewn beams, decay speedily commences, although intervening spaces may remain sound for a considerable period.

Separation of the ligneous tissue frequently takes place during growth, leaving small cavities, which become filled with a resinous deposit. This becomes shaken when the tree is felled, affording fatal facilities for the access of moisture.