

beech, red and white pines, rata, tanekaha, tea-tree, totara, puriri, tawhero, and Ixerba; also scattered trees of kawaka, matai, miro, manuwao, kowhai, maire, black maire, pukatea, hinau, mangiao, maire tawhake, titoki, ackama, karaka, Quintinia, and others. No tree in New Zealand approaches the kauri in its stately massiveness. Huge cinereous columns rising 60 or 80 feet clear of branches, and having a diameter of from 4 to 8 feet or more, stand before the visitor on entering a kauri forest. At the base of each shaft is a mound of *humus*, chiefly arising from the decomposition of its shed bark and leaves. The branches, massive and spreading, clothed with deep-green foliage, spring from a common point, so that the conical shape characteristic of the tree in its young state is entirely lost. A deformed or distorted tree is extremely rare. As a rule the undergrowth in kauri forests is not dense, and consists chiefly of a few small shrubs, mixed with the long interlacing leaves of a liliaceous plant, *Astelia trinervia*, the "kauri grass" of the bushman; and the kauri itself is rarely laden with epiphytes and climbers owing to the deciduous nature of its bark, which scales off in flakes often one or two feet long.

11. The totara, *Podocarpus totara*, is sometimes found associated with the kauri although but rarely: usually it prefers a richer soil with a more copious supply of moisture, and north of the Waitemata seldom occurs in large quantity. The red pine or rimu, *Dacrydium cupressinum*, is much more abundant, and like the totara increases in frequency southwards. In the Hunua and Pokeno district, and in many other localities, it attains larger dimensions with a less proportion of sap than in the South Island. The black pine, *Podocarpus spicata*, and the miro, *P. ferruginea*, are not infrequent, and sometimes attain a large size, but they never form a large proportion of the timber, and are rarely converted in this district.

12. Tawa, *Nesodaphne tawa*, is the prevailing tree in some portions of the district. It attains the height of from 50 to 70 feet, with a trunk two to three feet in diameter, and light spray clothed with elegant willow-like foliage. It is especially plentiful in deep narrow gullies, and is distributed throughout the North Island. It bears a handsome fruit somewhat larger than a damascene.

13. The tanekaha, *Phyllocladus trichomanoides*, occurs in considerable quantity. It is from 50 to 70 feet high, with a trunk 2 to 3 feet in diameter, and yields a timber of great toughness and durability. It is restricted to the North Island. Allied to this is the toatoa, *P. glauca*, another of the celery-topped pines, and confined to the kauri district. It is the most striking and handsome of all the New Zealand pines, sometimes over 30 feet high, with a trunk 18 inches in diameter, but rarely occurs in large quantity.

14. The manao, *Dacrydium Colensoi*, is another pine yielding timber of great durability, but usually of small dimensions. It is rarely more than 40 feet high, and usually smaller, with a trunk 1 to 2 feet in diameter. The lower leaves are an inch in length, and resemble those of the miro; the upper are small and closely compressed, like those of a cypress.

15. The white pine, *Podocarpus dacrydioides*, although occasionally found solitary in dry forests, is usually gregarious, occupying swampy districts to the exclusion of other kinds. It attains a large size, 80 to 100 feet high, with a trunk of from 2 to 5 feet in diameter. A squared spar, lying in a forest in the Wairoa, measured 103 feet in length and 9 inches square at the upper end. It forms forests of great extent, as in many places by the Wairoa, and in the Hauraki Gulf, where it occupies the whole of the swamp land between the Thames and Piako Rivers. Its perfectly straight trunks, which taper very gradually and are devoid of branches, stand at very short distances from each other and much resemble interminable series of columns, an effect produced by no other New Zealand tree.

16. The rawiri or tea-tree, *Leptospermum ericoides*. This useful tree forms large blocks often covering entire ranges. The trunk is from 20 to 40 feet in length, and 1 to 2 feet in diameter; the foliage is very light and graceful. The manuka, *L. scoparium*, seldom attains the dimensions of a tree, but as low scrub, 2 to 12 feet high, often covers large tracts of country.

17. The black maire, *Olea apetala*, with its allies, *O. Cunninghamii* and *O. lanceolata*, are frequently found in mixed forest, and from their glossy foliage at once attract attention. The sandalwood, *Santalum Cunninghamii*, is frequently associated with them. Pukatea, *Atherosperma Novæ-Zelandiæ*, is more plentiful in rather swampy forests, where it forms a noble tree, 100 to 150 feet high, with a trunk 3 to 7 feet in diameter. Another fine laureliad, peculiar to this district, is the mungiao, *Tetranthera calicaris*, which yields a dense white timber, used for ships' blocks, &c. It occurs sparingly in the drier parts of the forest, and attains 50 feet in height. *Ixerba brexioides*, a fine tree with large handsome foliage and white flowers, is plentiful in several localities, usually at slight elevations. It attains the height of 60 feet, with a trunk 1 to 2 feet in diameter, yielding a white timber of great density, and which might be made available for many purposes.

18. In sheltered valleys, much of the forest consists of puriri, *Vitex littoralis*, a tree 50 feet or more in height, with a massive trunk 2 to 5 feet in diameter and smooth white bark. The deep green pinnate leaves are relieved by the red flowers and fruit. About Hokianga it is associated with the graceful *Ackama rosaefolia*, a small tree 30 to 40 feet high, with pinnate leaves enlivened by panicles of flowers greatly resembling in general appearance the mountain ash, *Pyrus aucuparia*, of modern Europe. These again are mixed with the bright glossy foliage of the karaka, *Corynocarpus laevigatus*, a tree 30 feet high. The small-leaved tawhero, *Weinmannia silvicola*, with its innumerable erect racemes of whitish flowers, surmounting a trunk 30 or 40 high, is abundant, and by its side the closely allied tree, *Quintinia serrata*, with its larger and still more attractive flowers. The Northern rata, *Metrosideros robusta*, often 100 feet high, with a massive gnarled trunk 5 to 12 feet in diameter, is abundant all through the district, and when covered from base to summit with bright crimson flowers is a magnificent object.

The taraire (*Nesodaphne taraire*) is peculiar to this district, and forms a handsome tree 40 to 60 feet high, with a trunk 1 to 3 feet in diameter, with white bark and large, brownish, ovate leaves. It often forms the most prominent tree in large tracts of forest.

19. Almost restricted to this district is the magnificent pohutukawa, *Metrosideros tomentosa*, with its huge gnarled branching arms and silvery foliage, abundant everywhere near the sea, and yielding ship timber of the highest value. When covered with crimson flowers, at Christmas, it forms a magnificent object. The kowhai, *Sophora tetraptera*, is plentiful in many localities, but more often forms