

**METROSIDEROS TOMENTOSA**, A. Cunningham.

THE POHUTUKAWA.

ORDER—MYRTACEÆ.

(Plate CXVIII.)

THE pohutukawa is, perhaps, the most magnificent plant in the New Zealand flora: it attains upwards of 70ft. in height, often with a comparatively short trunk and numerous large tortuous arms clothed with bold foliage, green above but white and silvery beneath: from the beginning of December to the middle of January its branches are crowned from base to summit with large panicles of glittering blood-red flowers, affording a pleasing contrast with the white under-surface of the leaves as the branches are from time to time uplifted by the breeze.

Very rarely it forms a straight symmetrical trunk with a compact round head. On Rangitoto, an extinct volcano at the entrance to the Waitemata, diminutive specimens, 1ft. to 3ft. high, may be seen growing from the face of the basaltic rock, and, notwithstanding the unfavourable nature of the habitat, exhibiting the utmost luxuriance of foliage and extremely brilliant flowers.

It was originally discovered by Banks and Solander during Cook's first voyage, and received the MS. name of *Metrosideros excelsa*, but was first described by Allan Cunningham. It is the "Christmas-tree" of the settlers, who use its flowers freely for Christmas decorations.

It is often of irregular growth, with a trunk from 2ft. to 4ft. in diameter, clothed with brown bark, which is much furrowed and wrinkled. The primary branches are often massive and wide-spreading: the branchlets are stout, and clothed with a dense coat of white or dark hairs; the under-surfaces of the leaves are coated with snow-white hairs. The leaves are carried on short leaf-stalks, and are arranged in four rows; they are from 1in. to nearly 4in. long, including the leaf-stalk, and from  $\frac{3}{4}$ in. to 1 $\frac{1}{4}$ in. broad, sharply narrowed towards the apex, and rounded at the base: they are of very stout texture, with the upper surface finely reticulated.

The flowers are developed in dense panicles, about 3in. or more in diameter, terminating the branchlets: they are arranged in threes, each flower being carried on a short stout pedicel, which, with the branches of the panicle, is clothed with a dense coat of snow-white woolly hairs; the pedicels are jointed to the branches of the panicle. The calyx is protected in the same manner, and is funnel-shaped, with five triangular teeth at its margin, which carries five small free scarlet petals, hairy at the back, and a dense ring of stamens with long scarlet filaments. The ovary is adherent with the lower part of the calyx-tube, and is three-celled, with a style longer than the filaments. In fruit it forms a woody capsule exceeding the calyx-tube, and containing numerous minute seeds.

The leaves of the young plant are perfectly smooth, and closely resemble those of *M. robusta*.



Although most frequent on maritime cliffs, it is occasionally found in woods near the sea, when the leaves and flowers are usually smaller.

What appears to be a hybrid between this species and *M. robusta* is occasionally found in situations where both species occur. The branchlets are stout, and the leaves smaller and perfectly smooth on both surfaces. The flowers are of small size, in few-flowered panicles, the branches and pedicels being nearly smooth.

#### PROPERTIES AND USES.

The wood is of a deep-red colour, excessively dense, heavy and compact, and of great strength and durability. Its spreading tortuous habit of growth renders it of the greatest value for ship-timbers, and it has been extensively used for that purpose since the earliest period of settlement; it is also used for planks for various special purposes, for trenails, for machine-beds and bearings, &c. It is very suitable for the framing and sills of dock-gates, &c.

The pohutukawa exhibits great power of resistance to the attacks of the teredo: I have never seen logs seriously injured by the perforations of this destructive mollusc. It affords excellent firewood, although difficult to split.

Although the trunk does not rival that of the English oak in dimensions its massive arms are equally valuable, and will probably be found superior in durability.

A decoction of the inner layers of the bark is highly valued by bushmen as a remedy for dysentery.

It is to be regretted that it has been wantonly destroyed in many localities, and is now very scarce in districts where it was formerly plentiful. It is generally planted for ornamental purposes: under cultivation it commences to flower when about 5ft. or 6ft. high. Cultivated specimens withstand the winter frost as far south as Banks Peninsula.

#### DISTRIBUTION OF THE GENUS.

See under *Metrosideros lucida*, p. 99, ante.

#### DISTRIBUTION OF THE SPECIES.

*Metrosideros tomentosa* is endemic in New Zealand, and is restricted to the northern portion of the colony. It is chiefly found on sea-cliffs, and in woods by the margin of the sea, from the Three Kings Islands and the North Cape to Poverty Bay on the east coast and the mouth of the Mimi River on the west. It is also found inland at Waikaremoana, in the East Cape district, along the course of the Tarawera River to the Tarawera Lake, where it was plentiful and of large dimensions prior to the volcanic eruption of June, 1886. Associated with it were *Astelia Banksii* and other maritime plants of a northern type, forming a scene which could only be elsewhere witnessed on the rocky coast to the north of Auckland. It is not found at Rotokakahi, which is 300ft. higher than Lake Tarawera, into which it discharges, but it occurs sparingly on islands in Taupo Lake, in the centre of the North Island.

It ascends from the sea-level to about 2,000ft. on headlands in the vicinity of the sea, and at Waikaremoana, where it was discovered by Mr. Colenso. It attained a somewhat greater altitude on Tarawera Mountain previous to the eruption.

I have been assured that this species is plentiful between Riwaka and Waitapu, on the southern side of Cook Strait, and that it was used for the framework of a small vessel constructed there a few years ago. I have also been assured



by a surveyor and by a Native that one or two trees are to be found on a point between Takaka mud-flats and Collingwood, but unhappily I have not been able to obtain confirmation of either statement. Wood sections sent from the first-named locality certainly belong to *Metrosideros robusta*. As the statements were made on apparently good authority, I am unable to consider them disproved by the small amount of negative evidence obtained, although they cannot be accepted in the absence of direct evidence in their favour.

#### DESCRIPTION.

*Metrosideros tomentosa*, A. Cunn.

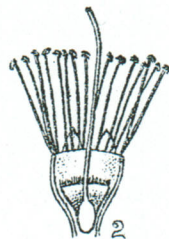
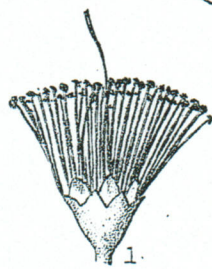
A. Richard, "Flora de la Nouvelle-Zélande," t. 37.

A tree, 30ft. to 70ft. high, with a short trunk and massive spreading arms. Branchlets stout, tomentose. Leaves decussate, 1in. to nearly 4in. long, shortly petioled, narrow-lanceolate, oblong or broadly oblong, usually narrowed to the apex, rounded at the base, margins often recurved, clothed with white appressed tomentum beneath, or, rarely, glabrous. Flowers arranged in threes, forming broad terminal cymes; pedicels stout, and, with the calyx, clothed with dense white tomentum. Calyx superior, funnel-shaped, with five short triangular lobes; petals, five, pubescent on the outer surface. Stamens numerous, filaments fully 1in. long; ovary three-celled, adnate with the lower part of the calyx-tube; style stout, longer than the stamens. Fruit, a woody capsule, girt about the middle by the calyx-tube.

#### EXPLANATION OF PLATE CXVIII.

*Metrosideros tomentosa*, A. Cunn. Flowering specimen, natural size.  
1. Flower. 2. Longitudinal section of a flower, slightly reduced. 3. Petal, magnified. 4. Capsule. 5. Capsule dehiscing. Both slightly reduced.  
6. Transverse section of capsule, natural size. 7. Seed, magnified.





T. KIRK, DREXEL.

SURVEY DES LIGNES.

Pohutukawa.  
METROSIDEROS TOMENTOSA.