

Draft Version 1.0

**Field Guide to the Natural History of Selected New Zealand Plants
Located in Overseas Gardens, Parks, Reserves and Private Collections**

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Note: Information has been compiled from a variety of websites and other references which may not be fully cited. [insert web refs]

New Zealand Plants Growing Overseas

Table 1. List of common New Zealand plant species available to monitor at overseas research sites. Species selection was based on a number of factors: a) presence at four or more overseas gardens (18 species lists were made available for comparison), b) reported insect pests overseas c) reported pathogens overseas, d) importance to Maori, and/or e) plant species are threatened in New Zealand.

Acaena novae-zelandiae	Dicksonia squarrosa	Metrosideros excelsa
Agathis australis	Dodonaea viscosa	Muehlenbeckia axillaris
Alectryon excelsus	Entelea arborescens	Myrsine australis
Aristotelia serrata	Gaultheria antipoda	Nothofagus
Asplenium oblongifolium	Gaultheria depressa	Olearia paniculata
Astelia nervosa	Griselinia littoralis	Pellaea rotundifolia
Beilschmiedia tarairi	Halocarpus kirkii	Phormium cookianum
Blechnum minus	Hebe	Phormium tenax
Carex flagellifera	Hebe buchananii	Phyllocladus trichomanoides
Carpodetus serratus	Hebe cupressoides	Pittosporum crassifolium
Coprosma propinqua	Hebe salicifolia	Pittosporum <i>eugenioides</i>
Coprosma rhamnoides	Hebe speciosa	Pittosporum tenuifolium
Coprosma robusta	Kunzea ericoides	Podocarpus nivalis
Cordyline australis	Leptospermum scoparium	Podocarpus totara
Corokia cotoneaster	Libertia ixioides	Pseudopanax arboreus
Corokia macrocarpa	Libertia peregrinans	Pseudopanax crassifolium
Corynocarpu laevigatus	Libocedrus bidwillii	Pseudopanax ferox
Cyathea dealbata	Libocedrus plumosa	Rhopalostylis sapida
Dacrycarpus dacrydioides	Lophomyrtus obcordata	Solanum laciniatum
Dacrydium cupressinum	Macropiper excelsum	Sophora microphylla
Dianella nigra	Melicope ternata	Tecomanthe speciosa
Dicksonia lanata	Melicytus ramiflorus	Todea barbara

Total: 66 species

Acaena novae-zelandiae Kirk (1870) [1871]



Common name (if one): Bidibid (English), Red bidibid (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Rosales](#) family: [Rosaceae](#) genus: [Acaena](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Main stems stout, woody, creeping and rooting, up to 1m. long; branches ascending, stout, c. 5-10 cm. long, pilose. Lvs 5-10 cm. or more long, petioles silky-pilose, lflts 11-15. Stipules obliquely lanceolate, c. 6-8 mm. long, 3-4-fid. Upper lflts 12-15 mm. long, elliptic to obovate-oblong, subsessile, subserrate-crenate, vivid dark green and glab. above, pale below and pilose on veins; terminal lflt on petiolule c. 3 mm. long. Scapes c. 10 cm. long, stout, with or without one or more pairs of bracts. Heads, including spines, c. 3-5 cm. diam. sts smaller; bractlets linear, c. 4 mm. long. Cupules obconic, tetragonous, pilose, c. 3-4 mm. long. Spines c. 1 cm. long, occ. shorter, dark purple. Sepals lanceolate to broad-lanceolate, \pm pilose below. Stamens 2, anthers white, stigma plumose.

Stoloniferous perennial; prostrate stems 1.5-2 mm diam., < 1.5 m long; erect stems 1-2 mm diam., < 15 cm long or longer when scrambling on supporting vegetation. Lvs 2-11 cm long; stipules entire to 5-fid; leaflets 9-15, oblong, 4-17 \times 2-10 mm, 8-15-toothed, bright, shining green (rachis often red) and glabrous or sparsely hairy on upper surface, glaucescent and sparsely or densely hairy on veins and margins on lower surface; teeth appearing crenate because of recurved margins. Scape 10-15 cm long, pilose; capitulum c. 9 mm diam. at flowering, < 3.5 cm diam. (including

spines) at fruiting; florets *c.* 80-100-(120); sepals 4; stamens usually 2, rarely 3; anthers white; style 1, white; achene 1. Fr. obconic, *c.* 4 × 1.7 mm, hairy; spines 4, red, 7.5-12 mm long, barbed, occasionally with stunted subsidiary spines on side of fr. FT Dec-Jun. FL Oct-Dec

Distribution in NZ (location if specific and habitat associated): New Zealand (Political Region): Wild, Non-endemic. N., S., St. Lowland to lower montane tussock-grassland and open places throughout N.; S.; St.; Ch., C.: throughout but infrequent on west coast of S. Lowland to montane grassland and open places.

Distribution overseas (if any): Also indigenous to New Guinea and S.E. Australia. [*A. novae-zelandiae*](#) is naturalised on C. where it hybridises with *A. minor var. antarctica*; it is also naturalised in Britain, Ireland and California.

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Agathis australis (D.Don) Lindl.



Common name (if one): Maori - Kaore (sapling), Kauri, Koroi, Ware

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#)
family: [Araucariaceae](#) genus: [Agathis](#)

Names: • [Agathis australis \(D.Don\) Lindl.](#) (preferred)
[Dammara australis D.Don](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): *Agathis australis*, known as the kauri, is a [coniferous tree](#) native to the northern districts of the North Island of [New Zealand](#) and is the biggest but not tallest species of tree in the country. The tree has smooth [bark](#) and small oval leaves. Other common names to distinguish *A. australis* from other members of the [genus](#) are southern kauri and New Zealand kauri.

Young plants grow straight upwards and have the form of a narrow cone with branches going out along the length of the [trunk](#). However, as they gain in height, the lowest branches are shed to prevent [epiphytes](#) from climbing. By maturity, the top branches form an imposing crown that stand out over all other native trees, dominating the heights of the forest.

The flaking bark of the kauri tree defends it from parasitic plants, and accumulates around the base of the trunk. On large trees it may pile up to a height of 2 m or more. ([Reed 1953](#), p. 60) The kauri has a habit of forming small clumps or patches scattered through mixed forests. ([Reed 1953](#), p. 74).

Kauri [leaves](#) are 3 to 7 cm long and 1 cm broad, tough and leathery in texture, with no midrib; they are arranged in opposite pairs or whorls of three on the stem. The [seed cones](#) are globose, 5 to 7

cm diameter, and mature 18 to 20 months after pollination; the seed cones disintegrate at maturity to release winged [seeds](#), which are then dispersed by the wind.

Monoec. tree, resiniferous, up to 30 m. or rarely up to 60 m., trunk up to 3 m. diam., occ. up to 7 m.; bark bluish grey, falling in large, thick flakes. Lvs alt. to subopp., sessile, thick, coriaceous, parallel-veined; of juveniles lanceolate, 5-10 cm. × 5-12 mm.; of adults 2-3.5 cm. long, about oblong, obtuse. Male strobili 2-5 cm. long, stout, cylindrical; female cones subglobose, 5-7.5 cm. diam.; carpidia broad above, narrowing to base, rather thin, deciduous, uniovulate. Seeds ovate in outline, compressed, winged.

Similar species: none - could be confused with the distantly allied Queensland Kauri (*Agathis robusta* (C.Moore ex F.Muell.) F.M.Bailey) which is commonly cultivated in warmer parts of New Zealand. Kauri can be distinguished from that species by its smaller, narrower needles, and by the needles often spotted with black. Queensland Kauri is much faster growing but adult trees are not nearly as massive as kauri.

Distribution in NZ (location if specific and habitat associated): Lowland forest from near North Cape to lat. 38°.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Alectryon excelsus Gaertn. (1999)



Common name (if one): Maori – Tapitapi, Tītoki, Tītongi, Tokitoki, Tongitongi, Topitopi
English - New Zealand oak

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Sapindales](#) family: [Sapindaceae](#) genus: [Alectryon](#)

Subordinate Taxa: [Alectryon excelsus Gaertn. subsp. excelsus](#)
[Alectryon excelsus subsp. grandis \(Cheeseman\) de Lange & E.K.Cameron](#)
[Alectryon excelsus var. grandis Cheeseman](#) = [Alectryon excelsus subsp. grandis \(Cheeseman\) de Lange & E.K.Cameron \(1999\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to ± 10 m. tall; trunk ± 6 dm. diam.; branches stout, bark nearly black; branchlets, lflts, infl.-axes and capsules densely clad in ferruginous hairs when young. Lvs imparipinnate, ± 10-40 cm. long, on petioles ± 8 cm. long. Lflts alt. to subopp., 4-6 pairs on petiolules c. 5 mm. long. Lamina ± 5-10 × 2-5 cm. long, subcoriac., slightly obliquely ovate-lanceolate to ovate-oblong, acuminate, ± sinuate-undulate, coarsely irregularly serrate-dentate with teeth up to c. 5 mm. long, to obscurely toothed or entire. Panicles up to c. 3 dm. long, us. much and openly branched; pedicels slender, up to c. 5 mm. long. Calyx cupular, pubescent, ± deeply cleft into 5 triangular acute teeth. Stamens 6-8; anthers large, dark red. Ovary small, densely pubescent. Capsule somewhat woody, 8-12 mm. long, pubescent, winged above, the wing us. produced as a spur on one side. Seeds subglobose, black, lustrous; aril scarlet, fleshy, granular, us. investing lower half of seed, sts vestigial.

Seedling and young plants have lvs deeply irregularly lobed, the lobes very coarsely toothed. Older plants have the lobing and toothing less marked, and adult plants may have all or most lvs

obscurely toothed to subentire. The degree of development of the aril differs; some trees and indeed some populations may have the aril almost suppressed.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland forest, especially on alluvial ground, from near North Cape to Banks Peninsula on east and further south on west. Titoki.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Aristotelia serrata* (J.R.Forst. & G.Forst.) W.R.B.Oliv. (1921)**



Common name (if one): Wineberry, Maori - Mako, Makomako

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Malvales](#) family: [Elaeocarpaceae](#) genus: [Aristotelia](#)

Names: [Aristotelia racemosa](#) Hook.f. (1853)

• [Aristotelia serrata](#) (J.R.Forst. & G.Forst.) W.R.B.Oliv. (1921) (preferred)

[Dicera serrata](#) J.R.Forst. & G.Forst. (1776)

[Friesia racemosa](#) A.Cunn. (1840)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Dioec. tree up to c. 10 m. tall; trunk c. 3 dm. diam., bark of branchlets rather light to dark red, pubescent. Lvs opp. to subopp., on slender pubescent petioles up to \pm 5 cm. long. Lamina 5-12 \times 4-8 cm., glabrate (pubescence long-persistent on veins below) broad-ovate, acuminate, membr.; deeply, doubly, irregularly, sharply serrate; light or dark green above, paler green or purplish below. Infl. paniculate, 6-10 cm. long; fls ∞ , 4-6 mm. diam., on slender pubescent pedicels \pm 5-10 mm. long. Sepals 4, ovate, \pm 3 mm. long, pubescent; petals 4, 3-lobed, often deeply, c. 9 mm. long. Stamens ∞ , on glandular disk, minutely pubescent. Ovary 3-4-celled, styles 3-4. Berry \pm 5 \times 4 mm. or sts larger, brighter or dark red or almost black. Seeds \pm 8, angled. FT. 11-1. FL. 9-12.

There appear to be two vars, one with light green lvs and bright red frs, the other with dark green lvs, purplish below and dark frs; but their status and distribution has not been well worked out.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Lowland to montane forests throughout. Often forming thickets after felling of forest.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Asplenium oblongifolium Colenso (1845)



Common name (if one): Shining spleenwort (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Pteridophyta](#) class: [Filicopsida](#)
family: [Aspleniaceae](#) genus: [Asplenium](#)

Names: [Asplenium d'urvillei](#) Mett. (1869)

[Asplenium lucidum](#) G.Forst. (1786)

[Asplenium lucidum](#) var. [paucifolium](#) Hook. (1864)

● [Asplenium oblongifolium](#) Colenso (1845) (preferred)

[Asplenium obtusatum](#) var. [integrifolium](#) Szyszyl. (1888)

[Asplenium obtusatum](#) var. [lucidum](#) (G.Forst.) Hook. & Baker (1868)

[Tarachia lucida](#) (G.Forst.) Momose (1960)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Rhizome stout, branching, often forming hard woody mass above ground; clad in brown shining translucent ovate-acuminate paleae up to 3 cm. long; stipites tufted, paleate at base. Stipes 10-40-(50) cm. × 5-10 mm., stout, blackish towards base, ± clad in slender lanceolate-attenuate paleae up to 25 mm. long. Rhachis stout, narrowly winged, ± paleate, smooth, bearing distant subopp. to alt. pinnae. Lamina thinly coriaceous, dark green and glossy above, 30-100 × 15-35 cm., about lanceolate-oblong, acuminate, with 16-40 or more pinnae. Pinnae (5)-10-15-(20) cm. × (2)-30-(50) mm., about lanceolate-oblong, acuminate, ± paleate below when young, long-stalked, crenate-serrate, obliquely cuneate at base; veins evident, simple or forked. Sori oblique, linear, up to 2 cm. long; indusium firm.

Distribution in NZ (location if specific and habitat associated): DIST.: K., N., S., St., Ch., A., C., Ant. Common in coastal, lowland and lower montane forest throughout

Distribution overseas (if any): Has been recorded from Norfolk and Lord Howe Islands.

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests: Invertebrates records information at: <http://www.crop.cri.nz/home/plant-synz/eg-idsheet.pdf> (N. Martin)

Other:

***Astelia nervosa* Hook.f. (1853)**



Common name (if one): Kakaha, Bush flax (English), Mountain astelia (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#)
order: [Liliales](#) family: [Liliaceae](#) genus: [Astelia](#)

Names: [Astelia aff. nervosa \(broad\) \(nom. inv.\)](#)

[Astelia cockaynei](#) Cheeseman (1925)

[Astelia montana](#) (Kirk) Cockayne (1908)

▪ [Astelia nervosa](#) Hook.f. (1853) (preferred)

[Astelia nervosa](#) Hook.f. var. *nervosa* (1853)

[Astelia nervosa](#) var. *montana* Kirk ex Cheeseman (1906)

Subordinate Taxa: [Astelia nervosa](#) var. *chathamica* Skottsb. = [Astelia chathamica](#) (Skottsb.)
L.B.Moore (1966)

[Astelia nervosa](#) var. *grandis* (Kirk) Cockayne & Allan = [Astelia grandis](#)
Hook.f. ex Kirk (1871) [1872]

[Astelia nervosa](#) var. *montana* Kirk ex Cheeseman = [Astelia nervosa](#) Hook.f.
(1853)

[Astelia nervosa](#) var. *nervosa* = [Astelia nervosa](#) Hook.f. (1853)

[Astelia nervosa](#) var. *sylvestris* Cockayne & Allan = [Astelia fragrans](#) Colenso
(1882) [1883]

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tufted plants often forming considerable colonies. Stem 1–2–(3) cm. diam. Lvs 50–150–(200) × 2–4–(6) cm., arched stiffly outwards and of firm texture, strongly keeled above the sheath; sheath to 8 cm. wide at base, thickly clad in scales; lamina adaxially green and covered

with scales that form a continuous smooth transparent pellicle or are in parts or overall ruffled up into a white shaggy fur that obscures the green colour; abaxial surface with persistent indumentum of white or bronzed scales overlying a thin, hardly felted layer of wool and with lateral costae (1–2 on each side of midrib) not prominent. Infl. erect, most parts covered with scales; peduncle about = panicle, spathes longer; racemes us. < 12, all single or 2–3 in each of the 1–3 lowest spathes. Fls from light greenish fawn to very dark maroon, us. pedicellate and well spaced on relatively slender axes; tepals 4–6 × 2.5–4.5 mm., widely spreading in ♂, in ♀ curling outwards from deep per.-tube. Ovary 3-locular, pyriform. Fr. 8–15 × 5–8 mm., broadly ovate, various shades of orange to almost red, ± surrounded, at least until fully ripe, by ± fleshy scaly cup developed from per. n = 105.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Rare north of lat. 37°. Montane to subalpine forest and tussock grassland.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Beilschmiedia tarairi* (A.Cunn.) Benth. & Hook.f. ex Kirk (1889)**



Common name (if one): Taraire

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Laurales](#) family: [Lauraceae](#) genus: [Beilschmiedia](#)

Names: • [Beilschmiedia tarairi](#) (A.Cunn.) Benth. & Hook.f. ex Kirk (1889) (preferred)
[Laurus tarairi](#) A.Cunn. (1838)
[Nesodaphne tarairi](#) (A.Cunn.) Hook.f. (1853)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Taraire is the northern relative of the similar [Tawa](#) (*B. tawa*), growing in coastal and lowland forest as far south as [Raglan](#) (37 ° S latitude). The large purple berries are a favoured food of [Kererū](#) (New Zealand Pigeon).

Evergreen tree to 22 m tall; trunk to 1 m diam.; wood pale brown, straight grained; bark smooth, dark brown, often obscured by lighter coloured lichen growth; branching monopodial to give a crown of stout, spreading branches; branchlets, young leaves, petioles and inflorescence branchlets densely clad in reddish brown tomentum; leaves closely alternate, simple, coriaceous, on petioles (8-)10(-12)mm long; midrib stout, slightly sinuous, prominent above and below; leaf laminae wide-elliptic to wide-obovate, (37-)49-72(- 84) × (26-)34-47(-56) mm, dark green and glabrous above with impressed veins, glaucous below with stout veins covered in reddish brown tomentum, margins entire and revolute, apex rounded to retuse and mucronate, venation reticulodromous; inflorescence an erect, axillary panicle to 100 mm long but generally shorter, stoutly branched with dense clusters of flowers; floral bracts 2-3 mm long, lanceolate, with dense reddish brown tomentum; flowers perfect, on short pedicels, 3-5 mm diam. greenish (this colour sometimes obscured by dense reddish brown tomentum), perianth of 6 segments, stamens 12 (arranged as for

genus), ovary unilocular and superior; drupes erect, ellipsoid to ovoid, (27-)31(-35) × (14-)16(-18)mm, 1-seeded, pericarp fleshy, dark purple when ripe, glaucous.

Distribution in NZ (location if specific and habitat associated): DIST.: N. Coastal to lowland forest from near North Cape to lat. 38°.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Blechnum minus* (R.Br.) Ettingsh. (1864)**



Common name (if one): Swamp kiokio (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Pteridophyta](#) class: [Filicopsida](#)
family: [Blechnaceae](#) genus: [Blechnum](#)

Names: [Blechnum capense var. minus \(R.Br.\) Domin \(1913\)](#)

• [Blechnum minus \(R.Br.\) Ettingsh. \(1864\)](#) (preferred)

[Lomaria capensis var. minor \(R.Br.\) Cheeseman \(1906\)](#)

[Lomaria minor \(R.Br.\) Spreng. \(1827\)](#)

[Lomaria procera var. gracilis Colenso \(1893\) \[1892\]](#)

[Lomaria procera var. minor \(R.Br.\) Hook.f. \(1854\)](#)

[Stegania minor R.Br. \(1810\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Rhizome stout, shortly creeping; densely clad in pale brown ovate- to subulate-attenuate paleae c. 1 cm. long; stipites crowded. Stipes 5-15 cm. long, slender to rather stout, paleate at base or throughout. Rhachis slender to rather stout, \pm paleate, grooved; bearing 3-5 pairs of subopp. lateral pinnae. Sterile lamina 12-15 \times 6-8 cm., coriac., dull green above, paler below. Lowest pinnae not much shorter than remainder, up to 3 \times 1.5 cm. Larger pinnae 3.5-5 \times 1.5-2

cm., oblong, obtuse to subacute, serrate; base truncate to subcordate, attached by costa; costa paleate to nude. Terminal pinna lanceolate, acuminate, up to 10 × 2 cm. Fertile lamina up to 12 × 8 cm.; pinnae distant, up to 6 cm. long, linear.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St., A., C.

Lowland to subalpine forest margins, boggy and open ground to fellfield, throughout, but often local.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other: Included in a list of Kakapo food – ‘Kakapo diet changes seasonally. The plants eaten most frequently during the year include some species of *Lycopodium ramulosum*, *Lycopodium fastigium*, *Schizaea fistulosa*, *Blechnum minus*, *Blechnum procerum*, *Cyathodes juniperina*, *Dracophyllum longifolium*, *Olearia colensoi* and *Thelymitra venosa*. Individual plants of the same species are often treated differently. Kakapo leave conspicuous evidence of their feeding activities, from 10×10 m to 50×100 m feeding ground areas.^[11] [Manuka](#) and yellow silver pine scrubs are obvious signs of their center of feeding activities.’

***Carex flagellifera* Colenso (1883) [1884]**



Common name (if one): Mānaia, Maurea, Glen Murray tussock (English), Shining sedge (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#) order: [Cyperales](#) family: [Cyperaceae](#) genus: [Carex](#)

Names: • [Carex flagellifera Colenso \(1883\) \[1884\]](#) (preferred)
[Carex lucida](#) Boott (1853)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Dense green or red tufts to 1 m high. Stems often elongating to 2 m when mature. Female spikes c. 5, usually distant and pedunculate, erect, $\pm 3 \text{ cm} \times 4 \text{ mm}$, brown. Glumes red-brown with conspicuous paler midrib. Utricles usually almost nerveless and glabrous. Stigmas 2. Both [C. flagellifera](#) (*C. lucida* auct.) and [C. testacea](#) have greatly elongate fruiting stems and share the common name "trip-me-up". In some northern districts [C. flagellifera](#) is confused with the Australian [C. longebrachiata](#) but the native sp. has extravaginal not intravaginal tillering and narrower leaves, and the fruiting stems of Australian sedge do not elongate. [C. flagellifera](#) is locally troublesome in grassland, at times forming communities, and was given the name "Glen Murray tussock" because of its prominence in the Waikato.

Distribution in NZ (location if specific and habitat associated): K., N., S., St. Damp ground; sea-level to montane.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Carpodetus serratus* J.R.Forst. & G.Forst. (1776)**



Common name (if one): Kaiwētā, Piripiriwhata, Punawētā, Putaputawētā, Putawētā, Marble leaf (English), Motorbike tree (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#) order: [Rosales](#) family: [Grossulariaceae](#) genus: [Carpodetus](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to 10 m. tall; trunk up to 2 dm. or more diam.; sts flowering in semi-juvenile state. Juvenile plants and reversion shoots with slender, zigzag, almost divaricate branchlets; lvs 1-3 × 1-2 cm., on petioles up to 1 cm. long; lamina broad-ovate to broad-elliptic to suborbicular, membr., sts irregularly lobed. Young branchlets, petioles, peduncles and pedicels pubescent; lenticels prominent. Lvs of adults 4-6 × 2-3 cm., on slender petioles c. 1 cm. long; lamina thinly coriaceous, ovate-elliptic to broad-elliptic, acute to obtuse, often mottled, rather distantly finely serrate. Panicles up to 5 cm. long and broad; fls 5-6 mm. across; calyx-lobes c. 1 mm. long, triangular-attenuate; petals white, ovate, 3-4 mm. long. Capsules ind., subglobose, c. 4-6 mm. diam.; integument subfleshy, black when mature; girt by rim of calyx-tube or receptacle.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Coastal to montane forests and stream sides throughout.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Coprosma propinqua* A.Cunn. (1839)**



Common name (if one): Miki, Mingi, Mingimingi

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Rubiales](#) family: [Rubiaceae](#) genus: [Coprosma](#)

Subordinate Taxa: [Coprosma propinqua var. latiuscula Allan](#)
[Coprosma propinqua var. lineariifolia Hook.f.](#) = [Coprosma linariifolia Hook.f. \(1864\)](#)
[Coprosma propinqua var. martinii W.R.B.Oliv.](#)
[Coprosma propinqua A.Cunn. var. propinqua](#)
[Coprosma propinqua var. typica W.R.B.Oliv.](#) = [Coprosma propinqua A.Cunn. var. propinqua \(1839\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub up to 3-(6) m. tall, sts depressed or prostrate. Branches divaricate; branchlets ± pubescent, ± interlacing, becoming glab. Lvs opp. or in opp. fascicles on slender pubescent petioles 1-2 mm. long. Stipules subacute to obtuse, pubescent, sheath short, cilia absent or very few, denticle solitary. Lamina linear- to broad-oblong, obtuse to subacute, coriaceous, dark green above, paler below; (7)-10-14-(16) × 2-3-(5) mm. Reticulations of veins evident, at least below. ♂ 1-4 axillary clusters on very short arrested branchlets; calyx minutely toothed; corolla narrow-funnelform, lobes ovate-oblong, acute, < tube. ♀ solitary, terminal on short branchlets;

calyx-teeth short, obtuse; corolla-tube short, lobes long, acute. Drupe pale blue, translucent, or flecked pale and darker blue, globose, c. 7 mm. long.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Coastal to lowland rocky and gravelly places, shrubland, forest, swamps and bogs from Mangonui southwards. This species is naturally occurring in New Zealand, in the North, South and Stewart Islands.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other: Mingimingi provides food for birds, insects and lizards.

***Coprosma rhamnoides* A.Cunn. (1839)**



Common name (if one):

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Rubiales](#) family: [Rubiaceae](#) genus: [Coprosma](#)

Names: • [Coprosma rhamnoides A.Cunn. \(1839\)](#) (preferred)

[Coprosma rhamnoides A.Cunn. var. rhamnoides \(1839\)](#)

Subordinate Taxa: [Coprosma rhamnoides var. divaricata \(A.Cunn.\) Cheeseman](#)
[Coprosma rhamnoides A.Cunn. var. rhamnoides](#) = [Coprosma rhamnoides A.Cunn. \(1839\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Spreading much-branched shrub up to 1-(2) m. tall; branches stiff, rather slender, ± divaricate; bark reddish-brown; branchlets finely pubescent. Lvs often fascicled on short branchlets; petioles 1-2-(3) mm., pubescent. Stipules very small, suboblong, obtuse, pubescent, surmounted by conspicuous sharp denticle. Lamina coriaceous to submembranous, glabrous, orbicular to broad-ovate to broadly ovate-oblong (young lvs linear-lanceolate or of adult form), obtuse or rounded to truncate to acute, tips apiculate; 7-12 × 4-14 mm., usually showing some diversity on an individual plant; margins usually thickened. Reticulations of veins evident, at least below. ♂ solitary or

2-4 together on short branchlets; calyx 0; corolla funnelform, lobes c. 4 mm. long, > tube, ovate, acute. ♀ solitary on short branchlets; calyx-teeth minute; corolla tubular, lobes narrow, acute, ± = tube. Drupe dark crimson to almost black, depressed-globose, 3-4 mm. diam.

Distribution in NZ (location if specific and habitat associated): DIST.: Three Kings, N., S., St. Lowland to lower montane forest and shrubland throughout.

Distribution overseas (if any):

Environmental factors and limitations: Requires a moist, very well-drained neutral to slightly acid soil in full sun or light shade[200]. Succeeds in most soils[225]. Somewhat intolerant of frost, this species is only likely to succeed outdoors in the milder areas of Britain[200]. Another report says that plants are reasonably hardy in Britain[225].

Temperature:

Climate:

Soil type:

Pests:

Other:

Coprosma robusta Raoul (1844)



Common name (if one): Karamū , Glossy karamu (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Rubiales](#) family: [Rubiaceae](#) genus: [Coprosma](#)

Names: [Coprosma robusta Raoul \(1844\)](#) (preferred)
[Coprosma robusta Raoul var. robusta \(1844\)](#)

Subordinate Taxa: [Coprosma robusta Raoul var. robusta](#) = [Coprosma robusta Raoul \(1844\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub or tree up to 6 m. tall; branches and branchlets spreading, stout, glab. Lvs opp. on rather stout petioles \pm 10-20 mm. long. Stipules connate towards base, obtuse, glab., crowned by 1-2 prominent sharp denticles. Lamina coriaceous, dullish dark green above, paler below, glab.; elliptic to elliptic-oblong to broad-ovate, acute or obtuse, \pm mucronate, gradually narrowed to petiole, \pm 7-12 \times 3-4-(5) cm.; reticulated veins us. conspicuous on both surfaces. ♂ in axillary many-fl'd glomerules on short peduncles, glomerules again divided into dense clusters. Calyx-teeth minute; corolla subcampanulate, lobes triangular, acute, < tube. ♀ in compound clusters on trichotomously branched axillary peduncles 10-15 mm. long. Calyx minute, truncate, sts with 1-2 teeth; corolla c. 5 mm. long, narrow-funnelform, lobes acute or obtuse, oblong-triangular, < tube. Drupe dark orange to yellow, oblong to narrow-ovoid, 8-9 \times 4-5 mm.

Similar Easily distinguished from all the other lowland, large-leaved *Coprosma* spp., by
Species the seemingly entire leaves, which are finely toothed along the margins - this can
: be felt by dragging a finger tips along the leaf edge. Perhaps closest to *Coprosma*
macrocarpa subsp. minor, with which it freely hybridizes, and from which the
more simple leaf venation (not so reticulate), finely toothed leaf margins are useful
distinctions.

Distribution in NZ (location if specific and habitat associated): DIST.: Three Kings, N., S.,
Ch. Forest, shrubland, especially on alluvial soils, to c. lat. 45° 30'. Apparently local in Ch.
Karamu. Common throughout coastal, lowland and lower montane habitats within shrublands and
open sites within forest.

Distribution overseas (if any): Somewhat intolerant of frost, this species is only likely to
succeed outdoors in the mildest areas of Britain[1, 200]. Plants are fairly hardy in Essex according
to another report.

Environmental factors and limitations: The plant prefers light (sandy) and medium (loamy)
soils and requires well-drained soil. The plant prefers acid and neutral soils. It can grow in semi-
shade (light woodland) or no shade. It requires moist soil.

Temperature:

Climate:

Soil type:

Pests:

Other:

Cordyline australis (G.Forst.) Endl. (1833)



Common name (if one): Tī, Cabbage tree

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#)
order: [Liliales](#) family: [Agavaceae](#) genus: [Cordyline](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Plant to 12-(20) m high; young unbranched stems 5-10 cm diam.; older trees with massive trunk to 1.5m diam., much-branched above. Leaves 30-100 × 3-6 cm, only slightly narrowed above base; midrib indistinct, nerves fine. Panicle lax, 60-150 cm long. Flowers fragrant, white; segments 5-6 mm long. Berry whitish.

Distribution in NZ (location if specific and habitat associated): N., S., St. Forest margins, open places, abundant near swamps. N., S. North and west of main divide. Forest margins.

Distribution overseas (if any): It is also widely planted as an ornamental tree, in New Zealand and also in western [Europe](#) (including the [British Isles](#)) and the west coast of [North America](#). Because it tolerates cold weather better than many other tree-sized monocots, this plant is often planted by people wishing to give a tropical, exotic look to their yards or gardens. The overall visual effect is said by many to create a view reminiscent of a [palm](#) tree (it is occasionally even mis-named "**Cornish palm**", "**Torbay palm**" or "**Manx palm**" in the [British Isles](#) due to its extensive use within [Torbay](#) and as the official symbol of that area under its alternative identity, the [English Riviera](#)).

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests: Since [1987](#), cabbage trees in New Zealand have been affected by a [disease](#) called "Sudden Decline", caused by the bacteria [Phytoplasma australiense](#). The disease usually leads to almost total defoliation of affected trees within 2 to 12 months.

Other:

Corokia cotoneaster Raoul



Common name (if one): Korokio, Mountain korokio (English), Wire-netting bush (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Cornales](#) family: [Cornaceae](#) genus: [Corokia](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Much-branched shrub up to 3 m. or more tall; branchlets rigid, divaricate; bark dark, rough. Lvs of seedlings obovate-spathulate, often elongate and 3-lobed. Lvs of adults varying in size according to exposure, alt. or in alt. fascicles, obovate-cuneate to obovate-oblong to suborbicular, obtuse, emarginate or not; lamina 2-15 × 2-10 mm., on flattened petiole up to 2 cm. long. Fls axillary and terminal, solitary or in fascicles of 2-4; 5-8 mm. diam. Calyx-segs 1-1.5 mm. long, ovate-triangular, pubescent on backs; petals bright yellow, c. 4-5 mm. long, narrow oblong-ovate, acute to subacute, pubescent on backs. Drupes red or yellow, 5-8 mm. long.

Distribution in NZ (location if specific and habitat associated): DIST.: Three Kings, N., S. Lowland shrubland (especially amongst [Leptospermum](#)), river-flats and rocky places throughout.

Distribution overseas (if any): This plant has been said to grow in the following regions:
Burlingame, California

Environmental factors and limitations:

USDA Zone 9a: to -6.6° C (20° F); USDA Zone 9b: to -3.8° C (25° F); USDA Zone 10a: to -1.1° C (30° F); USDA Zone 10b: to 1.7° C (35° F)

Temperature:

Climate:

Soil type:

Pests:

Other:

Corokia macrocarpa Kirk



Common name (if one): Hakataka

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Cornales](#) family: [Cornaceae](#) genus: [Corokia](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub or tree up to 6 m. tall; branches rather stout; bark dark, rough. Lvs alt., coriaceous; lamina 4-8 × 1.5-3.5 cm., on stout petiole up to c. 1 cm. long; shade lvs sts up to 15 × 4.5 cm.; fully exposed lvs sts reduced to 2.5 cm. long; obovate-cuneate to broad-oblong to elliptic-oblong, apiculate. Racemes c. 3 cm. long, axillary; fls up to 1 cm. diam. Calyx-segms ovate-attenuate, c. 3 mm. long; petals bright yellow, 5-6 mm. long, lanceolate-oblong, acute. Fr. nearly 1 cm. long, red.

Distribution in NZ (location if specific and habitat associated): DIST.: Ch. Forest and forest margins. This small tree or shrub occurs at sites near the sea, but can be found in a range of habitats, including open forest, cliffs, limestone outcrops and near lakes and lagoons, as well as rocky shores and beaches.

Distribution overseas (if any): Where *C. buddleioides* and *C. cotoneaster* grow in company, complex hybrid swarms are often met with. Fr. is sts produced, but the viability of the seeds has not been tested, though it seems certain that many wild plants of a hybrid population belong to the F2 generation. Some forms are illustrated by Allan in *Genetica* 8, 1926, 373. Carse, when describing the mid-forms as *C. Cheesemanii* in *T.N.Z.I.* 45, 1913, 276, says: "This description applies to the type specimens, but the plant appears to pass by regular gradations into *C. cotoneaster* on the one hand, and into *C. buddleioides* on the other, with a tendency in one form to a broadening of the leaves bringing the species very close to the Chatham Island *C. macrocarpa*." Turrill described his *C. virgata* in *Bot. Mag.* 138, 1912, t. 8466, from a plant growing in the Temperate House at Kew, raised from cuttings of uncertain origin sent from the office of the Gardeners' Chronicle. It matches fairly well with wild plants occurring in the hybrid swarms, and the cuttings may have been taken from a garden plant raised from seed sent from N.Z. *C. virgata*, as seen at Kew, is a pleasing form well worthy of cultivation.

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other: On red list: de Lange, P.J. 1998. *Corokia macrocarpa*. In: IUCN 2006. *2006 IUCN Red List of Threatened Species*. <www.iucnredlist.org>. Downloaded on **13 June 2007**.

Status is: **LOWER RISK (LR)** - A taxon is Lower Risk when it has been evaluated, does not satisfy the criteria for any of the categories Critically Endangered, Endangered or Vulnerable.

Taxa included in the Lower Risk category can be separated into three subcategories:

1. **Conservation Dependent (cd).** Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation programme targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a period of five years.
2. **Near Threatened (nt).** Taxa which do not qualify for Conservation Dependent, but which are close to qualifying for Vulnerable.
3. **Least Concern (lc).** Taxa which do not qualify for Conservation Dependent or Near Threatened.

***Corynocarpus laevigatus* J.R.Forst. & G.Forst.**



Common name (if one): Karaka

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Celastrales](#) family: [Corynocarpaceae](#) genus: [Corynocarpus](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Canopy tree up to \pm 15 m. tall; trunk up to \pm 6 dm. diam.; branches stout. Lvs on stout petioles c. 10-15 mm. long; lamina thick, coriaceous, elliptic- to obovate-oblong, (5)-10-15-(20) \times (3)-5-7 cm., dark green, glossy; margins recurved. Fls 4-5 mm. diam., in stout stiff panicles up to c. 2 dm. long; peduncles and pedicels short. Sepals suborbicular; petals greenish yellow, \pm 5 mm. long, minutely crenately toothed; obovate-spathulate; staminodes spatulate, minutely toothed; style c. 2 mm. long, thick; stigma capitate. Drupe 2.5-4 cm. long, ellipsoid to ovoid, orange; seed with distinct testa-veins; cotyledons plano-convex, fleshy.

Distribution in NZ (location if specific and habitat associated): DIST.: K., N., S., Ch. Coastal and lowland forest to about lat. 44°.

Distribution overseas (if any): Plants are not very frost-tolerant and are only hardy outdoors in the mildest areas of Britain[1]. There is a large tree in Falmouth[59]. This plant has been said to grow in the following regions: San Francisco, California.

Environmental factors and limitations: Succeeds in ordinary garden soil[1]. Best grown in a woodland garden[166].

Temperature:

Climate:

Soil type:

Pests:

Other: The seed is poisonous raw.

Cyathea dealbata (G.Forst.) Sw. (1801)



Common name (if one): Kaponga, Kātote, Ponga, punga, Silver fern (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Pteridophyta](#) class: [Filicopsida](#)
family: [Cyatheaceae](#) genus: [Cyathea](#)

Names: [Alsophila tricolor](#) (Colenso) R.M.Tryon (1970)

• [Cyathea dealbata](#) (G.Forst.) Sw. (1801) (preferred)

[Cyathea dealbata](#) var. [tricolor](#) (Colenso) Domin (1913)

[Cyathea falciloba](#) (Colenso) Domin (1929)

[Cyathea tricolor](#) Colenso (1883) [1882]

[Hemitelia falciloba](#) Colenso (1892) [1891]

[Polypodium dealbatum](#) G.Forst. (1786)

Subordinate Taxa: [Cyathea dealbata](#) var. [tricolor](#) (Colenso) Domin = [Cyathea dealbata](#)
(G.Forst.) Sw. (1801)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Caudex up to 10 m. tall with basal diam. 45 cm., us. smaller; bases of stipites long-persistent. Stipes rather stout, \pm 4 cm. diam. near base; paleae shining dark brown, c. 5 cm. long; hairs yellow-brown, cop., deciduous. Lamina up to 3 \times 1 m. or more, 2-3-pinnate; subcoriac., attenuate; dark green above. Juvenile plants with lamina pale green below; subsequent fronds becoming patched with white to glaucous bloom below; adult plants with lamina almost completely white or glaucous below. Primary pinnae 30-50 cm. long, oblong-acuminate; secondary up to 10 cm. or more, oblong-lanceolate, attenuate. Tertiary pinnae or segs up to 15 mm. long, subfalcate, subacute to acute, crenate-serrate in upper half, margins slightly recurved,

veinlets free. Sori us. cop., globose, c. 1 mm. diam. (may be present on only partly dealbate fronds). Indusium thin, at first covering sorus, persisting as a shallow cup.

Alternatively - Tree fern up to 10 m tall (very rarely without trunk). Trunk covered in long-persistent, peg-like, stipe bases. Stipes slender, silvery-white when young, maturing pale brown. Harsh to the touch, covered in pale-brown scales. Scales without marginal spines. Fronds up to 4 m long, horizontal, somewhat arching, 3-pinnate. Dead fronds falling. Longest primary pinnae 300-550 mm, pale green above, white below (very rarely pale green) below. Undersurfaces sparingly clad in curly hairs. Indusi covering sori at maturity, opening at maturity to form a deep cup with a smooth rim.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., Ch. Lowland to montane forest throughout, also occurs in shrubland. Ins. Lord Howe. Endemic. From the Three Kings Islands south to Mahers Swamp in the west and Dunedin in the east of the South Island. Common, primarily coastal and lowland habitats but extending to lower montane. Preferring dry forest and shrubland, often under pines.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Dacrycarpus dacrydioides (A.Rich.) de Laub. (1969)



Kahikatea seeds are swallowed and spread by birds

Common name (if one): Kahikatea, Kaikatea, white pine (English), White pine (NZ) (English)

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#)
family: [Podocarpaceae](#) genus: [Dacrycarpus](#)

Names: • [Dacrycarpus dacrydioides](#) (A.Rich.) de Laub. (1969) (preferred)
[Podocarpus dacrydioides](#) A.Rich. (1832)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree to 50 m or more in height and 150 cm dbh, often fluted and buttressed at base, the trunk clear of branches for a considerable height. Submature trees have a conical crown. Bark dark grey, covered irregularly with small protuberances ca. 1-2 mm across and 1-2 mm high, scaling off in large, ovoid flakes. Branchlets slender and drooping. The kahikatea seedling bears juvenile foliage until 1-2 m high, when semi-adult or adult foliage may appear. The juvenile, semi-adult and adult foliage stages often occur together on the same tree. Juvenile leaves are subdistichous, subpatent, narrow-linear, subfalcate, acuminate, decurrent, 3-7 × 0.5-1 mm. Adult

leaves are 1-2 mm long, imbricate, appressed, keeled, subtrigonal, lanceolate-subulate to acuminate, with broader base. Pollen cones are terminal, up to 1 cm long, with bisporangiate sporophylls, apiculus acute. Seeds are solitary, terminal on short branchlets, upper 2-3 leaves forming a distinct receptacle, red, swollen and succulent when in fruit. A male tree glows a faint orange when the cones are mature, a female red when its berry-like receptacles are ripe. Seeds are 4-5 mm long, broadly ovoid, black, nutlike ([Allan 1961](#), [Salmon 1996](#), [Metcalf 2002](#)).

Most of the year, kahikatea does not bear recognizable reproductive structures, and in its native forest it is commonly so tall that foliage characters are of little use in identification. The bark characters and tree form are thus the principal aid in field identification. Also, it sheds foliage and branchlets fairly constantly, so fallen foliage is often available to confirm identification. The bark of young trees is relatively undistinctive, but that of mature trees is not readily confused with that of any other native New Zealand conifer except miro ([*Prumnopitys ferruginoides*](#)), which usually lacks buttressing and has highly distinctive foliage.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Lowland forest, often dominant in swamp forest. New Zealand, in lowland forest, formerly dominant on frequently flooded, and/or poorly drained alluvial soils, occasionally extends to montane forests (0-600 m elevation) throughout the North, South and Stewart Islands. Although formerly one of the commonest of native trees, timber milling and land clearance have greatly reduced its habitats. Kahikatea dominates two main landforms: the fertile, silty, free-draining floodplains and low terraces of rivers, and the wet margins of the lowland swamps and bogs (generally referred to by the Maori name *pakihi*) of the West Coast of the South Island. Small groups of young trees are not infrequently seen on some farmlands ([Cubitt and Molloy 1994](#), [Metcalf 2002](#)).

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Dacrydium cupressinum Lamb. (1803)



Common name (if one): Amoko, Puaka, Rimu, Red pine (English)

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#)
family: [Podocarpaceae](#) genus: [Dacrydium](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to 35m., rarely up to 60m., trunk up to 1.5m. or more diam., bark dark brown, scaling off in thick flakes, wood dark red; branchlets slender, pend. Lvs imbricate, of

juveniles 4-7 mm. or more long, 0.5-1 mm. wide, keeled, acute, linear-subulate, subfalcate, decurrent; of semi-juveniles (often flowering and fruiting in this stage) ascending, incurved, c. 4 mm. long, rhomboid; of adults more appressed, 2-3 mm. long, rigid, subacute, subtrigonal. Male strobili solitary or paired, terminal 0.5-1 cm. long; apiculus ovate-acuminate. Ovules solitary, terminal on curved branchlets, ultimate lvs forming a swollen, red, succulent receptacle, or rarely dry. Carpidium embracing lower part of seed, which is about 4 mm. long, oblong-ovoid or narrow-ovoid, little compressed.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Lowland and montane forest, in St. ascending to subalpine scrub. Endemic. North, South and Stewart islands - uncommon in large parts of the eastern South Island. Facultatively extinct on Banks Peninsula, where one natural tree is all that remains. Rimu is the type of the genus *Dacrydium*.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Dianella nigra* Colenso (1883) [1884]**



Common name (if one): Pēpepe (berries), Piopio, Blueberry (NZ) (English), Ink berry (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#)
order: [Liliales](#) family: [Liliaceae](#) genus: [Dianella](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Loose tussock forming evergreen perennial herb, forming dense to open, diffuse clumps; rhizomes horizontally 150 mm (or more) long, strong and well developed. Leaves 250-800 x 12-18 mm, uniformly green to dark green, with distinct dark marginal bands 2-4 mm wide, discolourous, upright to strongly curved and distinctly drooping, more or less flat, lamina smooth and more or less glossy; margin and midrib of the leaf undersides smooth to scabrid, teeth often prominent; apex acute, leaf sheaths equitant, tightly clasping, surface light green to dark green with a reddish margin; apex acute to subacute. Inflorescence erect to spreading, up to 1 m long, exerted above the leaves; scape slender, arching, base asymmetric and up to 100 x 75 mm diameter; panicle 300-500 mm long, branches spreading, short, regularly spaced; cauline leaves subtending branches, leaf-like at the base but reducing in size and becoming bract-like distally; cymules 3-7-flowered; pedicels 10-17 mm long, slightly recurved, terete; bracteoles 1.0-1.2 x c.0.2 mm, narrow triangular, subtending pedicels caducous. Flowers nodding, 9-11 mm diameter,

opening early morning, collapsing late afternoon, perianth segments strongly recurved at anthesis; sepals 4.4-4.5 x 1.6-1.7 mm, oblong, undersides olive-green flushed red-brown, upper surface paler, apex obtuse; petals 3.5-4.0 x 2.3-3.4 mm, obovate, white, midvein olive-green, apex obtuse to retuse; filaments 6, 1.3-1.4 mm long, white; anthers 1.3-1.4 x c.0.4 mm, yellow-brown, struma 1.2-1.4 x c.0.6 mm, obovate, yellow, minutely papillose; ovary 1.4-1.6 x 1.1-1.3 mm, green, more or less globular; style 1.7-2.1 mm long, white. Berry 8-20 x 7-10 mm, ovoid to oblong, grey-white and dull to strongly violet-blue and glossy, pericarp spongy. Seeds 1.8-2.1 x 2.3-3.0 mm, ovoid, black, shiny.

Distribution in NZ (location if specific and habitat associated): DIST.: Three Kings Is, N., S. Coastal to montane (rarely subalpine) (1-1100 m a.s.l.). Colonising a wide variety of habitats from open coastal headlands, gumland scrub and less frequently peat bogs through to dense forest and subalpine scrub.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other: For further information refer to: Heenan, P.B.; de Lange, P.J. 2007: Two new species of *Dianella* (Hemerocallidaceae) from New Zealand. *New Zealand Journal of Botany* 45: 269-285.

***Dicksonia lanata* Colenso (1845)**

Note two varieties:

1. *Dicksonia lanata* var. *hispida* (*Dicksonia lanata* Colenso var. *lanata* from which it is most easily distinguished by the presence of a small trunk which may be up to 2 m tall. However, the fronds are also usually dark green rather than glaucous green. There are other minor cryptic characters which also separate the two varieties.)



2. *Dicksonia lanata* var. *lanata*



Common name (if one): Tūākura, Tūōkura, Stumpy tree fern (English) and ‘Prostrate tree fern’

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Pteridophyta](#) class: [Filicopsida](#)
family: [Dicksoniaceae](#) genus: [Dicksonia](#)

Names: [Balantium lanatum](#) (Colenso) Fée (1852)
■ [Dicksonia lanata](#) Colenso (1845) (preferred)
[Dicksonia lanata](#) var. *hispida* Colenso (1845)

Subordinate Taxa: [Dicksonia lanata](#) var. *hispida* Colenso = [Dicksonia lanata](#) Colenso (1845)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Caudex either (a) prostrate, slender, up to 5 cm. or more diam., branching to form clumps, or (b) erect, stout, up to 2 m. tall. Stipes 20-60 cm. long, densely clad in lower part in shining red-brown hairs up to 2 cm. long, and in shorter brown hairs in furrow. Rhachis similarly clad, glabrate in age. Lamina 30-50 cm. long, ovate to deltoid, acuminate, coriaceous, yellowish green above, paler below, 2-3-pinnate. Primary pinnae diminishing upwards and downwards from 15-25 cm. long, lanceolate to oblong-lanceolate, acute. Secondary pinnae up to 5 cm. or more long, usually less. Pinnules close-set, up to 5 mm. long; barren ovate-oblong, acute to obtuse, slightly concave, crenately toothed; fertile with rounded strongly concavo-convex lobes, each bearing a sorus
Indusium subcoriaceous.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland to montane forests, occasional, from lat. 35° to lat. 44°. *Dicksonia lanata* var. *lanata* - Endemic. North and South Islands from Te Pahi south to south Westland and south Canterbury. Note - North of the Tararua Valley, Coromandel Peninsula and Bombay Hills *D. lanata* var. *lanata* is replaced by the trunked *D. lanata* var. *hispida* Colenso. That variety probably warrants specific recognition. It is nearly sympatric in the upper Tararua with *D. lanata* Colenso var. *lanata*.

Distribution overseas (if any): It has not really found its way into cultivation in the Northern Hemisphere and remains a collector's item.

Environmental factors and limitations: This small species from New Zealand is not much like the other *Dicksonias* in its general appearance, but it is nevertheless an attractive fern. Although very cold-hardy (at least 20°F).

Temperature:

Climate:

Soil type:

Pests:

Other:

Dicksonia squarrosa (G.Forst.) Sw. (1801)



Common name (if one): Wheki, Rough or Harsh tree fern, and New Zealand tree fern.

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Pteridophyta](#) class: [Filicopsida](#)
family: [Dicksoniaceae](#) genus: [Dicksonia](#)

Names: [Balantium squarrosum](#) (G.Forst.) Kunze (1850)

[Dicksonia gracilis](#) Colenso (1883) [1882]

• [Dicksonia squarrosa](#) (G.Forst.) Sw. (1801) (preferred)

[Dicksonia squarrosa](#) var. [gracilis](#) (Colenso) C.Chr. (1905)

[Trichomanes squarrosum](#) G.Forst. (1786)

Subordinate Taxa: [Dicksonia squarrosa](#) var. [gracilis](#) (Colenso) C.Chr. = [Dicksonia squarrosa](#) (G.Forst.) Sw. (1801)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Rhizomes spreading from main stock to 1 m. or more, giving rise to subsidiary erect caudices, often forming a grove. Caudex slender, up to c. 10 cm. diam., up to 6 m. or more tall, invested by long-persistent bases of stipites; bearing dormant buds near base, or these

developing into short or long branches. Stipes densely clad in deciduous dark filiform hairs up to 4 cm. long; roughened by enlarged persistent bases of fallen hairs. Rhachis clad in dark reddish brown hairs when young, becoming rough in age. Lamina 10-25 dm. long, about oblong-lanceolate, 2-3-pinnate, coriaceous. Primary pinnae 25-50 cm. long, deltoid-ovate, acuminate; secondary rather close-set, 5-8 cm. long, acute. Fertile pinnules close-set, confluent at base, 10-15 mm. long; lobes strongly concavo-convex c. 5 mm. long, rounded, each bearing a sorus. Lobes of barren pinnules shallowly concave, acute, usually sharply toothed. Indusium rather delicate, concavo-convex.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St., Ch. In lowland forests throughout, often persistent after removal of forests.

Distribution overseas (if any):

Environmental factors and limitations: The New Zealand Tree Fern is quite hardy and tolerant to sun and some wind, but is best suited to a site with partial shade and minimal wind. It will tolerate some exposure to the elements – but can look quite scruffy in such a situation. Some protection should be considered over the winter months in climates with temperatures below 4-5°C, e.g. shadecloth cover or straw packed in the crown. The fronds are small and compact, making this fern an ideal container or garden plant where space is limited.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Dodonaea viscosa* Jacq.**



Common name (if one): ake, Ake rautangi, Akeake, Sticky hop-bush (English), called Aalii in Hawaii

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#) order: [Sapindales](#) family: [Sapindaceae](#) genus: [Dodonaea](#)

Subordinate Taxa: [Dodonaea viscosa Jacq. subsp. viscosa](#)

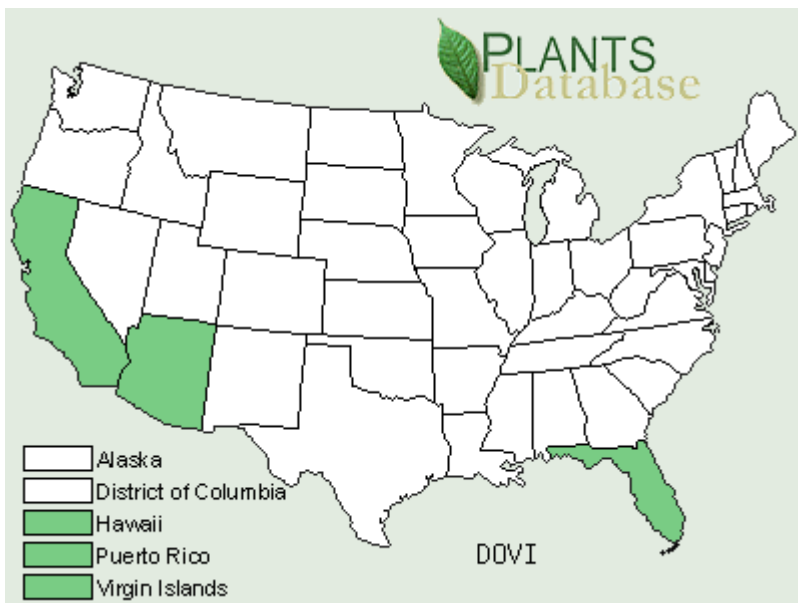
Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Dioec. glab. shrub or tree up to 6 m. tall or occ. much more, but us. flowering when \pm 2 m. tall; sts prostrate in coastal strongly insolated places. Bark reddish brown, falling in flakes; young branchlets compressed to triangular, viscid. Lvs alt. to subopp., occ. three close-set, on petioles up to 10 mm. long. Lamina thinly coriac., \pm 4-10 \times 1-3 cm., pale green, entire, narrow-obovate to narrow-elliptic, obtuse (rarely subacute, sts minutely retuse) gradually narrowed to base. Infl. a terminal rather densely fld panicle, \pm 3-4 cm. long. Fls greenish to yellowish or reddish, on pubescent pedicels \pm 4 mm. long. ♂ with 4 c. oblong sepals; 8-10 stamens, filaments very short. ♀ with 4 narrower sepals; style 2-fid, far exserted. Capsule \pm 15 \times 15 mm. including broad wings, compressed. Sts 3 wings are present.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., Ch. Coastal and lowland from North Cape to Banks Peninsula on east and a little south of Greymouth on west. Akeake.

Distribution overseas (if any): *Dodonaea viscosa* is a species in the family [Sapindaceae](#) with a [cosmopolitan distribution](#) in tropical, subtropical and warm temperate regions of [Africa](#), the [Americas](#), southern [Asia](#) and [Australasia](#). The [cultivar](#) 'Purpurea', with purple foliage, is widely grown as a garden shrub.

USA

Dodonaea viscosa (L.) Jacq.



List of overseas citations:

- [PROTABASE, the information base of PROTA \(Plant Resources of Tropical Africa\) \(online resource\).](#) (PROTABASE)
- **Brako, L. & J. L. Zarucchi.** 1993. Catalogue of the flowering plants and gymnosperms of Peru. Monogr. Syst. Bot. Missouri Bot. Gard. 45. (L Peru)
- **Englert, J. M. et al.** 1999–. USDA-NRCS Improved conservation plant materials released by NRCS and cooperators. (NRCS Cons PI Mat)
- **Exell, A. W. et al., eds.** 1960–. [Flora zambesiaca.](#) (F Zamb)
- **George, A. S., ed.** 1980–. [Flora of Australia, new ed.](#) (F Aust)
- **Holm, L. et al.** 1979. A geographical atlas of world weeds. (Atlas WWeed)
- **Howard, R. A.** 1973. The *Enumeratio* and *Selectarum* of Nicolaus von Jacquin. [J. Arnold Arbor.](#) 54:435–470.

- **Howard, R.** 1974–1989. Flora of the lesser Antilles. (F LAnt) [lists as *D. viscosa* (L.) Jacq.].
- **Liogier, H. A.** 1984–. Descriptive flora of Puerto Rico and adjacent islands. (F PuertoR) [lists as *D. viscosa* (L.) Jacq.].
- **Macbride, J. F. et al., eds.** 1936–1971. Flora of Peru.; new ser. 1980- (F Peru) [lists as *D. viscosa* (L.) Jacq.].
- **McGuffin, M. et al., eds.** 2000. Herbs of commerce, ed. 2. (Herbs Commerce ed2)
- **Standley, P. C. & J. A. Steyermark.** 1946–1976. Flora of Guatemala. (F Guat) [lists as *D. viscosa* (L.) Jacq.].
- **Turrill, W. B. et al., eds.** 1952–. Flora of tropical East Africa. (F TE Afr)
- **Woodson, R. E. & R. W. Schery, eds.** 1943–1980. Flora of Panama. (F Panama) [lists as *D. viscosa* (L.) Jacq.].

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests: [Polizzi, G.](#) and [Catara, V.](#) 2001. First report of leaf spot caused by *Cylindrocladium pauciramosum* on *Acacia retinodes*, *Arbutus unedo*, *Feijoa sellowiana*, and *Dodonaea viscosa* in Southern Italy. Plant disease. Plant dis. July 2001. v. 85 (7) p. 803.

[Raju, A.R.](#) and [Leelavathy, K.M.](#) 1984. A leaf blight diseases of *Dodonaea viscosa*. Indian phytopathology. Indian Phytopathol June 1984. v. 37 (2) p. 373.

[Singh, K.P.](#) [Shukla, R.S.](#) [Kumar, S.](#) [Hussain, E.](#) 1982. A leaf-spot disease of *Dodonaea viscosa* caused by *Corynespora cassiicola* in India. Indian phytopathology. Indian Phytopathol June 1982. v. 35 (2) p. 325.

[Varkey, P.J.](#) 1975. *Dodonaea viscosa*, a new host of *Colletotrichum gloeosporioides* in India Plant disease reporter/ Plant Dis Rep May 1975, 59 (5). p. 454.

[Borth, W.B.](#) [Hu, J.S.](#) [Kirkpatrick, B.C.](#) [Gardner, D.E.](#) [German, T.L.](#) Occurrence of phytoplasmas in Hawaii. Plant disease. Nov 1995. v. 79 (11) p. 1094-1097.

Other: Listed as a weed species in some countries.

Entelea arborescens R.Br. (1824)



Common name (if one): Hauama, Houama, **Whau**, Whauama, Whauma

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Malvales](#) family: [Tiliaceae](#) genus: [Entelea](#)

Names: [Apeiba australis](#) A.Rich. (1832)

- [Entelea arborescens](#) R.Br. (1824) (preferred)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub or canopy tree up to c. 6 m. tall; trunk up to 25 cm. diam., wood-weight very light. Branchlets, lvs, petioles, infl. densely clad in soft whitish branched hairs; bark grey; lf-

scars ± oval. Lvs alt. on petioles up to 2 dm. long, us. less; stipules linear-acuminate, ± persistent. Lamina (5)-10-15-(25) × 5-10-15-(20) cm., obliquely very broad-ovate, abruptly acuminate, cordate at base, doubly crenate-serrate, sts obscurely lobed, 5-7-subpalmately lobed. Sepals acuminate; petals white, crumpled, (3)-4-5. Ovary hispid, 5-7-celled, capsule ± 2 cm. diam., subglobose, invested with rather rigid hairs c. 15-25 mm. long.

Distribution in NZ (location if specific and habitat associated): DIST.: Three Kings, N., S. Coastal to lowland forest, southwards to lat. 38° thence more local to 41°. Its occurrence is sporadic even in undisturbed coastal forest. In lowland rain-forest whau is rare, found only beside streams in valleys near the coast where open ground and sufficient warmth and light are found. Although whau occurs here and there in Nelson and Marlborough in the [South Island](#), occurrence is local south of Lat. 38°. The plant has never been found more than 8 [km](#). from the sea (Waitākere Stream, near Auckland), nor higher than 350 m.

Distribution overseas (if any):

Environmental factors and limitations: The species is extremely light-demanding and is unable to live under an unbroken canopy. It cannot tolerate even moderate cold, strong wind, or a very dry or ill-drained soil. It is intolerant of drought and is able to withstand barely 3°C of frost.

Temperature: Extreme minimum temperatures for localities where *Entelea* really thrives are always, so far as the records show, well above 0° C.

Climate:

Soil type: Preferring a rich moist loam, whau can be grown outdoors in sun or light shade in mild climates, or in a conservatory or glasshouse in cold climates.

Pests:

Other: Propagation is from seed, which is available commercially.

***Gaultheria antipoda* G.Forst. (1786)**



Common name (if one): Bush snowberry, fools beech

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Ericales](#) family: [Ericaceae](#) genus: [Gaultheria](#)

Names: [Brossaea antipoda](#) (G.Forst) Kuntze (1839)
▪ [Gaultheria antipoda](#) G.Forst. (1786) (preferred)
[Gaultheria epiphyta](#) Colenso (1889) [1890]
[Gaultheria erecta](#) Banks & Sol. MSS. et Ic. (nom. inv.)

Subordinate Taxa: [Gaultheria antipoda](#) var. [depressa](#) Hook.f. = [Gaultheria depressa](#) Hook.f. (1847)
[Gaultheria antipoda](#) var. [microphylla](#) Hook.f. = [Gaultheria macrostigma](#) (Colenso) D.J.Middleton (1990)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Erect or rather spreading shrub, usually 0.5-2 m high; branchlets densely to rather sparsely setose, often puberulent also. Lvs alternate; petioles slender, to c. 2 mm long. Lamina (5)-7-10-(20) × (3)-6-10- (20) mm, broadly elliptic-oblong or elliptic to orbicular, coriaceous, glabrous or nearly so; margins ± undulate, crenulate-denticulate to serrate; base cuneate to rounded; apex rounded, mucronulate, sometimes ± acute. Fls solitary, axillary, but uppermost lvs sometimes so reduced that fls appear racemosely arranged; pedicels glabrate to densely hairy; bracteoles 0.7-1.5 mm long, broadly ovate. Calyx lobes 1.5-2.5 mm long, ovate-triangular, subacute to acute. Corolla ± urceolate; tube 1.5-2.5 mm long; lobes triangular. Fr. 4-6 mm diam.; calyx ± fleshy, white to red or purplish. FL Nov-Feb.

This variable and widespread sp. hybridises with almost all other indigenous [Gaultheria](#) and [Pernettya](#) spp. (Franklin, D. A., *Trans. Roy. Soc. N.Z. (Bot)* 1: 164 (1962)). A polymorphic species, it is very variable in leaf size and shape[11]. **Bean. W.** *Trees and Shrubs Hardy in Great Britain. Vol 1 - 4 and Supplement.* Murray 1981

Note widespread genus - *Gaultheria* is a genus of about 170-180 species of [shrubs](#) in the family [Ericaceae](#). The name memorializes M. Hugues Gauthier of Quebec, a misspelled honour bestowed by the Scandanavian [Pehr Kalm](#) in 1748. These plants are native to [Asia](#), [North](#) and [South America](#), and [Australasia](#). In the past, the Southern Hemisphere species were often treated in a separate genus *Pernettya*; however, there is no consistent reliable morphological or genetic difference to support recognition of two genera, and they are now united in the single genus *Gaultheria*.

The species vary from low, ground-hugging shrubs less than 10 cm tall, up to 2.5 m tall, or, in the case of *G. fragrantissima* from the [Himalaya](#), even a small [tree](#) up to 5-6 m tall. The [leaves](#) are [evergreen](#), alternate (opposite in *G. oppositifolia* from [New Zealand](#)), simple, and vary between species from 0.3-10 cm long; the margins are finely serrated or bristly in most species, but entire in some. The [flowers](#) are solitary or in racemes, bell-shaped, with a five-lobed corolla; flower colour ranges from white to pink to red. The [fruit](#) is a fleshy [berry](#) in many species, a dry capsule in some, with numerous small [seeds](#).

Species

- *Gaultheria adenostrix*
- *Gaultheria antarctica*
- *Gaultheria antipoda*
- *Gaultheria caudata*
- *Gaultheria codonantha*
- *Gaultheria cumingiana*
- *Gaultheria cuneata*
- *Gaultheria depressa*
- *Gaultheria eriophylla*
- *Gaultheria forrestii*
- *Gaultheria fragrantissima*
- *Gaultheria hirtiflora*
- *Gaultheria hispida*
- *Gaultheria mucronata*
- *Gaultheria myrsinoides*
- *Gaultheria nummularioides*
- *Gaultheria oppositifolia*
- *Gaultheria ovatifolia*
- *Gaultheria parvula*
- *Gaultheria phillyreifolia*
- [Gaultheria procumbens](#)
- *Gaultheria pumila*
- *Gaultheria pyroloides*
- *Gaultheria rupestris*
- *Gaultheria semi-infera*
- [Gaultheria shallon](#)

- *Gaultheria hispidula*
- *Gaultheria hookeri*
- *Gaultheria humifusa*
- *Gaultheria insana*
- *Gaultheria itoana*
- *Gaultheria lanceolata*
- [*Gaultheria lanigera*](#)
- *Gaultheria macrostigma*
- *Gaultheria miqueliana*
- *Gaultheria sinensis*
- *Gaultheria stapfiana*
- *Gaultheria tasmanica*
- *Gaultheria tetramera*
- *Gaultheria thymifolia*
- *Gaultheria tricophylla*
- *Gaultheria veitchiana*
- *Gaultheria wardii*
- *Gaultheria yunnanensis*

Distribution in NZ (location if specific and habitat associated): N.; S.; St. Lowland to montane shrubland and forest, open and rocky places.

Distribution overseas (if any): Plants are not very hardy in Britain, they are only likely to succeed outdoors in the milder areas of the country[200]. **Huxley. A.** *The New RHS Dictionary of Gardening.* 1992. MacMillan Press 1992 ISBN 0-333-47494-5.

Environmental factors and limitations: Prefers a moist but not boggy humus rich soil in shade or semi-shade[11, 182]. A peat and moisture loving species, it requires a lime-free soil[11, 182].

Temperature: USDA Zone 7a: to -17.7° C (0° F); USDA Zone 7b: to -14.9° C (5° F)
 USDA Zone 8a: to -12.2° C (10° F); USDA Zone 8b: to -9.4° C (15° F); USDA Zone 9a: to -6.6° C (20° F); USDA Zone 9b: to -3.8° C (25° F)

Climate:

Soil type:

Pests: Plants in this genus are notably resistant to honey fungus[200]. **Huxley. A.** *The New RHS Dictionary of Gardening.* 1992. MacMillan Press 1992 ISBN 0-333-47494-5.

Other:

***Gaultheria depressa* Hook.f. (1847)**



Gaultheria depressa var. *depressa*



Gaultheria depressa var. *novaezealandiae*

Common name (if one): Snowberry (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Ericales](#) family: [Ericaceae](#) genus: [Gaultheria](#)

Names: [Gaultheria antipoda](#) var. *depressa* Hook.f. (1853)

▪ [Gaultheria depressa](#) Hook.f. (1847) (preferred)

Subordinate Taxa: [Gaultheria depressa](#) Hook.f. var. *depressa*

[Gaultheria depressa](#) var. *microphylla* (Hook.f.) Cheeseman = [Gaultheria macrostigma](#) (Colenso) D.J.Middleton (1990)

[Gaultheria depressa](#) var. *novae-zealandiae* D.A.Franklin

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Mat-forming shrublet, usually < 10 cm tall; stems much-branched, ± interlacing, creeping and rooting; branchlets ± setose. Lvs alternate; petioles very short. Lamina usually 3-12 × 3-9 mm, elliptic, broadly elliptic to orbicular (the different forms sometimes all present on one plant), coriaceous; margins crenate to crenulate, sometimes entire, setose or glabrous; base cuneate to rounded; apex rounded, mucronulate or ± acute. Fls solitary in axils of uppermost lvs, subsessile; bracteoles 1-1.5 mm long, very broadly ovate. Calyx lobes 1.5-2 mm long, ovate-triangular, acute or subacute. Corolla ± urceolate; tube 1.5-2 mm long; lobes ± ovate, obtuse. Fr. 8-12 mm diam.; fruiting calyx fleshy, white, pink or red. FL Nov-Feb. Franklin (1962, loc. cit.) stated that his var. is sometimes connected by intermediates with var. *depressa*. However, some botanists consider the 2 vars specifically distinct with var. *depressa* mainly confined to tussock

grassland. The 2 taxa may occur together and can only be reliably distinguished by leaf margin characters; they are probably best merely treated as formae.

Distribution in NZ (location if specific and habitat associated): N.: Tararua Mountains (var. *depressa*), Raukumara Range and Volcanic Plateau southwards (var. *novae-zelandiae* D. Franklin); S.: N.W. Nelson, western side of Southern Alps, Dunedin area (var. *depressa*), throughout in mountains (var. *novae-zelandiae*); St.: (var. *novae-zelandiae*). Montane to alpine zone in open places in grassland, herbfield and boggy land up to 1800 metres, in North South and Stewart Islands from 39° southwards

Distribution overseas (if any): Var. *depressa* also indigenous to Tasmania, var. *novae-zelandiae* endemic.

Environmental factors and limitations: Habitat in NZ - Montane to alpine grassland, herbfield, shrubland and rocky places, sometimes in bogs.

Temperature:

Climate:

Soil type:

Pests:

Other:

Griselinia littoralis Raoul (1846)



Male plant/flower

Common name (if one): Huariki (fruit), Kāpuka, Broadleaf (English)

Taxonomic info (basic): kingdom: *Plantae* Division: *Magnoliophyta* class: *Magnoliopsida*
order: *Cornales* family: *Cornaceae* genus: *Griselinia*

Names: • *Griselinia littoralis* Raoul (1846) (preferred)
Pukateria littoralis Raoul (1844)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Tree up to 10 m. or sts 15 m. tall, with short gnarled trunk up to 15 dm. diam. Lvs broad-ovate to ovate-oblong, rounded at apex, less glossy, slightly to not unequal-sided at base; main veins hardly prominent to obscure below. Panicles sts reduced to a simple racemes. Fls as in *G. lucida* but both ♂ and ♀ bearing petals. Fr. c. 6-7 mm. long.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Lowland to montane forest and lower subalpine scrub from lat. 35° 30' southwards; more abundant in S. Papauma, broadleaf.

Distribution overseas (if any): It is widely cultivated both in New Zealand and in other areas with mild oceanic climates such as [Great Britain](#), where it is valued for its tolerance of [salt](#) carried on sea gales. Glasnevin National Botanic Garden, Dublin, plant list, June 2003
<http://www.botanicgardens.ie/nbg/arealsts/n8.pdf>

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Halocarpus kirkii* (Parl.) Quinn (1982)**



Common name (if one): Manoa

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#)
family: [Podocarpaceae](#) genus: [Halocarpus](#)

Names: [Dacrydium kirkii](#) F.Muell. ex Parl.

- [Halocarpus kirkii](#) (Parl.) Quinn (1982) (preferred)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Tree up to 25 m., trunk up to 1 m. diam., bark greyish brown, wood pale brownish red. Lvs of juveniles and reversion shoots 1.5-4 cm. × 1-3 mm., patent, linear, obtuse to acute to mucronate; petiole short, twisted; of adults 2-3 mm. long, obtuse, ovate-oblong to rhomboid, coriaceous, margin hyaline. Final branchlets 1-2 mm. diam., subterete. Male strobili solitary, terminal, sessile up to 1 cm. long; apiculus obtusely triangular. Carpida 3-5, clustered at tips of branchlets, larger than lvs with solitary ovules. Seeds ovoid-oblong somewhat compressed, striate, 3-8 mm. long. Epimatium completely covering seed, which is pend. from the summit and free. Aril orange.

Distribution in NZ (location if specific and habitat associated): DIST.: N. Lowland forest, occ., from lat. 35° to 37°. Endemic. New Zealand, North and Great Barrier Islands, from Te Pahi (Radar and Unuwahao Bush) south to near Limestone Downs (south of Port Waikato) in the west and about the southern Kauaeranga Valley in the East. A northern species associated with kauri (*Agathis australis* (D.Don.) Lindl.) forest. In mature kauri forest it is most usually found in apparently even aged cohorts of 10 or less trees along ridge lines, in swampy hollows or at gully heads.

Distribution overseas (if any):

Environmental factors and limitations: This species appears to thrive on disturbance and it is at its most abundant on the margins of kauri and gumland vegetation sites originating from past fires, gum digging and/or kauri logging.

Temperature:

Climate:

Soil type:

Pests:

Other:

Hebe

General information

Hebe is a [genus](#) of plants native to [New Zealand](#), Rapa in [French Polynesia](#), the [Falkland Islands](#), and [South America](#). It includes about 90 species and is the largest plant genus in New Zealand. Apart from *H. rapensis* ([endemic](#) to Rapa), all species occur in New Zealand. This includes the two species, *H. salicifolia* and *H. elliptica*, that have distributions extending to South America. The genus is named after the [Greek goddess](#) of youth, [Hebe](#). There are differing classifications for the genus and some botanists include *Hebe*, together with the related Australasian genera *Chionohebe*, *Derwentia*, *Detzneria*, *Parahebe*, *Heliohebe*, *Leonohebe*, in the larger genus [Veronica](#).

Hebe has four perpendicular rows of [leaves](#) in opposite decussate pairs. The [flowers](#) are [perfect](#), the [corolla](#) usually has four slightly unequal lobes, the flower has two [stamens](#) and a long [style](#). Flowers are arranged in a [spiked inflorescence](#). Identification of *Hebe* species is difficult, especially if they are not in flower. The plants range in size from dwarf shrubs to small trees up to 7 metres, and are distributed from [coastal](#) to [alpine](#) ecosystems. Large-leaved species are normally found on the coast, in lowland scrub and along forest margins. At higher altitudes smaller-leaved species grow, and in alpine areas there are whipcord species with leaves reduced to thick scales.

Hebes are grown in many gardens and public areas; they attract [butterflies](#). Hebes cope with most soil types, and can be [propagated](#) easily from both [seed](#) and [cuttings](#). Wild *Hebe* [hybrids](#) are uncommon; however, there are many cultivated hybrids, such as *Hebe* × *franciscana*.

***Hebe buchananii* (Hook.f.) Cockayne & Allan (1926)**



Common name (if one): Hebe spp.

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Scrophulariales](#) family: [Scrophulariaceae](#) genus: [Hebe](#)

Names: [•*Hebe buchananii* \(Hook.f.\) Cockayne & Allan \(1926\)](#) (preferred)
[Hebe buchananii var. major](#) (Cheeseman) A.Wall (1929)
[Veronica buchananii](#) Hook.f. (1864)
[Veronica buchananii var. exigua](#) Cheeseman (1906)
[Veronica buchananii var. major](#) Cheeseman (1906)

Subordinate Taxa: [Hebe buchananii var. major](#) (Cheeseman) A.Wall = [Hebe buchananii](#)
(Hook.f.) Cockayne & Allan (1926)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub much branched from base, 10-20 cm. tall; branches stout, woody, tortuous, black, closely scarred. Branchlets dark, glossy except for two us. well-defined pubescent lines; length of internodes us. = or < diam. Lvs spreading, 3 × 3 mm. to 7 × 5 mm. or larger where sheltered, broadly ovate, ± concave, thick, coriaceous, not shining, sts glaucous; lf-bud without sinus, lf-base very broad, us. > 1/2 lf-width; lamina glab., subacute, entire, margin thick; midrib obvious, especially towards tip and often forming keel there. Infls lateral, simple, to 2 cm. long; peduncle us. hidden, coarsely pubescent. Fls crowded, sessile. Bracts broad, subacute, fringed with cilia. Calyx-lobes broader than bracts, similarly ciliate. Corolla-tube not > calyx, lobes rather narrow. Capsule erect, rounded, pubescent, little > calyx.

Hebe buchananii is variable in the wild. Its height may be between 1.2 in (3 cm) and 12 in (30 cm). There are a number of forms in cultivation. The leaves are green or green-blue, broadly spear-shaped, 0.15–0.25 in (4–6 mm) long. Some forms can be shy flowering, with white flowers seen in Late May and early June.

Distribution in NZ (location if specific and habitat associated): DIST.: S. Canterbury Alps from Godley Valley southwards; drier Otago Mts.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Hebe cupressoides (Hook.f.) Andersen (1926)[old name]

Leonohebe cupressoides (Hook.f.) Heads (1987)[new name]



Hebe cupressoides

Leonohebe cupressoides

Common name (if one): Cypress koromiko (English), Whipcord hebe (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Scrophulariales](#) family: [Scrophulariaceae](#) genus: [Hebe](#)

Names: [Hebe cupressoides](#) (Hook.f.) Andersen (1926)

[Hebe cupressoides](#) (Hook.f.) Cockayne & Allan (1926) (nom. illegit.)

■ [Leonohebe cupressoides](#) (Hook.f.) Heads (1987) (preferred)

[Veronica cupressoides](#) Hook.f. (1864)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Finely, densely branched shrub forming a symmetrically rounded bush 1-1.5-(2) m. tall and 1.5-2-(2.5) m. diam. Ultimate branchlets very close-set, erect, \pm 1 mm. diam., flexible, \pm glaucous but sts yellowish and glutinous at tips; internodes 2-4 mm. long, exposed; nodal joint obvious. Lvs 1-1.5 mm. long, scarcely connate, narrowly triangular, subacute to acute, rounded on back, fleshy and appressed when fresh, slightly spreading when dry. Infls c. 6-8-fld; fls all sessile or the lower ones subsessile, us. not tightly crowded; rachis glab.; bracts similar to lvs. Calyx 1-1.5 mm. long; anterior lobes subacute, fused for all or most of length; posterior lobes entirely fused into single obtuse or emarginate seg. Corolla-tube slightly $>$ calyx. Capsule c. 2×1 mm., narrow-oblong, somewhat laterally compressed with septum across narrowest diam. but also flattened on narrow-obovate anterior and posterior faces, grooved at septum and emarginate at apex.

Leonohebe cupressoides is superficially similar to Hebe propinqua (Cheeseman) Cockayne et Allan from which it differs by its finer branches, blue-green branchlets and wide spaces between scale leaves. Furthermore the foliage of L. cupressoides is very aromatic smelling strongly of turpentine. In contrast Hebe propinqua has white flowers, non aromatic foliage, green branchlets, with a shorter gap between the pairs of scale leaves.

Distribution in NZ (location if specific and habitat associated): DIST.: S. East of divide throughout, from Marlborough to the Otago lakes, but now rare and local, us. on river-flats and terraces up to 1500 m. altitude. Endemic. Eastern South Island, occurring historically recorded from 35 sites extending from Marlborough south to Otago. Leonohebe cupressoides is a plant of grey scrub communities and occurs across a range of sites from those that have been recently influenced by disturbance (especially river flooding and slips) to more stable sites such as rock outcrops and bouldery moraine.

Distribution overseas (if any): Reported as hardy in the UK.

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other: Name change ref. - Heads, M. 1987: New names in New Zealand Scrophulariaceae.

Botanical Society of Otago Newsletter 5: 4-11.

***Hebe salicifolia* (G.Forst.) Pennell (1921)**



Common name (if one): Koromiko, willow-leaf Hebe

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Scrophulariales](#) family: [Scrophulariaceae](#) genus: [Hebe](#) species: [salicifolia](#)

Names:

[Hebe fonkii](#) (Phil.) Cockayne & Allan (1926)

■ [Hebe salicifolia](#) (G.Forst.) Pennell (1921) (preferred)

[Hebe salicifolia](#) var. [communis](#) (Cockayne) Cockayne & Allan (1926)

[Panoxis salicifolia](#) (G.Forst.) Raf. (1830) (nom. illegit.)

[Veronica fonkii](#) Phil. (1857-8)

[Veronica salicifolia](#) G.Forst. (1786)

[Veronica salicifolia](#) var. [communis](#) Cockayne (1916)

Sub. [Hebe salicifolia](#) var. [atkinsonii](#) (Cockayne) Andersen = [Hebe stricta](#) var. [atkinsonii](#)

Taxa: [\(Cockayne\) L.B.Moore \(1961\)](#)

[Hebe salicifolia](#) var. [atkinsonii](#) (Cockayne) Cockayne & Allan = [Hebe stricta](#) var. [atkinsonii](#) (Cockayne) L.B.Moore (1961)

[Hebe salicifolia](#) var. [communis](#) (Cockayne) Cockayne & Allan = [Hebe salicifolia](#) (G.Forst.) Pennell (1921)

[Hebe salicifolia](#) var. [longiracemosa](#) (Cockayne) Cockayne & Allan = [Hebe stricta](#)

[\(Benth.\) L.B.Moore var. stricta \(1961\)](#)

[Hebe salicifolia var. paludosa \(Cockayne\) Cockayne & Allan = Hebe paludosa \(Cockayne\) D.A.Norton & de Lange \(1998\)](#)

[Hebe salicifolia var. stricta \(Benth.\) Cockayne & Allan = Hebe stricta \(Benth.\) L.B.Moore \(1961\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Diffusely branched shrub to 5 m. tall. Branchlets pale green, glab., length of internodes 2-5-(8) × diam. Lvs suberect to spreading, 5-15 × 1-2.5 cm., long-lanceolate, submembr.; lf-bud with distinct sinus; lamina conspicuously narrowed towards apex and long-acuminate, glab. except for fine pubescence above and under midrib, on margins of young lvs and especially on expanded midrib of petiole; margins entire or minutely and remotely denticulate. Infls lateral, simple, > lvs and sts to 20 cm. long, peduncle us. 3-4 cm. Fls rather close but not hiding rachis, pedicels c. 3 mm. long, = or > narrow ciliolate bracts. Calyx-lobes c. 2 mm. long, narrow, acute, ± keeled, ciliolate. Corolla white or very pale lilac-tinted, tube rather wide, shortest at the back and there little > calyx, lobes c. 3-4 mm. long, narrow-ovate and ± acute. Capsule ± pendent, to 3.5 × 2.5 mm., rounded, glab., < 2 × calyx.

Distribution in NZ (location if specific and habitat associated): DIST.: S., St. Widespread except near the coast in Marlborough Sounds.

Distribution overseas (if any): Type locality: "Nova-Zeelandia" (probably Dusky Sound). Type: K, Forster. Also recorded from the coast of Chile at about the same latitude.

http://floraseries.landcareresearch.co.nz/pages/Taxon.aspx?id=_a3debe3d-abd4-4c0f-9832-6e0191946513&fileName=Flora%201.xml

Noted as established/invasive in Ireland – ‘This is the only species of ‘woody veronica’ (*Hebe*) which is at all frequent as a self-sown shrub of such habitats as mortared walls and quarries. The species was introduced from New Zealand as a garden ornamental shrub. It has narrow spikes of white flowers and long, narrow, willow-like leaves.’

<http://www.habitas.org.uk/flora/species.asp?item=4129>

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Hebe speciosa* (A.Cunn.) Andersen (1926)**



Common name (if one): Kōpata, Napuka, Tītīrangi, Purple hebe (English), Showy Hebe

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Scrophulariales](#) family: [Scrophulariaceae](#) genus: [Hebe](#)

Names: • [Hebe speciosa \(A.Cunn.\) Andersen \(1926\)](#) (preferred)

[Hebe speciosa \(A.Cunn.\) Cockayne & Allan \(1926\) \(nom. illegit.\)](#)

[Veronica speciosa R.Cunn. ex A.Cunn. \(1836\)](#)

Subordinate Taxa: [Hebe speciosa var. kermesina "A Devonian" = Veronica kermesina Loud. \(1855\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Rounded shrub 1-2 m. tall. Branchlets stout, glab., length of internodes several × diam. Lvs 5-10 × 2.5-5 cm., broad elliptic- to obovate-oblong, dark green, glossy, coriaceous to almost fleshy; lf-bud with definite sinus, the glab. petiole sharply distinct from the pubescent-edged shoulder of the lamina-base; lamina obtuse, glab. except for minute pubescence when young above midrib and on cartilaginous margin, entire. Infls lateral, simple, us. exceeding lvs and to 3 cm. diam.; peduncle long and stout. Fls closely placed, pedicels 2-5 mm. long, exceeding the narrow ciliolate bracts. Calyx-lobes subacute, ciliolate. Corolla reddish magenta colour, tube c. 3 mm. long and equally broad, > calyx, lobes 5-6 mm. long, obtuse, ciliolate. Capsule to 6 × 4 mm., acute, glab., > 2 × calyx-lobes.

Unlikely to be confused with other naturally occurring hebe sp. However, its extensive use in horticultural as parental stock for hybridism has resulted in numerous cultivars some of which have been sold, incorrectly, as *H. speciosa*. From the majority of these *H. speciosa* can be distinguished by its magenta-coloured flowers, and dark green to pale green fleshy leaves which always have a pink-red pigmented, finely hairy leaf margin.

Distribution in NZ (location if specific and habitat associated): DIST.: N. Sea-cliffs south of Hokianga Head, Maunganui Bluff, Tongaporutu and Urenui. Also recorded from Port Nicholson, Lyall, but not now known growing naturally there. S. Pelorus Sound, Rutland, McMahan; still growing at Titirangi Bay. Endemic. North and South Islands. In the North Island known only from west coast. Formerly from Scots Point to Urenui. In the South Island from several sites in the Marlborough Sounds. Now only known from outer South Head (Hokianga Harbour), Maunganui Bluff, near Muriwai Beach, at two sites on cliffs west of Aotea Harbour, Mokau and at Titirangi Bay (Marlborough sounds). Recently it has been suggested that only the outer South Head, Maunganui Bluff and Muriwai populations are natural, the others resulting from past deliberate cultivation by Maori. Coastal cliffs and headlands, in low windswept scrub and flaxland. Rarely under taller trees.

Distribution overseas (if any): Listed as naturalised in the USA – ‘*Hebe speciosa*, a dicot in the family Scrophulariaceae, is a shrub that is not native to California; it was introduced from elsewhere and naturalized in the wild [Lum/Walker].’

Walker, R.E. 1992. Community models of species richness: regional variation of plant community species composition on the west slope of the Sierra Nevada, California. Unpubl. MA Thesis, Geography. Univ. of California, Santa Barbara. 155 pp.

Lum, K-L. 1975. Gross patterns of vascular plant species diversity in California. Unpubl. MS Thesis, Ecology. Univ. of California, Davis. 154 pp

http://www.calflora.org/cgi-bin/species_query.cgi?where-calrecnum=4019

<http://plants.usda.gov/java/profile?symbol=HESP>

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Kunzea ericoides* (A.Rich.) Joy Thomps. (1983)**



Kunzea ericoides var. *ericoides*



Kunzea ericoides var. *ericoides*

Common name (if one): Kānuka, Mānuka, White tea tree (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Myrtales](#) family: [Myrtaceae](#) genus: [Kunzea](#)

Synonyms: ■ [Kunzea ericoides](#) (A.Rich.) Joy Thomps. (1983) (preferred)

[Leptospermum ericoides](#) A.Rich. (1832)

Subordinate Taxa: [Kunzea ericoides \(A.Rich.\) Joy Thomps. var. ericoides](#)
[Kunzea ericoides var. linearis \(Kirk\) W.Harris](#)
[Kunzea ericoides var. microflora \(G.Simpson\) W.Harris](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub of diverse habit, or tree up to 15 m. tall or more; trunk up to 6 dm. or more diam.; bark brown, thin, shedding in long flakes. Branchlets sparsely to rather densely clad in appressed hairs when young. Lvs in fascicles of 3-5 or solitary, $\pm 4-12 \times 1-2$ mm., linear to narrow-lanceolate, acute, not pungent, glab. or sparsely silky-hairy when young; margins sts ciliolate. Fls 3-5-(7) mm. diam., axillary, on slender pedicels up to c. 5 mm. long, in 2-5-fld cymes to solitary. Receptacle narrow-turbinate; sepals ovate, acute, persistent; petals suborbicular, ± 2 mm. diam., shortly clawed. Capsules about equalling to slightly exceeding receptacle-rim, 2-4 mm. diam.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland to montane shrubland and forest, especially marginal, throughout. Kānuka (or Mānuka as it was mostly known until the 1930's) is endemic to New Zealand. It is widespread particularly in coastal scrub and colonizing land recovering after a fire or reverting to a natural state after being used for agriculture. However it has been recorded growing to altitudes of 2000 m a.s.l.

Distribution overseas (if any):

Australia

In Australia there are allied species known as Burgan, these have been confused in the past with New Zealand Kānuka but recent molecular and morphological studies show that none of the Australian plants are the same as the New Zealand species. Burgan species are mostly small shrubs (up to 5 m tall) with lignotubers and rhizomes, though two species in the complex *K. peduncularis*, and a very uncommon unnamed species found on the northern New South Wales border have the tree form (up to 15 m tall) more typical of the New Zealand species. Burgan comprises seven species (three of which have current names in *Kunzea* and four of which have yet to be formally described) and is native to [South Australia](#), [Victoria](#), [New South Wales](#) and [Queensland](#). *Kunzea leptospermoides*, *K. phyllicoides*, and a widespread unnamed species of Victoria and New South

Wales have weedy tendencies and have proved a major problem in recently cleared or burned ground and in some farmland areas.

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Leptospermum scoparium J.R.Forst. & G.Forst. (1776)



Leptospermum scoparium var. *incanum*



Leptospermum scoparium var. *scoparium*

Common name (if one): Mānuka, Red tea tree (English), Tea tree (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Myrtales](#) family: [Myrtaceae](#) genus: [Leptospermum](#)

Synonyms: [Leptospermum scoparium](#) J.R.Forst. & G.Forst. (1776) (preferred)

[Leptospermum scoparium](#) J.R.Forst. & G.Forst. var. *scoparium* (1776)

[Leptospermum scoparium](#) var. *incanum* Cockayne (1917)

Subordinate Taxa: [Leptospermum scoparium](#) var. *incanum* Cockayne = [Leptospermum scoparium](#) J.R.Forst. & G.Forst. (1776)

[Leptospermum scoparium](#) J.R.Forst. & G.Forst. var. *scoparium* =

[Leptospermum scoparium](#) J.R.Forst. & G.Forst. (1776)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub of diverse habit, or tree up to c. 4 m high. Bark shedding in long strips. Branchlets and young lvs ± clothed in silky hairs. Lvs subsessile, ± 4-12-(20) × 1-4 mm, of 2 main forms on different plants, narrow-lanceolate or ovate, coriaceous, rigid, acute, pungent, erect to patent. Fls axillary, or occasionally terminal on branchlets, ± sessile, usually solitary. Hypanthium broadly turbinate; calyx lobes ± triangular, caducous. Petals c. 6 mm long, ± suborbicular, usually

white, rarely pink, patent. Stamens *c.* 20, < to slightly > style; filaments much more slender than style. Ovary apex glabrous. Capsule 5-celled, 3-7 × 4-10 mm, woody, long-persistent, distinctly exerted beyond receptacle rim.

FL Sep-Mar.

Leptospermum scoparium var. *incanum* – Easily distinguished from all other New Zealand and Australian forms of *L. scoparium* by the erect shrub habit, silky hairy leaves and stems, dark pink or pink flushed flowers, and by the very large capsule which scarcely opens except after fire or the death of the plant.

Leptospermum scoparium var. *scoparium* - Indigenous to New Zealand and Australia. Most Australian forms of *L. scoparium* do not match the range seen in New Zealand. However, plants from Tasmania are very similar to, if not identical with some South Island forms, differing mainly by their wider leaf base, and longer, more pungent leaf apex. Manuka was also collected once from Rarotonga by Thomas Cheeseman in the 1800s. It has not been found there since, and is assumed to have been a failed introduction. Further study using DNA sequencing is underway to resolve the status of *L. scoparium* forms both here and in Australia.

Distribution in NZ (location if specific and habitat associated): N.; S.; St.; Ch.

Distribution overseas (if any): See Australian forms.

Environmental factors and limitations: Lowland to subalpine areas in various habitats, especially open slopes, river banks, forest margins, and scrub, where it often forms the dominant vegetation.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Libertia ixioides* (G.Forst.) Spreng. (1824)**



Common name (if one): Mānga-a-Huripapa, Mikoikoi, Tūkāuki, Tūrutu, New Zealand iris (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#) order: [Liliales](#) family: [Iridaceae](#) genus: [Libertia](#)

Synonyms: [Ferraria ixioides](#) (G.Forst.) Willd (1800)

▪ [Libertia ixioides](#) (G.Forst.) Spreng. (1824) (preferred)

[Libertia macrocarpa](#) Klatt (1861) [1862]

[Libertia tricolor](#) Lem. (1863)

[Moraea ixioides](#) (G.Forst.) Thunb. (1787)

[Nematostigma ixioides](#) (G.Forst.) A.Dietr. (1833)

[Renealmia grandiflora](#) sensu Sweet (1824) (nom. inv.)

[Sisyrrinchium ixioides](#) G.Forst. (1786)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Plants consisting of leafy fans, close together on short, much branched rhizomes, joined by short stolons. Leaves (150–)550(–1160) mm × 3– 12 mm, the two surfaces similar; inclined to turn yellow where exposed to full sun; leaf bases pale redgreen; nerves many, median ones crowded to form pale midrib; margins often finely scabrid, leaf in transverse section convex lens-shaped, two rows of vascular bundles present, marginal vascular bundle present, sclerenchyma present on inside of leaf sheath. Peduncles long (2/3 the length of the inflorescence), but inflorescence short, usually not carrying flowers or fruits above leaves. Panicle narrow, but much branched, or sometimes simply branched; lower bracts long (50–410 mm), green, lanceolate, upper bracts narrow and pale brown, occurring singly; 1–6 flowers (often 2) per branch. Pedicels stout, 10–20(–28) mm long, glabrous. Flower bud sometimes yellowish, usually much smaller than

ovary, flowers 8–15(–25) mm diam.; tepals all white internally, widely patent; outer tepals about ½ length of inner tepals and narrower, elliptical, flattened, with apiculus; inner tepals orbicular-elliptical, shortly unguiculate, not usually covering outer tepals, slight cleft at tips. Staminal filaments very shortly connate; anthers c. 2 mm long, yellow, pollen sacs broad, connective narrow; pollen ellipsoidal, monosulcate, 41.8–53.2 × 26.6–39.9 µm. Ovary pale, larger than perianth bud; style branches sometimes slightly winged, usually pointing outwards. Capsule (7–)15–25 mm long, 5–14 mm diam., barrel-shaped, ripening from green to yellow to black, partially dehiscent by short loculicidal splitting; old valves pale and not widely patent. Seeds 1–2 × 1–1.5 mm, rounded or occasionally angular, reticulate-foveolate, bright tangerine orange. Chromosome number: 2n = 12x = 228 (Blanchon et al. 2000a). FL Sep–Dec; FR Jan–Dec.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St.

Distribution overseas (if any):

*USA gardening website - **Libertia ixioides** is another New Zealand species, called **Mikoikoi** by the Maori, with a fan of swordlike leaves, yellow-tinged, with a yellow or orange stripe down the center of the leaf. White flowers are followed by attractive orange fruit. Grows to about 15", with narrow panicles of white flowers in spring. USA Zone 8. <http://worldplants.com/libertia.htm>*

*Australian gardening website - **Libertias** are bred in New Zealand, in fact they are a New Zealand native, which also does well in Australia, especially along the coastline. They have low water needs, and are low care plants. **Libertia 'Gold Finger'** is a new variety with its tufty, grassy looking foliage with a gold stripe down the middle. Grow it in full sun to keep the gold stripe. In the shade it will do okay, but the gold won't stand out as much. Another variety called **'Firestorm'**, has an orange flash down the center of its foliage. **Libertia** has delicate flower spikes, but it's really the foliage that's most important. The growth habit is creeping or tufted, perfect for suppressing weeds in the garden. Or try them in a container. **Libertia ixioides** grow best in southern Australia, although they also grow as far north as Sydney. <http://www.abc.net.au/gardening/stories/s1471641.htm>*

Environmental factors and limitations: Stream-edges, banks and rocks.

Temperature:

Climate:

Soil type:

Pests: UK biosecurity reference to interceptions. Intercepted *Ceroplastes sinensis* (Chinese wax scales) and *Rhizoecus cacticans* (Root mealy bugs), origin of plants listed as N.Z.

(<http://www.defra.gov.uk/planth/interc/6may06.pdf>). Full record in IO3 pdf library 'Libertia ixioides 6may06 interception'

Other:

Libertia peregrinans Cockayne & Allan (1926) [1927]



Common name (if one): New Zealand iris, mikoikoi

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#)
order: [Liliales](#) family: [Iridaceae](#) genus: [Libertia](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Plants consisting of leafy fans crowded or emerging at intervals from far-spreading horizontal stolons, c. 3 mm diam., yellow in colour. Leaves 130–700 mm × 3–9 mm, the two surfaces similar; often +/- copper coloured where exposed to full sun; nerves many, the median ones crowded and coloured red or orange; margins usually not scabrid; leaf in transverse section convex lens-shaped, two rows of vascular bundles present centrally, marginal vascular bundles present, sclerenchyma present on inside of leaf sheath. Peduncles short, inflorescences usually not carrying flowers or fruits above leaves. Panicle narrow, but usually closely branched, lower bracts long (40–170 mm), lanceolate, often brown, upper bracts shorter and brown, occurring singly; 1–7 flowers per branch. Pedicels stout, c. 14–40 mm long, glabrous. In flower bud, perianth often brownish externally, similar size or slightly larger than ovary. Flowers 10–25(–30) mm diam.; tepals all white internally, widely patent; outer tepals usually > ½ the length of the inner, narrower, oblongelliptical or oblong, flattened, without apiculus; inner tepals obovate-elliptical, shortly unguiculate, usually leaving most of outer tepals visible, cleft present at tip. Staminal filaments very shortly connate; anthers c. 3–3.5 mm long, dark yellow-brown, pollen sacs broad, connective also broad; pollen ellipsoidal, monosulcate, 26.6–38.0 × 15.2–30.4 µm. Ovary cupiform, green; style branches narrowly winged, pointing outwards. Capsule 6–15 mm long, 4–10 mm diam., ovoid-barrel-shaped, ripening from green to orange, yellow, or black on maturity, often indehiscent for a year after ripening, seeds released after capsule disintegrates.

Seeds c. 1.0–1.5 mm diam., subglobose, surface texture reticulatefoveolate, orange or orange-brown. Chromosome number: $2n = 6x = 114$ (Blanchon et al. 2000a). FL Oct–Jan; FR Jan–Dec. –

Blanchon, D. J.; Murray, B. G.; Braggins, J. E. 2002: A taxonomic revision of *Libertia* (Iridaceae) in New Zealand. *New Zealand Journal of Botany* 40: 437-456.

Distribution in NZ (location if specific and habitat associated): Endemic to New Zealand; occurring from Piha to Wellington in the North Island and throughout the South Island, Stewart Island and the Chatham Islands.

Distribution overseas (if any):

Reported as grown in Burlingame, California, Ukiah, California and Santa Cruz Arboretum – <http://davesgarden.com/pf/go/54302/index.html> <http://www.smgrowers.com/info/libper.asp>

Also on sale in the U.K.

http://www.abbotsburyplantsales.co.uk/plant_lists/perennials.asp?offset=40

Environmental factors and limitations: A primarily coastal or lowland species of sandy, peaty or pumiceous soils. It may be found growing in dune slacks and swales, on the margins of swamps, in open poorly draining ground under scrub, and on the Chatham Islands within *Sporadanthus*-dominated bogs. A distinctive upland form is known from the leaf litter within mainly beech forests, and what appears to have been this species once grew inland near Waiouru, on the Central Volcanic Plateau.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Libocedrus bidwillii* Hook.f. (1867)**

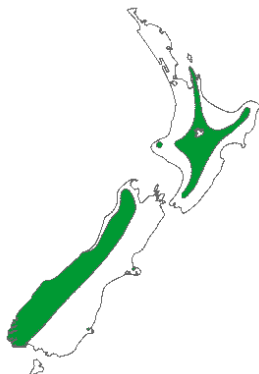


Common name (if one): kaikawaka, Pahau kokako, Pahautea, Cedar (NZ), New Zealand cedar (English)

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#) family: [Cupressaceae](#) genus: [Libocedrus](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to 20 m., trunk up to 1 m. diam., bark falling in narrow thin strips. Branchlets distichous, of juveniles somewhat flattened up to 3 mm. broad, of adults tetragonous. Lvs quadrifarious; lateral in juveniles about 3 mm. long, dorsal and ventral c.1 mm.; in adults all lvs subsimilar, triangular, appressed, acute, c. 2 mm. long. Male strobili c. 2.5 mm. long, sporophylls 7-9, pend., apiculus thin, ovate. Female cones ovoid < 1 cm. long of 4 carpidia with projecting, dorsal, curved mucro. Seeds 2.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Montane to subalpine forests from lat. 36° 50' southwards. In S. also lowland in western forest.



Distribution overseas (if any):

Environmental factors and limitations: Montane to subalpine (250-1200 m.a.s.l.) but exclusively upper montane in northern part of range. Usually in mixed cloud forest, often at the margins where forest grades into subalpine scrub or wetlands. This species seems to prefer regions of moderate to high rainfall and long periods of cloud cover.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Libocedrus plumosa* (D.Don) Sarg.**



Common name (if one): Kahikawaka, kaikawaka, Kawaka, Mokopiko, Cedar (NZ) (English), New Zealand cedar

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#) family: [Cupressaceae](#) genus: [Libocedrus](#)

Names: [Libocedrus doniana](#) (Hook.) Endl. (1847)

- [Libocedrus plumosa](#) (D.Don) Sarg. (preferred)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to 25 m., trunk up to 12 dm. diam., bark falling in narrow thin strips. Branchlets distichous, of juveniles flattened, up to 7 mm. broad; of adults less compressed up to 3 mm. broad. Lvs quadrifarious; lateral up to 5 mm. long, connate, sheathing, spreading; dorsal and ventral up to 2.5 mm. long, triangular, subappressed. Male strobili 5-8 mm. long, linear; sporophylls 8-12, apiculus thin, ovate, subpeltate. Female cones ovoid 1-1.5 cm. long of 4 carpidia with projecting dorsal curved mucro. Seeds 2.

Libocedrus bidwillii Hook.f. is some what similar but within the range of *L. plumosa* it is confined to montane cloud forests (> 600 m.a.s.l.). It differs by the more or less quadrangular ultimate

branchlets, nearly monomorphic leaves, and by the bracts subtending the cone bracts being less than or about 1/3 the size of the actual cone scales.

Distribution in NZ (location if specific and habitat associated): DIST.: N. Lowland forest from lat. 35° to beyond 38° S., between Collingwood and Westhaven (N. W. Nelson). Endemic. North and South Islands. In the North present from Te Pahi (Radar Bush) south to about the southern Kawhia Harbour (in the west) and near Gisborne (in the East), thence disjunct to north-west Nelson, where it grows locally around the Golden Bay area from about Puhanga south to the Anatoru River. Coastal to lowland mixed broadleaf/hardwood forest. Often found in association with kauri (*Agathis australis* (D.Don.) Lindl.). Often on ridge lines, spurs, or forming apparently even-aged cohorts in sites of former major disturbance, such as in or around stabilised slips, slumps, or areas of major wind throw damage. This species tends to colonise more fertile soils and soils overlying high fertility (base-rich) substrates.



Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Lophomyrtus obcordata (Raoul) Burret



Common name (if one): Rōhutu, rōutu, Tuhuhi, New Zealand myrtle

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Myrtales](#) family: [Myrtaceae](#) genus: [Lophomyrtus](#)

Synonyms: • [Lophomyrtus obcordata \(Raoul\) Burret](#) (preferred)
[Myrtus obcordata \(Raoul\) Hook.f. \(1852\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Shrub up to c. 5 m. tall, with spreading branches; branchlets subterete, ± pubescent. Lvs sts fascicled, on puberulous petioles hardly 1 mm. long; lamina ± 5-10 × 5-10 mm., obcordate, cuneately narrowed to base, glab. except sts when young. Fls axillary, solitary, ± 6 mm. diam., on very slender pubescent peduncles ± 10-20 mm. long. Receptacle adnate to ovary, ± gland-dotted; sepals oblong, acute, pubescent; petals white, suborbicular. Berry broad-ovate c. 6-7 × 5 mm., bright to dark red, occ. violet. Seeds reniform, testa hard.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Coastal to lowland forest from lat. 35° southwards, rather local.

Distribution overseas (if any): *Lophomyrtus x ralphii* - (Hook.f.)Burret. listed as 'Plants are scarcely hardy at Kew but they succeed outdoors in the milder parts of the country. [11] Bean. W. Trees and Shrubs Hardy in Great Britain. Vol 1 - 4 and Supplement. Murray 1981'
<http://www.pfaf.org/database/plants.php?Lophomyrtus+x+ralphii>

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Macropiper excelsum* (G.Forst.) Miq. (1843)**



Macropiper excelsum excelsum



Macropiper excelsum peltatum

Common name (if one): Kawa, Kawakawa, Pepper tree (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Piperales](#) family: [Piperaceae](#) genus: [Macropiper](#)

Synonyms : • [Macropiper excelsum \(G.Forst.\) Miq. \(1843\)](#) (preferred)
[Piper excelsum](#) Forst.f. (1786)

Subordinate Taxa: [Macropiper excelsum \(G.Forst.\) Miq. subsp. excelsum](#)
[Macropiper excelsum subsp. peltatum R.O.Gardner](#)
[Macropiper excelsum subsp. psittacorum \(Endl.\) Sykes](#)
[Macropiper excelsum var. major \(Cheeseman\) Allan = Macropiper excelsum subsp. psittacorum \(Endl.\) Sykes \(1992\)](#)
[Macropiper excelsum var. psittacorum \(Endl.\) Laing = Macropiper excelsum subsp. psittacorum \(Endl.\) Sykes \(1992\)](#)
[Macropiper excelsum f. psittacorum \(Endl.\) A.C.Smith = Macropiper excelsum subsp. psittacorum \(Endl.\) Sykes \(1992\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Aromatic glab. shrub or tree up to 6m. tall; branches ± zigzag, jointed and swollen at nodes, dark. Lvs opp., on petioles 1-4 cm. long, with adnate stipules; lamina entire, subcoriac., dark to yellowish green, 5-10 × 6-12 cm., broad-ovate to suborbicular, cordate at base, sinus narrow to open; rather abruptly narrowed to obtuse tip; 5-7-(9) sub-palmately nerved. Spikes unisexual, solitary or paired, 2-8 cm. long on peduncles ± 1 cm. long. Fls minute, sessile, very close-set; bract orbicular-peltate; ♂ of 2-(3) stamens, ♀ with 3-(4) stigmas. Drupes very close-set, 2-3 mm. diam., ± angled; exocarp succulent, yellow to orange, broadly obovoid.

Distribution in NZ (location if specific and habitat associated): DIST.: Lowland forest: N., S. to Banks Peninsula and Okarito. *Macropiper excelsum*, is a small tree of which the subspecies *M. excelsum* subsp. *excelsum* is [endemic](#) to [New Zealand](#); the subspecies *M. excelsum* subsp. *psittacorum* is found on [Lord Howe Island](#), [Norfolk Island](#) and the [Kermadec Islands](#).

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Melicope ternata* J.R.Forst. & G.Forst. (1775)**



Common name (if one): Houkūmara, Koheriki, Tākaka, Tātaka, Wharangi, Wharangipiro

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Sapindales](#) family: [Rutaceae](#) genus: [Melicope](#)

Names: [Entoganum laevigatum](#) Banks ex Gaertn. (1788)

• [Melicope ternata](#) J.R.Forst. & G.Forst. (1775) (preferred)

[Melicope ternata](#) var. [grandis](#) Cheeseman (1888)

Subordinate Taxa: [Melicope ternata](#) var. [grandis](#) Cheeseman = [Melicope ternata](#) J.R.Forst. & G.Forst. (1775)

[Melicope ternata](#) var. [mantellii](#) (Buchanan) Kirk = [Melicope mantellii](#) Buchanan (1871)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Glab. much-branched spreading shrub up to 6 m. tall; branchlets slender, pale yellow-green when young. Lvs opp., 3-foliolate, on petioles up to c. 5 cm. long; petiolules very short to 5 mm. long. Lamina thinly coriac., (5)-7-10 × (2)-3-4 cm., subacute to acute, obovate-cuneate to elliptic- to ovate- or obovate-oblong, entire (all forms may be on same plant). Subfloral lvs may be 2- to 1-foliolate. Infl. of often paired axillary cymes, ± trichotomously branched, on peduncles ± 2 cm. long; bracts minute, ovate; pedicels ± 5 mm. long. Fls perfect or unisexual, 8-10 mm. diam. Sepals ovate-oblong, c. 1.5 mm. long, gland-dotted; petals greenish, ovate-oblong,

concavo-convex, c. 5 mm. long, gland-dotted. Ovary glab., style short, stout. Disk annular, lobulate.. Cocci ± 5 mm. long, pale brown, wrinkled and punctulose. Seed ± 5 mm. long, black, glossy.

Distribution in NZ (location if specific and habitat associated): DIST.: K., Three Kings, N., S. Coastal to lowland forests, especially marginal, southwards to lat. 41° 30'. Wharangi.

Distribution overseas (if any): Noted as ‘An easily grown plant, but it only succeeds outdoors on a sunny wall in the warmest areas of Britain’ Taylor. J. *The Milder Garden*. Dent 1990, Thomas. G. S. *Ornamental Shrubs, Climbers and Bamboos*. Murray 1992 ISBN 0-7195-5043-2.

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other: Reports of gum being edible.

***Melicytus ramiflorus* J.R.Forst. & G.Forst. (1776)**



Common name (if one): Hinahina, Inaina, Inihina, Māhoe, Moeahu, Whiteywood (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Violales](#) family: [Violaceae](#) genus: [Melicytus](#)

Subordinate Taxa: [Melicytus ramiflorus subsp. ramiflorus](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to 10 m. or more tall; trunk up to 6 dm. or more diam., sts much-branched from near base; bark greyish white; branchlets brittle; wood soft, white. Lvs on slender petioles \pm 2 cm. long; lamina lanceolate-oblong to elliptic-oblong, 5-15 \times 3-5 cm., submembr., coarsely and obtusely serrate (sts obscurely toothed); apex acute to acuminate or obtuse (all forms may be found on same plant). Infl. of 2-10 fascicled fls on slender pedicels 5-10 mm. long; fascicles axillary or on branchlets below lvs. Fls 3-4 mm. diam.; bracts just below fls; calyx lobes minute; petals greenish yellow, obtuse. Anthers sessile, connective not produced, scale minute; stigma 4-6-lobed. Berry violet to dark blue or purplish, 4-5 mm. long, obovoid to subglobose; seeds 3-6.

Note - In former analyses, four subspecies of *M. ramiflorus* were recognised: subsp. *ramiflorus* of New Zealand, subsp. *oblongifolius* of [Norfolk Island](#), subsp. *fastigiata* of [Fiji](#) and subsp.

samoensis of [Samoa](#) and [Tonga](#). More recent studies, especially that by Art Whistler, have indicated that all these subspecies should be regarded as species in their own right.

Distribution in NZ (location if specific and habitat associated): DIST.: K., N., S., St. Lowland to montane light forest and margins through- out.

Distribution overseas (if any):

Environmental factors and limitations: Abundant small tree of coastal, lowland, and lower montane forests throughout the country.

Temperature:

Climate:

Soil type:

Pests:

Other:

Metrosideros excelsa Sol. ex Gaertn. (1788)



Common name (if one): Pohutukawa, NZ Christmas tree

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Myrtales](#) family: [Myrtaceae](#) genus: [Metrosideros](#)

Names: • [Metrosideros excelsa Sol. ex Gaertn. \(1788\)](#) (preferred)
[Metrosideros tomentosa A.Rich. \(1832\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to 20 m. tall; trunk up to 2 m. diam.; branches spreading; branchlets stout, tomentose. Lvs on short stout petioles; lamina (2.5)-5-10 × 2.5-3-5 cm., elliptic to oblong, acute or obtuse, coriaceous, thick, clad in white tomentum below (young plants occ. glab. below). Infl. of broad compound cymes with ∞ fls; pedicels stout, tomentose. Receptacle obconic; sepals deltoid; petals crimson, oblong. Stamens ∞, crimson, 3-4 cm. long. Ovary adnate to receptacle. Capsules 7-9 mm. long, tomentose, distinctly exserted, loculicidally 3-valved.

In New Zealand pohutukawa is most frequently confused with the Kermadec pohutukawa (*M. kermadecensis*) which is endemic to Raoul Island (Kermadec Island Group). This island endemic

differs by the smaller, rounder leaves, and much smaller inflorescences. It also has a tendency to sporadically flower throughout the year and on the NZ mainland at least it has a more erect, shrubby growth form, and rarely (if ever) makes a big tree.

Distribution in NZ (location if specific and habitat associated): DIST.: Three Kings, N. Coastal forest south to Poverty Bay and Urenui. Inland on shores of lakes of Volcanic Plateau.

Distribution overseas (if any): Pōhutukawa have been introduced to other countries with mild-to-warm climates, including south-eastern Australia; as well, they have naturalised on Norfolk Island. In coastal [California](#), they are a popular street and lawn tree; [San Francisco](#)'s Friends of the Urban Forest estimates that it is the third-most-commonly planted street tree in San Francisco over the last two decades. In parts of South Africa, the Pōhutukawa grows so well that it has become a nuisance, and is coming to be regarded as an [invasive species](#).

Environmental factors and limitations: Coastal forest and on occasion inland around lake margins. Also in the far north an occasional associate of kauri forest. In some northerly locations pohutukawa forms forest type in its own right - this forest is dominated by pohutukawa, other associates often include tawapou (*Pouteria costata*), kohekohe (*Dysoxylum spectabile*), puriri (*Vitex lucens*), karaka (*Corynocarpus laevigatus*), and on rodent-free offshore islands the frequent presence of coastal maire (*Nestegis apetala*), and milk tree (*Streblus banksii*) suggests that these species too may once have been important in mainland examples of pohutukawa forest.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Muehlenbeckia axillaris* (Hook.f.) Endl. (1848)**



Common name (if one): Pōhuehue, Creeping muehlenbeckia (English), Creeping pohuehue (English), Creeping Wire Vine, Maidenhair Vine, Mattress Vine

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#) order: [Polygonales](#) family: [Polygonaceae](#) genus: [Muehlenbeckia](#)

Names: • [Muehlenbeckia axillaris \(Hook.f.\) Endl. \(1848\)](#) (preferred)

[Muehlenbeckia axillaris \(Hook.f.\) Walp. \(Dec. 1848\) \(nom. inv.\)](#)

[Muehlenbeckia hypogaea Colenso \(1888\) \[1889\]](#)

[Polygonum axilaris Hook.f. \(1847\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Prostrate or occ. straggling shrub forming dense to open patches up to 1 m. or more across; stems and branches subterranean or creeping on surface, rooting at nodes where substratum favourable; branchlets slender, decumbent, ± pubescent. Lvs on slender petioles (1)-2-3-(5) mm. long; ochreae 2-3 mm. long, obliquely truncate. Lamina (2)-3-5-(10) mm. long or in diam., coriaceous, broad- to ovate-oblong to suborbicular, sts retuse; dark green above, paler below. Fls ± 4 mm. diam., solitary or paired (rarely up to 5 in a fascicle), axillary on slender pedicels. Tepals united to halfway, lobes narrow-triangular. ♀ with fimbriate stigmas; tepals white and succulent or dry in fr. (both forms may occur on same plant.) Fr. ± 3 × 1.75 mm., trigonous, somewhat glossy, black.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Montane to lower subalpine riverbeds, gravelly and rocky places and open grassland from lat. 38° southwards.

Distribution overseas (if any): Reported as also native to Australia in Tasmania, Victoria and N.S.W.

<http://www.gisparks.tas.gov.au/ThreatenedFloraCD/Muehlenbeckia%20axillaris.pdf>
<http://plantnet.rbgsyd.nsw.gov.au/cgi-bin/NSWfl.pl?page=nswfl&lvl=sp&name=Muehlenbeckia~axillaris>

Reported as: 'Plants are not hardy outside the milder areas of Britain, but given a position sheltered from cold drying winds they tolerate temperatures down to about -15°C' **Huxley, A.** *The New RHS Dictionary of Gardening*. 1992. MacMillan Press 1992 ISBN 0-333-47494-5

http://www.ibiblio.org/pfaf/cgi-bin/arr_html?Muehlenbeckia+axillaris

Noted as grown in Clayton, California, Garberville, California, Orlando, Florida, Oviedo, Florida, Marine City, Michigan, Madison, Mississippi, Kure Beach, North Carolina, Austin, Texas

<http://davesgarden.com/pf/go/58078/index.html>

Also noted as having been introduced to Hawaii

<http://plants.usda.gov/java/profile?symbol=MUAX2>

Environmental factors and limitations: The plant prefers light (sandy), medium (loamy) and heavy (clay) soils and requires well-drained soil. The plant prefers acid, neutral and basic (alkaline) soils. It can grow in semi-shade (light woodland) or no shade. It requires moist soil.

http://www.ibiblio.org/pfaf/cgi-bin/arr_html?Muehlenbeckia+axillaris

Reported growth zones in the USA: **Hardiness Zones:** 6-10 **AHS Heat Zones:** 10-6

<http://www.yoder.com/wrseasonalsensation.pdf>

Temperature:

Climate:

Soil type:

Pests:

Other:

***Myrsine australis* (A.Rich.) Allan**



Common name (if one): mapau , Red mapou (English), Red matipo

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Primulales](#) family: [Myrsinaceae](#) genus: [Myrsine](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Shrub or tree up to ± 6 m. tall; bark dark, red on younger branches and on branchlets. Lvs on rather stout petioles up to ± 5 mm. long. Lamina $\pm 3-6 \times 1.5-2.5$ cm., coriaceous, glab. except on midvein, oblong to obovate-oblong to broad-elliptic, obtuse; margins strongly undulate, flat or nearly so in some forms. Infl. of \pm crowded fascicles. Fls. c. 1.5-2.5 mm. diam., whitish, unisexual, on short pedicels. Calyx-lobes 4 or obsolete, persistent. Petals 4, free, revolute; ♂ with 4 stamens, anthers large, ovary vestigial; ♀ with sterile anthers; stigma \pm sessile, fimbriate. Fr. c. 2-3 mm. diam., dark brown to black when mature.

Distinguished from all other New Zealand *Myrsine* by the small, purple/wine-red blotched or spotted, strongly undulating obovate-oblong to broad-elliptic leaves.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Lowland to montane forest, especially marginal, and shrubland, throughout, \pm local.

Distribution overseas (if any):

Environmental factors and limitations: Common tree of regenerating and mature forest in coastal to montane situations. Often common on northern offshore islands

Temperature:

Climate:

Soil type:

Pests:

Other:

Nothofagus Blume (1851)

General Information

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Fagales](#) family: [Nothofagaceae](#) genus: [Nothofagus](#)

Nothofagus has a broad distribution in the Southern hemisphere, Ridley et al. 2000 summarised the species distribution as:

New Zealand	<i>Nothofagus fusca</i> <i>Nothofagus menziesii</i> <i>Nothofagus solandri</i> <i>Nothofagus truncata</i>
Australia	<i>Nothofagus cunninghamii</i> <i>Nothofagus gunnii</i> <i>Nothofagus moorei</i>
South America	<i>Nothofagus alessandri</i> <i>Nothofagus alpina</i> <i>Nothofagus antarctica</i> <i>Nothofagus betuloides</i> <i>Nothofagus dombeyi</i> <i>Nothofagus glauca</i> <i>Nothofagus leoni</i> <i>Nothofagus obliqua</i> <i>Nothofagus pumilio</i> <i>Nothofagus nitidia</i>

Nothofagus antarctica (G.Forst.) Oerst. (1871)

Common name (if one): Antarctic beech (English), Nire (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Fagales](#) family: [Nothofagaceae](#) genus: [Nothofagus](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it):

Distribution in NZ (location if specific and habitat associated): Sometimes present, Exotic (Casual). Only one record from - Whataroa (I35) (1 record)

Distribution overseas (if any): South America

Environmental factors and limitations:

Pests:

Other:

***Nothofagus fusca* (Hook.f.) Oerst.**



Common name (if one): Hutu, Hututawai, Raunui, Tawai, Tawhai, red beech (English)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Tree up to 30 m. tall; trunk up to 2 m. or more diam., often strongly buttressed.

Lvs rather thin, coriaceous, 20-40 × 15-25 mm., on petioles up to 4 mm. long; lamina glab. except on veins below, broad-ovate to ovate-oblong, coarsely, rather deeply sharply serrate with 6-8 pairs of teeth; venation distinct; fringed domatia 1-2 in basal vein axils. Staminate infls 1-8 per branchlet; peduncles glab., up to 4 mm. long, bearing 1-3 or rarely 5 subsessile fls. Per. 5 mm. long, campanulate; shallowly obtusely 5-lobed, sparsely to rather densely pubescent. Stamens 8-11; anthers 3 mm. long, red, yellow, or stramineous. Pistillate infls 1-5 per branchlet, sessile, ovoid to globose, 3 mm. long, glabrate, us. 3-fld. Lateral fls trimerous, terminal dimerous; stigmas ligulate, distinctly bilobed. Cupule pubescent, 4-partite; segs attenuate, up to 10 mm. long; glands between segs and bracts. Nuts 7 mm. long, triquetrous or flat; wings broad at base, attenuate.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland to montane forest from lat. 37° southwards, except Mount Egmont.

Distribution overseas (if any):

Environmental factors and limitations:

Pests:

Other:

***Nothofagus menziesii* (Hook.f.) Oerst.**



Common name (if one): Tawai, Tawhai, silver beech (English)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Tree up to 30 m. tall; trunk up to 2 m. diam., often buttressed; branchlet-pubescent fulvous. Lvs thick, coriaceous, rigid; 6-15 × 5-15 mm., on petioles 2-3 mm. long; lamina glab. except on veins below, broad-to deltoid-ovate to suborbicular, doubly crenate, cuneate at base; venation rather obscure; fringed domatia 1-2 in basal vein-axils. Staminate infls 1-4 per branchlet; peduncles 2-3 mm. long, sparsely pubescent, with 1 terminal fl. Per. 5-6 mm. diam., of 2 unequal lobes, each again 2-3-partite. Stamens 30-36; anthers 2-3 mm. long, red above, greenish below, or stramineous. Pistillate infls 1-4 per branchlet, 3-2-fl'd, on short densely pubescent peduncles. Lateral fls trimerous, terminal dimerous or aborted; stigmas ligulate. Cupule 6-7 mm. long, 4-segmented, with 4-5 rows of gland-tipped processes, subtended by 2 foliaceous bracts. Nuts puberulous, 5 mm. long; lateral triquetrous, 3-winged; terminal flat, 2-winged; wings produced above, gland-tipped.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland to montane forest or as shrub in subalpine scrub, from lat. 37° southwards, except Mount Egmont.

Distribution overseas (if any):

Environmental factors and limitations:

Pests:

Other:

Nothofagus solandri (Hook.f.) Oerst.



Nothofagus solandri var. *cliffortioides*
(mountain beech) left

Nothofagus solandri var. *solandri*
(black beech)

Common name (if one): Tawai rauriki, Black beech (*N. solandri* var. *solandri*) (English)
Mountain beech (*N. solandri* var. *cliffortioides*) (English)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to 25 m. tall; trunk up to 1 m. or more diam. Lvs coriaceous, 10-15 × 5-10 mm., on petioles 1-2 mm. long; lamina narrow-to elliptic-oblong, obtuse, obliquely cuneate at base, often apiculate; glab. or nearly so above, clad in dense greyish white tomentum below; venation us. distinct on both surfaces. Domatia absent. Staminate infls 1-4 per branchlet, on short sparsely pubescent peduncles; fls 1-2, sessile. Per. Broad-campanulate, 2 × 3 mm., shallowly obtusely 4-5-lobed; stamens 8-17, anthers 2-3 mm. long, dark red. Pistillate infls ovoid, 1-2 per branchlet, pubescent-pilose, sessile; fls 1-3. Lateral fls trimerous, terminal dimerous; stigmas clavate. Cupule 6-7 mm. long, glab. to pubescent, 3-partite. Nuts up to 7 mm. long; wings broad at base, narrowed to apex.

Nothofagus solandri var. *cliffortioides* (mountain beech) very close to *N. solandri* var. *cliffortioides* (black beech) from which it differs by the ovate leaves with acute to subacute apices, obscure leaf venation and by the glabrous ovary of the flower. Appears to prefer drier conditions than black beech, and has a greater altitudinal range, though it is often sympatric with black beech. Nevertheless, many botanists prefer to regard it is a variety of black beech, some even disregard it altogether preferring to treat mountain and black beech as the one species *N. solandri*.

Distribution in NZ (location if specific and habitat associated): *Nothofagus solandri*- N., S. Lowland and montane forest from lat. 38° to 44°, except Mount Egmont. *Nothofagus solandri* var. *cliffortioides* (mountain beech) - North, South Islands. Common from the Central Volcanic Plateau and adjacent main axial ranges of the North Island south. *Nothofagus solandri* var. *solandri* (black beech) - North, South Islands. Very rare north of the Central Volcanic Plateau and East Cape. Little Barrier Island appears to be the current northern limit.

Distribution overseas (if any):

Environmental factors and limitations: *Nothofagus solandri* var. *cliffortioides* (mountain beech) Montane forest and subalpine forest and scrub. Often forming a dense, almost monospecific forest especially along the main North Island axial ranges and along the drier, eastern side of the South Island. *Nothofagus solandri* var. *solandri* (black beech) - Lowland to montane forest. At times the canopy dominant and forming its own distinctive forest type.

Pests:

Other: *Nothofagus solandri* var. *cliffortioides* (mountain beech) is the main host for yellow mistletoe (*Alepis flavida*) and red mistletoe (*Peraxilla tetrapetala*).

***Nothofagus truncata* (Colenso) Cockayne**



Common name (if one): Hutu, Hututawai, Tawhai raunui, hard beech (English)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in

order to ID it): Tree up to 30 m. tall; trunk up to 2 m. diam. or more, often buttressed. Lvs thick, coriaceous, 25-35 × 20 mm., on petioles 2-3 mm. long; lamina glab. or nearly so, broad-ovate to elliptic-oblanceolate to subrotund, cuneate at base; coarsely, shallowly, bluntly serrate, with 8-12 pairs of teeth; venation distinct. Domatia very rare. Staminate infls 1-8 per branchlet; peduncles up to 10 mm. long, sparsely pubescent; fls 1-3, subsessile. Per. campanulate, 4 mm. long, shallowly obtusely 5-lobed. Stamens 10-13; anthers 3 mm. long, yellow or dark orange. Pistillate infls 1-5 per branchlet, sessile, ovoid, 2-3 mm. long, sparsely pubescent. Fls as in *N. fusca*, but stigmas less distinctly bilobed. Cupule up to 10 mm. long, 4-partite, segs acute, glands as in *N. fusca*. Nuts puberulous, 8 mm. long.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland and lower montane forest from lat. 35° to 42° 30', except Mount Egmont. Grows in lowland and lower montane forest from the north down to Marlborough and south Westland.

<http://cber.bio.waikato.ac.nz/courses/226/Fagaceae/Fagaceae.html>

Distribution overseas (if any):

Environmental factors and limitations:

Pests:

Other:

***Olearia paniculata* (J.R.Forst. & G.Forst.) Druce (1917)**



Common name (if one): Akepiro, Akiraho, Golden akeake (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Asterales](#) family: [Asteraceae](#) genus: [Olearia](#)

Names: [Eurybia forsteri](#) Hook.f. (1853)

[Olearia forsteri](#) (Hook.f.) Hook.f. (1867)

• [Olearia paniculata](#) (J.R.Forst. & G.Forst.) Druce (1917) (preferred)

[Olearia paniculata](#) var. *elliptica* Kirk (1899)

[Olearia paniculata](#) var. *obtusata* Kirk (1899)

[Olearia paniculata](#) var. *viscosa* G.Simpson (1945)

[Olearia uniflora](#) Colenso (1889) [1890]

[Shawia paniculata](#) J.R.Forst. & G.Forst. (1776)

Subordinate [Olearia paniculata](#) var. *elliptica* Kirk = [Olearia paniculata](#) (J.R.Forst. & G.Forst.)

Taxa: [Druce \(1917\)](#)

[Olearia paniculata](#) var. *obtusata* Kirk = [Olearia paniculata](#) (J.R.Forst. & G.Forst.)

[Druce \(1917\)](#)

[Olearia paniculata](#) var. *viscosa* G.Simpson = [Olearia paniculata](#) (J.R.Forst. &

[G.Forst.\) Druce \(1917\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub or tree up to 6 m. tall; branchlets grooved, angular, tomentose. Lvs 3-10 × 2-4 cm. including petiole up to 5 mm. long, elliptic- to ovate-oblong, coriaceous, glab. above, with thin appressed white to buff tomentum below, margins strongly undulate to almost flat. Capitula sessile, fascicled on slender branches of corymb; phyll. erect, imbricate, forming a narrow involucre, outer short, glab. or nearly so, ± viscid-glandular; florets solitary, tubular, perfect, whitish; achenes 2-3.5 mm. long, hardly compressed, slender, pubescent to pilose; pappus-hairs subequal, 3-6 mm. long.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland to lower montane shrubland and forest margins from lat. 37° 30' to Greymouth and Oamaru. Akiraho.

Distribution overseas (if any): U.K. reports - Plants are not very hardy outside the milder western and south-western maritime areas of Britain, they only tolerate light frosts[11, 200]. They succeed when grown against a sunny wall in the London area[11]. [11] **Bean. W.** *Trees and Shrubs Hardy in Great Britain. Vol 1 - 4 and Supplement.* Murray 1981 [200] **Huxley. A.** *The New RHS Dictionary of Gardening.* 1992. MacMillan Press 1992 ISBN 0-333-47494-5
http://www.ibiblio.org/pfaf/cgi-bin/arr_html?Olearia+paniculata

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Pellaea rotundifolia* (G.Forst.) Hook. (1858)**



Common name (if one): Tarawera, Button fern (English), New Zealand cliff brake (English), Round-leaved fern (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Pteridophyta](#) class: [Filicopsida](#)
family: [Pteridaceae](#) genus: [Pellaea](#)

Names: [Allosorus rotundifolia](#) (G.Forst.) Kunze (1850)
▪ [Pellaea rotundifolia](#) (G.Forst.) Hook. (1858) (preferred)
[Platyloma rotundifolia](#) (G.Forst.) J.Sm. (1841)
[Pteris rotundifolia](#) G.Forst. (1786)

Subordinate Taxa: [Pellaea rotundifolia var. oblongifolia](#) Hook. = [Pellaea](#) Link (1841)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Rhizome rather stout, creeping, clad when young in brown linear-attenuate paleae c.3mm.long; stipites clustered along rhizome. Stipes stout, erect to procumbent, 5-15 cm. long, densely clad in dark reddish brown, squarrose, bristly paleae mingled with hairs. Rhachis similar to stipes, bearing numerous (up to 30 or more pairs) subopp. to alt. pinnae. Lamina narrow-oblong, coriaceous, glab. or nearly so, 15-30-(40) × 2-4cm., dull dark green above, paler below; veins hidden.

Pinnae patent, narrow-oblong to oblong to suborbicular, shortly stalked or upper sessile (rarely all sessile by widened base), rounded to truncate or subcuneate at base, obtuse but us. apiculate at apex; 1-2 cm. × 5-15 mm.; margins ± crenulate, on barren pinnae often irregularly and very shallowly lobed or subpandurate. Sori becoming coalescent in broad band near margins, not reaching base or apex of pinna, at first ± protected by reflexed margin of pinna, up to c. 1.5 cm. × 2 mm.

Distribution in NZ (location if specific and habitat associated): DIST.: Three Kings, N., S., Ch. Coastal to montane forest and rocky places (these often reduced) throughout. Also Norfolk Id and Australia. Forster's diagnosis is: "frondibus pinnatis hispidis: pinnis suboppositis subrotundis, obsolete crenatis."

Distribution overseas (if any): This species on sale in California and is also said to grow in El Cerrito, California, Hollywood, Florida, Conway, South Carolina, Kalama, Washington

<http://www.plantsafari.com/Catalog2/Detail/00880.html>

<http://davesgarden.com/pf/go/54037/index.html>

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

Phormium cookianum Le Jol. (1848)



Common name (if one): Kōrari-tuauru, Wharariki, Coastal flax (English), Flax (English), Mountain flax (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#) order: [Liliales](#) family: [Agavaceae](#) genus: [Phormium](#)

Names: [Phormium colensoi](#) Hook.f. (1864)
▪ [Phormium cookianum](#) Le Jol. (1848) (preferred)

Subordinate Taxa: [Phormium cookianum](#) Le Jol. subsp. [cookianum](#)
[Phormium cookianum](#) subsp. [hookeri](#) (Hook.f.) Wardle
[Phormium cookianum](#) 'Whakaari'
[Phormium cookianum](#) 'Wharariki'

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Leaves mostly < 2 m. long, not so stiff as in [P. tenax](#) and inclined to droop; butt us. pale. Infl. to c. 2 m. tall; peduncle c. 2–3 cm. diam., often inclined, dark, terete, glab. Fls 2.5–4 cm. long, us. predominantly greenish, often with tones of orange or yellow; tips of inner tepals us. markedly recurved, one us. more than the other two. Ovary erect, but carpels sts twisted in half

turn from base to tip. Capsule often > 10 cm. long, occ. to 20 cm., pendulous, almost circular in T.S., gradually narrowed to tip, twisted and becoming pale, fibrous, and more spirally curled in age. Seeds c. 8–10 mm. long, very like those of *P. tenax*. $2n = 32$.

Distinguished from *Phormium tenax* by the pendulous, twisted capsules. Differing from subsp. *cookianum* by the longer, "floppy" uniformly olive green leaves which lack the dark-pigmented band present on the leaf lamina of subsp. *cookianum*. In the wild this is primarily a plant of cliff faces, boulder fields and talus slopes. It also often grows within grey-scrub. Very rarely it is sympatric with subsp. *cookianum*.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St.

Distribution overseas (if any):

Environmental factors and limitations: Coastal cliffs to mountain slopes. locally dominant on shady faces in high country.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Phormium tenax* J.R.Forst. & G.Forst. (1776)**



Common name (if one): Harakeke, Harareke, Kōrari, Flax (English), Lowland flax (English), New Zealand flax (English), Swamp flax (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#) order: [Liliales](#) family: [Agavaceae](#) genus: [Phormium](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Lvs 1–3 m. × 5–12 cm., stiff and ± erect, at least in lower part; butt heavy and us. brightly coloured. Infl. to 5–(6) m. tall; peduncle c. 2–3 cm. diam., us. erect, dark, terete, glab. Fls 2.5–5 cm. long, predominantly dull red; tips of inner tepals only slightly recurved. Ovary erect; carpels straight. Capsule us. < 10 cm. long, often much less, erect, trigonous, abruptly contracted to tip, not twisted, remaining firm and dark in age. Seeds c. 9–10 × 4–5 mm., ± elliptic, plate-like but ± twisted. 2n = 32.

Could only be confused with the so called mountain flax (*Phormium cookianum*) from which it is easily distinguished by the erect rather than pendulous seed pods

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St., Ch., A.

Distribution overseas (if any): A widespread species, for sale in Europe and North America, especially coloured cv.s. Also grown commercially in South Africa as an industrial fibre source.

Environmental factors and limitations: Abundant, especially in lowland swamps and intermittently flooded land.

Temperature:

Climate:

Soil type:

Pests:

Other:

Phyllocladus trichomanoides D.Don



Common name (if one): Ahotea, Nīko, tanekaha, Tānekaha, Tāwaiwai, Toatoa

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#)
family: [Phyllocladaceae](#) genus: [Phyllocladus](#)

Names: [Phyllocladus aff. trichomanoides \(AK 138439; Surville Cliffs\) \(1999\)](#)
([nom. inv.](#))

- [Phyllocladus trichomanoides D.Don](#) (preferred)

Subordinate Taxa: [Phyllocladus trichomanoides var. trichomanoides](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Monoec. tree up to 20 m., trunk up to 1 m. diam.; phylloclades alt., pinnately arranged on whorled rachides up to 3 dm. long. Lvs of juveniles up to 2 cm. long, narrow-linear, deciduous; of adults much smaller. Phylloclades 10-15 per rachis, irregularly and broadly rhomboid, flabellately lobed, cuneate at base; lobes obtuse to truncate, margins minutely crenulate; lf-denticles small, subulate, 1-5-3 mm. long, up to 1-5 mm. wide. Male strobili terminal in clusters of 5-10, pedicels 3-10 mm. long; staminal portion c. 1 cm. long, apiculus small, triquetrous;

carpidia rather thick, marginal on reduced final phylloclades up to 3 cm. long, in clusters of 6-8; seeds nutlike, exserted beyond irregularly crenulate cupule, c. 3 mm. long.

It is readily distinguished from *P. toatoa* by the size of the phylloclades, which are much larger on *P. toatoa*. <http://www.conifers.org/po/ph/trichomanoides.htm>

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland forest, N. Cape to lat. 40° in N., and northern Marlborough and Nelson, extending to nearly lat. 42° on west.

Distribution overseas (if any):

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Pittosporum crassifolium* Banks & Sol. ex A.Cunn.**



Common name (if one): Kaikaro, Karo, Kīhihi, Stiffleaf Cheesewood

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Rosales](#) family: [Pittosporaceae](#) genus: [Pittosporum](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub or tree up to 9 m. tall, bark dark brown; branches erect to ascending, sts almost fastigate; branchlets, lvs below, petioles and peduncles densely clad in white to buff subappressed tomentum (sts ferruginous in aged herbarium specimens). Lvs alt., very coriaceous, lamina 5-7-(10) × 2-2.5 cm., on stout petioles up to 2 cm. long, obovate-cuneate to obovate-elliptic to narrow-obovate, margins revolute. Fls functionally unisexual, in terminal umbels of 5-10 ♂ or 1-2 ♀. Sepals subulate to oblong-lanceolate, tapering, tomentose, c. 6 mm. long, petals narrow-oblong, c. 1 cm. long, dark red. Capsules subglobose to ovoid, tomentose, 2-3 cm. long, on stout decurved peduncles up to 1.5 cm. long; valves 3 or rarely 4, thick, woody.

Pittosporum fairchildii Cheeseman is somewhat similar, differing from *P. crassifolium* by its glabrate rather than heavily tomentose foliage and capsules, both being sparsely covered in brownish tomentum. Furthermore the capsules of *P. fairchildii* are green to yellow-green rather than grey-black when mature, somewhat fleshy rather than woody, sparsely covered in brown

tomentum rather than densely covered in grey-white tomentum and unlike *P. crassifolium* they scarcely (if ever) open, tending to fall intact from the tree.

Distribution in NZ (location if specific and habitat associated): DIST.: K., N. Forest margins and streamsides: North Cape to Poverty Bay.

Distribution overseas (if any): Listed as an introduced plant to California

<http://plants.usda.gov/java/profile?symbol=PICR>

Environmental factors and limitations: Coastal and offshore islands. Favouring steep slopes, cliff faces, boulder beaches, rock stacks and the margins of petrel burrowed land. Sometimes forms major canopy dominant on offshore islands, and on occasion can be a significant component of dune forest. Often an urban weed because its fruits/seeds are avidly taken by indigenous and exotic birds and dispersed widely.

Pests:

Other: This plant contains saponins[153]. Saponins are found in many foods, such as some beans, and although they are fairly toxic to people they are poorly absorbed by the body and most pass straight through without any problem. They are also broken down if the food is thoroughly cooked for a long time. Saponins are much more toxic to some creatures, such as fish, and hunting tribes have traditionally put large quantities of them in streams, lakes etc in order to stupefy or kill the fish <http://www.pfaf.org/database/plants.php?Pittosporum+crassifolium>

***Pittosporum eugenioides* A.Cunn.**



Common name (if one): Kīhihi, Tarata, Lemonwood (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Rosales](#) family: [Pittosporaceae](#) genus: [Pittosporum](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Polygamodioec. tree with spreading branches, up to 12 m. tall, trunk up to 6 dm. diam., bark pale. Lvs alt., often approximate, 5-10-(15) × 2.5-4 cm., on rather slender petioles 1-2 cm. long. Lamina subcoriac., glossy, scented, elliptic to elliptic-oblong, acute to subacute, narrowed to petiole; margins us. undulate, midrib pale. Fls fragrant, in terminal compound umbels, subcorymbosely arranged. Peduncles and pedicels with scattered hairs; peduncles 1-2 cm. long, pedicels c. 5 mm. long. Sepals ovate to narrow-ovate, pale, membr., c. 2 mm. long; petals narrow-oblong, yellowish, 5-7 mm. long. Capsules glab., finely granulate, ovoid to elliptic in outline, 5-6 mm. long; valves 2 or sts 3; seeds immersed in viscid pulp, remaining ± covered by papery endocarp at dehiscence.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland to montane forest throughout.

Distribution overseas (if any): Not very hardy in Britain, tolerating temperatures down to about -5°C[200]. Plants succeed outdoors in Cornwall, though they need greenhouse protection in other

parts of the country[1]. [200] **Huxley. A.** *The New RHS Dictionary of Gardening.* 1992. MacMillan Press 1992 ISBN 0-333-47494-5. [1] **F. Chittendon.** *RHS Dictionary of Plants plus Supplement.* 1956 Oxford University Press 1951. http://www.ibiblio.org/pfaf/cgi-bin/arr_html?Pittosporum+eugenioides

Photograph of specimen in Ireland at at Mount Stewart (National Trust, Co. Down).
<http://www.habitas.org.uk/gardenflora/tarata.htm>

Environmental factors and limitations: Common tree of regenerating and mature forest in coastal to montane situations.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Pittosporum tenuifolium* Sol. ex Gaertn. (1788)**



Common name (if one): Black matipo (English), Kohuhu.

Taxonomic info (basic): kingdom: *Plantae* Division: *Magnoliophyta* class: *Magnoliopsida*
order: *Rosales* family: *Pittosporaceae* genus: *Pittosporum*

Synonyms *Trichilia monophylla* Richard,

: *Pittosporum fasciculatum* Hook.f.,

Pittosporum tenuifolium subsp. *fasciculatum* (Hook.f.) Kirk,

Pittosporum tenuifolium var. *fasciculatum* (Hook.f.) Kirk,

Pittosporum colensoi var. *fasciculatum* (Hook.f.) Cheeseman

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to ± 8 m. tall; trunk up to 3-(4) dm. diam.; bark dark; branchlets and young lvs ± pubescent. Lvs alt., on short petioles. Lamina oblong to oblong-ovate to elliptic-obovate, obtuse to acute or occ. acuminate, (1)-3-(7) × (0.5)-1-2 cm., entire, thinly coriaceous, ± undulate; us. rather pale green above, lighter below. Fls somewhat fragrant, axillary, solitary or in small cymes on short pedicels; bracts soon falling. Sepals narrowly ovate-oblong, subacute to obtuse, silky-hairy when young. Petals very dark red (almost black), ± 12 mm. long; limb spreading, at length reflexed. Ovary hairy, style rather long, Capsules ± 12 mm. diam., 2-valved, subglobose; valves glab., rugulose when mature, thinly woody, nearly black when mature.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Common from near North Cape southwards in coastal to lower montane forest, absent west of divide in S.

Distribution overseas (if any): Popular overseas, for example: Glasnevin National Botanic Garden, Dublin, plant list, June 2003 <http://www.botanicgardens.ie/nbg/arealsts/n8.pdf>

Environmental factors and limitations: A small tree of coastal to montane shrubland and forested habitats. Preferring successional habitats.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Podocarpus nivalis* Hook.**



Common name (if one): Tauhinu, Mountain totara (English), Snow totara (English)

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#)
family: [Podocarpaceae](#) genus: [Podocarpus](#)

Names: • [Podocarpus nivalis](#) Hook. (preferred)

[Podocarpus nivalis](#) var. [erectus](#) Cockayne

Subordinate Taxa: [Podocarpus nivalis](#) var. [erectus](#) Cockayne = [Podocarpus nivalis](#) Hook.

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Prostrate shrub with wide-spreading branches, or suberect up to 3 m. tall, with slender trunk. Lvs close set, spirally arranged, erect or sub-patent, rigid, coriaceous, margins thickened, linear-oblong, obtuse, ± apiculate, midvein prominent, 0.5-1.5 cm. × 2-4 mm. Male strobili axillary, 0.5-1.5 cm. long (on peduncle 3-5 mm. long) solitary or up to 4 per peduncle, apiculus obtuse. Female branchlet axillary, peduncle 3 mm. long, receptacle of two acute, red, swollen bracts. Seeds solitary ovoid, 3.5-5.5 mm. long, obtusely pointed, nutlike.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Upper forest margins and subalpine scrub from lat. 36° 50' southwards, also lowland forest in Westland.

Distribution overseas (if any): Noted as grown in the USA for example – ‘Plant this useful evergreen in sun, part shade or shade in well-drained soil. It resents heavy clay soil or waterlogged sites. It is very easy to grow. Seattle gardener Elisabeth Miller (1914 to 1994) used this understated shrub extensively in her garden as a “link plant,” to tie a wide variety of plantings together into a cohesive unit. It is drought tolerant once established.’ Elisabeth Carey Miller

Botanical garden

<http://www.greatplantpicks.org/index.php?page=display&id=2744&searchterm=all>

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests: Subject to a fungal leaf spot disease caused by *Corynelia tropica* ([Hood 1985](#)).

Hood, I.A. 1985. Algal and fungal leaf spots of native plants. New Zealand Forest Service, Forest Pathology in New Zealand No. 12.

Other:

***Podocarpus totara* G.Benn. ex D.Don**



Podocarpus totara var. *totara*



Podocarpus totara var. *totara*

Common name (if one): Totara

Taxonomic info (basic): kingdom: [Plantae](#) phylum: [Pinophyta](#) class: [Pinatae](#) order: [Coniferales](#)
family: [Podocarpaceae](#) genus: [Podocarpus](#)

Subordinate Taxa: [Podocarpus totara G.Benn. ex D.Don var. totara](#)
[Podocarpus totara var. waihoensis Wardle](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): *Podocarpus totara* var. *totara* Robust dioecious conifer up to 30 m tall. Trunk stout, 2-3 m diam., clad in thick, corky, furrowed and somewhat stringy reddish-grey bark. Trunk without branches at base, branches stout, erect to spreading. Leaf bud narrower than or the same diam., as branchlet, surrounded by caducous, papery, narrowly lanceolate bracts. Leaves brownish-green, erect, leathery; juvenile 20 x 1-2 mm, adults 15-30 x 3-4 mm., linear-lanceolate, acute, apex pungent, mid-vein distinct to obscure. Male cones (strobili) axillary 10-15 mm, solitary or in 4s. Female branchlets axillary, ovules solitary or paired, receptacle of 2-4 scales, acute and free at tips, maturing as a red, swollen, succulent, sweet tasting "fruit" this surmounted by a 1(-2) broadly elliptic, ovoid-oblong 3-6 mm, semi-glossy, buff, grey nut brown, henna or dark brown (green to glaucous-green) when fresh, seed.

Most frequently confused with *Podocarpus cunninghamii* (*P. hallii*) with which it may co-occur and with which it frequently hybridises. From that species *P. totara* var. *totara* can be distinguished by its thicker bark, less pungent leaf tips, and most readily by the leaf bud which is the same diameter as the branchlet, and by the narrower, lanceolate bracts surrounding the emergent leaves.

Distribution in NZ (location if specific and habitat associated): *Podocarpus totara* var. *totara*
Widespread and at times abundant tree of lowland, montane and lower subalpine forest. May also form a vegetation type in which it is the dominant species. *Podocarpus totara* var. *waihoensis*
Endemic. Confined to the West Coast of the South Island, from about the Waiho River south to the Cascades.

Distribution overseas (if any): The tōtara is very closely related to [Podocarpus nubigenus](#) from [South America](#), to the extent that if planted together, they are very difficult to distinguish. The best distinction is the grey-green tone of the leaves, compared to the slightly brighter green of *P. nubigenus*. http://en.wikipedia.org/wiki/Podocarpus_totara

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Pseudopanax arboreus* (Murray) Philipson (1965)**



Common name (if one): Houhou, Five-finger (English), whauwhaupaku

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Apiales](#) family: [Araliaceae](#) genus: [Pseudopanax](#)

Names: [Neopanax arboreus](#) (Murray) Allan (1961)
[Nothopanax arboreus](#) (G.Forst.) Seem. (1866)
[Nothopanax arboreus](#) (Murray) Seem. (1866)
[Panax arboreus](#) Murray (1774)
[Panax arboreus](#) Murray var. *arboreus* (1774)
▪ [Pseudopanax arboreus](#) (Murray) Philipson (1965) (preferred)
[Pseudopanax arboreus](#) (Murray) Philipson var. *arboreus* (1965)

Subordinate Taxa: [Pseudopanax arboreus](#) var. *arboreus* = [Pseudopanax arboreus](#) (Murray) Philipson (1965)
[Pseudopanax arboreus](#) var. *kermadecensis* (W.R.B.Oliv.) Sykes =
[Pseudopanax kermadecensis](#) (W.R.B.Oliv.) Philipson (1965)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree, us. dioec., up to 8 m. tall, glab. in all parts; branches stout, spreading. Lvs 5-7-foliolate, petioles c. 15-20 cm. long, stipulately sheathing at base. Lflts on petiolules c. 3-5 cm. long, obovate-oblong to oblong-cuneate, rather thinly coriaceous, coarsely serrate-dentate, acute or acuminate to obtuse; midveins and main laterals evident above and below; terminal lamina 10-20 × 4-7 cm. Umbels terminal, compound; fls us. completely unisexual; primary rays 8-20, up to 10 cm. long; secondary rays 15-20; umbellules 10-15-fld. Calyx truncate or obscurely 5-toothed; petals 5, ovate to triangular, acute; ovary 2-loculed, 2-ovuled, style-branches 2, spreading. Fr. 5-8 mm. diam., almost black, somewhat compressed.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland forests throughout.

Distribution overseas (if any): Noted as - Not very hardy in Britain, plants tolerate temperatures down to about -5°C provided they are in a warm sheltered location[200]. Whilst they can succeed outdoors in the mildest parts of the country, they are not hardy at Kew[11].

[200] **Huxley. A.** *The New RHS Dictionary of Gardening.* 1992. MacMillan Press 1992 ISBN 0-333-47494-5. [11] **Bean. W.** *Trees and Shrubs Hardy in Great Britain. Vol 1 - 4 and Supplement.* Murray 1981 <http://www.pfaf.org/database/plants.php?Pseudopanax+arboreus>

For sale in the UK @ http://www.abbotsburyplantsales.co.uk/plant_lists/shrubs.asp?offset=90

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other:

***Pseudopanax crassifolius* (Sol. ex A.Cunn.) K.Koch (1859)**



Common name (if one): Hoheka, Lancewood (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Apiales](#) family: [Araliaceae](#) genus: [Pseudopanax](#)

Names: [Aralia crassifolia](#) Sol. ex A.Cunn. (1839)
[Hedera crassifolia](#) A.Gray (1854)
[Panax coriaceus](#) Regel (1859)
[Panax crassifolius](#) (Sol.) Decne & Planch. (1854)
[Panax longissimus](#) Hook.f. (1864)
■ [Pseudopanax crassifolius](#) (Sol. ex A.Cunn.) K.Koch (1859) (preferred)
[Pseudopanax crassifolius](#) (Sol. ex A.Cunn.) K.Koch var. *crassifolius*
(1859)

Subordinate Taxa: [Pseudopanax crassifolius](#) var. *crassifolius* = [Pseudopanax crassifolius](#) (Sol. ex A.Cunn.) K.Koch (1859)
[Pseudopanax crassifolius](#) var. *trifoliolatum* Kirk

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Tree up to 15 m. tall, trunk up to c. 5 dm. diam., lvs very thick and rigid.

Seedlings with submembr. ovate to lanceolate deeply toothed lvs, deeply lobed near base, passing rapidly into narrow-linear lvs. Unbranched juveniles with narrow-linear deflexed lvs up to 1 m. or more long, distantly sharply toothed, with stout midrib. At branching stage the lvs become shorter, c. 30-15 cm. long, and may be unifoliolate (var. *unifoliolatum* Kirk For. Fl. 1889, 61) or 3-5-foliolate (var. *trifoliolatum* Kirk loc. cit.) or mixed. Flowering is exceedingly rare in the unbranched, rare in the branched juvenile stage. Adult trees round-headed, with lvs c. 10-20 × 2-3 cm., narrow elliptic-cuneate to lanceolate or linear-obovate, acute or obtuse, entire to sinuate or coarsely serrate. Umbels terminal, irregularly compound; primary rays c. 5-10, c. 6 cm. long; umbellules sts racemosely arranged. Ovary 5-loculed, 5-ovuled, style-branches 5, connate, sts free at tips. Fr. subglobose, c. 4-5 mm. diam.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., St. Lowland to lower montane forest and shrubland throughout. Horoeka, lancewood.

Distribution overseas (if any): Glasnevin National Botanic Garden, Dublin, plant list, June 2003

<http://www.botanicgardens.ie/nbg/arealsts/n8.pdf>

<http://www.botanicgardens.ie/>

Environmental factors and limitations:

Pests:

Other:

Pseudopanax ferox Kirk (1889)



Common name (if one): Fierce or toothed lancewood

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Apiales](#) family: [Araliaceae](#) genus: [Pseudopanax](#)

Names: [Panax ferox Kirk \(1878\)](#)

- [Pseudopanax ferox Kirk \(1889\)](#) (preferred)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Shrub or tree up to 5 m. tall, with slender trunk. Lvs of seedlings about linear-lanceolate, toothed; of unbranched juveniles narrow-linear, deflexed, up to c. 50 cm. long, very thick and coriaceous, with closely or distantly placed broad, rounded, us. hooked, lobes, c. 7.5-15 mm. wide at base; midribs very stout, raised, c. 2 mm. wide; lobes often crowded at lf-apex. Lvs at branching stage becoming shorter, ascending, often more sharply lobed, passing into those of adult stage. Lvs of adults c. 5-15 × 1-2 cm., oblong to linear-obovate, gradually narrowed to stout petiole c. 1-2 cm. long; obtuse or mucronate-apiculate to retuse, bluntly serrate to entire, veins evident above. Umbels terminal, compound; staminate with 5-12 rays c. 3-5 cm. long, with fls racemosely distributed; pistillate with rays 1-3 cm. long, umbellules 2-5-fld. Stamens 4-5, ovary 5-

loculed, 5-ovuled; style-branches 5, connate, sts free at tips. Fr. broad-oblong in outline, c. 8-9 mm. diam.

Pseudopanax crassifolius is similar but the sapling and subadult leaves are green to dark green, usually with smaller, narrow-based, straight teeth, and the adult has much broader elliptic-cuneate, lanceolate to linear-obovate, acute or obtuse, entire to sinuate or rarely coarsely serrated leaves. *P. crassifolius* is a much larger tree reaching up to 20 m in good conditions.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S. Lowland forest and scrub from lat. 35° southwards, rather rare.

Distribution overseas (if any): Toothed lancewood used to be rare in cultivation, but is now a favoured gardening plant in New Zealand. It gained wide popularity following its use in the gold-medal winning New Zealand exhibit at the 2004 [Chelsea Flower Show](#) in the [UK](#).

Environmental factors and limitations: Coastal to subalpine (10-800 m a.s.l.) on consolidated sand dunes (dune forest), in grey scrub overlying pumice, on recent alluvial (coarse gravels), limestone outcrops, boulder fall, cliff faces, talus slopes and scarps. Also found as a sparse component of seasonally drought-prone but otherwise cold and wet alluvial forests. This species prefers drier habitats and conditions than *P. crassifolius* (Sol. ex A.Cunn.) C.Koch.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Rhopalostylis sapida* H.Wendl. & Drude (1878)**



Common name (if one): Nīkau, Feather duster palm (English), Nikau palm (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Liliopsida](#)
order: [Arecales](#) family: [Arecaceae](#) genus: [Rhopalostylis](#)

Names: [Rhopalostylis aff. sapida \(AK 227148; Chatham Islands\) \(1999\) \(nom. inv.\)](#)

- [Rhopalostylis sapida H.Wendl. & Drude \(1878\)](#) (preferred)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Trunk to c. 10 m. × 25 cm., green between rather closely spaced lf-scars; crownshaft to 60 cm. long, smooth and green, slightly bulging. Lf to 3 m. long; lflts to 1 m. long, closely set and ascending sharply. Spathes c. 30 × 15 cm., between pink and yellow, smooth, falling as first fls open. Ultimate branches of infl. to c. 20–(30) cm. long, c. 1.5 cm. diam. with buds on, at first pale cream-coloured; fl.-buds tightly packed, lilac. Fr. c. 10 × 7 mm., elliptic-oblong, brick-red. Seed long-oval, tightly invested in smooth, whitish endocarp which is marked by mainly longitudinal vascular strands; hilum broad at chalazal end, tapering to a narrow groove beside the micropyle.

Rhopalostylis baueri (Seem.) H.Wendl. et Drude, which differs mainly by its globose to oval fruits, and from most populations of R. sapida, by the broader leaflets. Both species of Rhopalostylis are very similar and research.

Distribution in NZ (location if specific and habitat associated): DIST.: N., S., Ch. Southern limits Banks Peninsula on east, about Grey-mouth on west.

Distribution overseas (if any): Said to grow in - Oceanside, California, Reseda, California, San Diego, California, Santa Barbara, California, Thousand Oaks, California, Ventura, California
<http://davesgarden.com/pf/go/57536/index.html>

Environmental factors and limitations: Primarily a species of coastal to lowland forest in the warmer parts of New Zealand.

Pests:

Other:

***Solanum laciniatum* Aiton (1789)**



Common name (if one): Pōpopo, Poroporo, Poroporotanguru, Bullibul (English), Bullibulli (English), Large kangaroo apple (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#) order: [Solanales](#) family: [Solanaceae](#) genus: [Solanum](#)

Names: • [Solanum laciniatum Aiton \(1789\)](#) (preferred)

[Solanum laciniatum f. novozelandicum Herasim](#)

Subordinate Taxa: [Solanum laciniatum f. novozelandicum Herasim.](#) = [Solanum laciniatum Aiton \(1789\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Glabrous, unarmed, soft-wooded shrub to c. 3 m tall; stems often purple or greenish purple. Lvs petiolate, entire or pinnatisect (with 1-4 pairs of lobes sometimes nearly reaching midrib) on the same plant, 10-40 cm long. Lamina of entire lvs to 5 cm wide (lobes of pinnatisect ones to 2 cm wide, lanceolate or linear-lanceolate, sometimes ± elliptic); base decurrent on petiole; apex obtuse to acuminate. Cymes 2- c. 10-flowered; peduncles to 18 cm long at anthesis, slender; pedicels pendent at fruiting. Calyx 5-8 mm long, accrescent; lobes very broadly

ovate-triangular, mucronate, much < tube. Corolla usually 4-5 cm diam., violet, almost glabrous; lobes very broad and rather shallow, ± emarginate. Anthers 3-4 mm long. Berry 23-30 mm long, ovoid or ellipsoid, pendent, usually yellow or pale orange; stone cells conspicuous, = or > seeds. Seeds 2.2-2.5 mm diam., ± obovoid but somewhat asymmetric.

FL Jan-Dec.

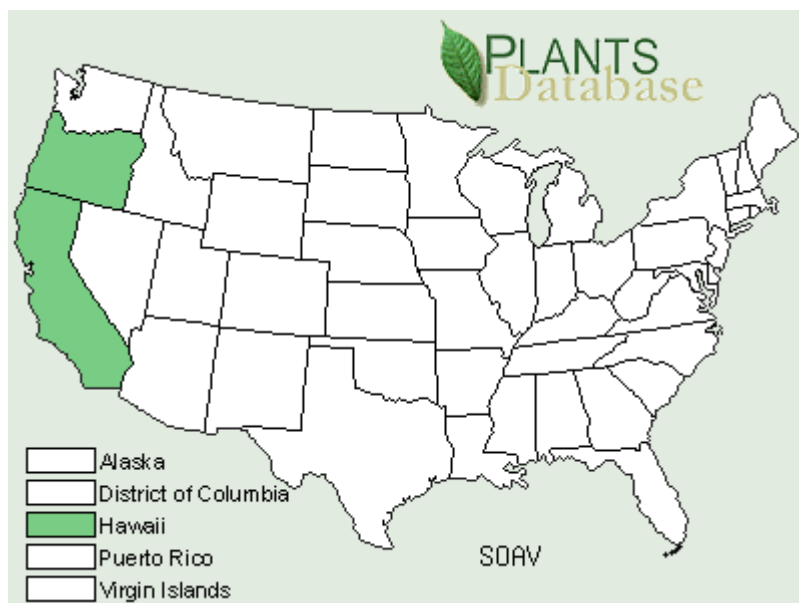
Although the 2 spp. have often been combined, the larger corollas with a ± emarginate apex and larger seeds enable *S. laciniatum* to be easily distinguished from the closely related *S. aviculare*. *S. laciniatum* has a generally more southerly and inland distribution than *S. aviculare*, although in some areas the 2 spp. grow together. Both are commonly called poroporo, and are cultivated in N.Z. and elsewhere, especially E. Europe, for their steroid precursors. Herasimenko, I. I., *Rast. Resurs.* 7: 363-371 (1971), described 5 formae of *S. laciniatum* but these are not considered worthy of recognition.

Distribution in NZ (location if specific and habitat associated): N.; S.: from Auckland to Southland; St.; Ch.

Distribution overseas (if any): Indigenous to S.E. Australia and Tasmania.

<http://www.anbg.gov.au/gnp/gnp12/solanum-laciniatum.html>

USA



<http://plants.usda.gov/java/nameSearch?keywordquery=solanum+laciniatum&mode=sciname>

The fruits of this species and *S. aviculare* G.Forst. yield important steroid precursors, so both are widely and commercially grown, especially in eastern Europe, Russia and China. Also noted as naturalised in parts of China and Russia.

http://www.nzpcn.org.nz/vascular_plants/detail.asp?PlantID=2319

Environmental factors and limitations: Common in scrub, forest and plantation margins, around hedgerows and similar artificial habitats, especially abundant in cut-over forest or plantations.

Temperature:

Climate:

Soil type:

Pests:

Other:

Sophora microphylla Aiton (1789)



Common name (if one): Kōwhai, Kōwhai maori, small-leaved kowhai (English), Weeping kowhai (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#) order: [Fabales](#) family: [Fabaceae](#) genus: [Sophora](#)

Names: [Edwardsia grandiflora](#) var. [microphylla](#) (Aiton) Hook.f. (1852)

[Edwardsia microphylla](#) (Aiton) Salisb. (1808)

• [Sophora microphylla](#) Aiton (1789) (preferred)

[Sophora microphylla](#) Aiton subsp. [microphylla](#) (1789)

[Sophora microphylla](#) Aiton var. [microphylla](#) (1789)

[Sophora microphylla](#) subsp. [microphylla](#) var. [microphylla](#)

[Sophora tetraptera](#) var. [microphylla](#) (Aiton) Hook.f. (1864)

Subordinate Taxa: [Sophora microphylla](#) Aiton subsp. [microphylla](#) = [Sophora microphylla](#) Aiton (1789)

[Sophora microphylla](#) var. [chatamica](#) (Cockayne) Yakolev = [Sophora chathamica](#) Cockayne (1901) [1902]

[Sophora microphylla](#) var. [fulvida](#) Allan = [Sophora fulvida](#) (Allan) Heenan & de Lange (2001)

[Sophora microphylla](#) var. [longicarinata](#) (G.Simpson & J.S.Thomson) Allan =

[Sophora longicarinata G.Simpson & J.S.Thomson \(1942\)](#)

[Sophora microphylla Aiton var. microphylla = Sophora microphylla Aiton \(1789\)](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Moderate to large tree up to 25 m high, with 1 main trunk or several prominent main branches; branches weeping, spreading and ascending. Divaricating and/or strongly flexuose juvenile branchlets present; branchlets often strongly interlaced, yellow-brown to orange-brown, glabrous to sparsely pubescent, becoming increasingly pubescent during the transition to adult branchlets; hairs appressed, straight. Seedlings and juveniles sparsely to moderately leafy, leaves with increasing numbers of leaflets. Leaflets on juveniles 3.0-5.8 × 2.3-4.9 mm, broadly obovate to orbicular, ± glabrous to sparsely pubescent, distant, not crowded or overlapping. Leaves on adults up to 15 cm long, imparipinnate, petioles and rachides channelled above, leaflets 30-50. Leaflets on adults 4.5-12.5 × 2.3-5.7 mm, elliptic, broadly elliptic, obovate to ovate, sometimes ± orbicular, distal and proximal leaflets usually similar in size, not crowded or overlapping, distant, adaxial and abaxial surfaces ± planar, adaxial surface light green to green, abaxial surface light green; apices retuse to rounded; bases cuneate to obtuse; petiolules 0.4-1.1 mm long, distinct; petioles, rachides, petiolules, and leaflets sparsely to moderately pubescent, hairs 0.2-1.0 mm long, appressed, straight. Inflorescences racemose, with up to 7 flowers; peduncle and rachis 10-25 mm long; pedicels up to 16 mm long, each subtended by a bract; bracts 1.8-3.4 mm long; peduncles, rachides, pedicels, bracts, and calyces moderately to densely pubescent, hairs brown to yellow-brown, usually appressed but sometimes weakly spreading. Calyx 5-11 × 7-10 mm, cupulate, rim shallowly lobed, with deeper notch adjacent to standard. Corolla yellow; keel petal blade 18-50 × 7-13 mm, wing petal blade 18-50 × 6-11 mm, standard petal blade 20-35 × 14-25 mm; petals with distinct claws, 4.0-8.0 mm long. Stipe 7-10 mm long, glabrous to moderately pubescent. Ovary 8-17 mm long, densely pubescent; hairs up to 0.5 mm long, off-white to light brown, appressed to spreading, straight. Style 10-15 mm long, glabrous to sparsely pubescent. Stigma glabrous or fringed with few short hairs. Filaments 20-35 mm long. Anthers 2.0-2.5 × 1.0-1.3 mm. Fruit 50-200 mm long, 4-winged, brown, sparsely to moderately pubescent, with up to 12 seeds. Seeds 5.5-8.5 × 4.0-5.5 mm, oblong, elliptic to ± orbicular, yellow to light yellow-brown. FL (May-)Aug-Oct; FT Oct-May. See: Heenan, P.B.; de Lange, P. J.; Wilton, A. D. 2001: *Sophora* (Fabaceae) in New Zealand: taxonomy, distribution, and biogeography. *New Zealand Journal of Botany* 39(1): 17-53.

Can be distinguished from the other Kowhai species by the divaricating/filiculate juvenile and arborescent adult, leaves > 30 mm, leaflet pairs > 6, these sparsely to moderately hairy, with the distal and by the obvious petiolule.

Distribution in NZ (location if specific and habitat associated):

Distribution overseas (if any): For sale in the USA and noted as grown in Fountain Valley, California <http://davesgarden.com/pf/go/53636/>.

Glasnevin National Botanic Garden, Dublin, plant list, June 2003

<http://www.botanicgardens.ie/nbg/arealsts/n8.pdf>

<http://www.botanicgardens.ie/>

Environmental factors and limitations: In the North Island, especially the northern half this is a species of mainly riparian forest. South of about Hamilton it can be found in a diverse range of habitats from coastal cliff faces and associated wetlands to inland grey scrub communities. Scarce to absent over large parts of the eastern North Island from about East Cape south to the northern Wairarapa.

Temperature:

Climate:

Soil type:

Pests:

Other:

***Tecomanthe speciosa* W.R.B.Oliv.**



Common name (if one):

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Magnoliophyta](#) class: [Magnoliopsida](#)
order: [Scrophulariales](#) family: [Bignoniaceae](#) genus: [Tecomanthe](#)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Glab. woody liane up to ± 10 m. tall. Lvs coriaceous, dark green above, paler below; imparipinnately 3-5-foliolate, on petioles up to ± 6 cm. \times 4 mm., enlarged at base; scar oval to suborbicular; lateral lfts on petiolules ± 5 mm. long; lamina $\pm 5-9-(13) \times 3-7-(8)$ cm., broad-elliptic to broad-obovate, entire, obliquely cuneately narrowed to base, apiculate to retuse; terminal lft on petiolule to 2 cm. long; lamina 8-12-(15) \times 5-9 cm., broad-elliptic to broad-obovate, cuneately narrowed to base, retuse to apiculate. Infl. with up to 30 fls in corymbose compound cyme on stout peduncle $\pm 2-3$ cm. long; pedicels stout, c. 1 cm. long, opp., us. trichotomously branched. Calyx green, velvety without, to c. 2.5×1 cm., tubular, (3)-4-(5)-lobed, splitting to base as fl. matures. Corolla delicately creamy white, with very pale green flush, tomentose without; tube cylindric, $\pm 3 \times 1.5$ cm., limb 2-lipped; lower lip entire, 2×1 cm., upper lip 4-lobed, $\pm 4 \times 5$ cm., each lobe tapering to subacute recurved apex. Stamens us. 4, to c. 5-6 cm. long, 2 outer $>$ 2 inner; filaments adnate to tube for c. 1 cm., at point of separation invested by slender hairs. Anthers orange, c. 1 cm. long, cells diverging; staminode filiform, \pm hairy, us. short, occ. long, sts represented by fully developed stamen. Style slender, extending to mid-anther position with a sharp double flexure in its upper third; stigma truncately 2-lobed. Ovary bilocular, the 2 placentae in each loculus occupying the thickened outer parts of the septum. Fr. a woody subcylindric capsule to 19×3.5 cm., splitting loculicidally from the base into two boat-shaped valves which separate from the septum. Seeds very many, densely packed, flattened, c. 1×2.5 cm. including broad membr. wing.

Some species of *Pandorea* Spach, and Jasmine (*Jasminium* Dum.) have a superficial vegetative similarity. The flowers of *Pandorea* (which is closely related to *Tecomathe*) are similar in shape, but are smaller, and usually white, pink or less commonly yellow. Jasmine flowers are very different, being smaller, with longer lobes, white, yellow or pink and strongly scented.

Distribution in NZ (location if specific and habitat associated): DIST.: Three Kings Is.

Distribution overseas (if any): Growing up from a stony stream bed within mixed coastal forest dominated by Kanuka (*Kunzea ericoides* (A.Rich.) Joy Thomps.), and pigeonwood (*Hedycarya arborea* J.R.Forst, et G.Forst.).

Environmental factors and limitations:

Temperature:

Climate:

Soil type:

Pests:

Other: Note – endangered species, material collected from one plant on Three Kings Island.

***Todea barbara* (L.) T.Moore (1857)**



Common name (if one): Hard todea (English), King fern (English)

Taxonomic info (basic): kingdom: [Plantae](#) Division: [Pteridophyta](#) class: [Filicopsida](#)
family: [Osmundaceae](#) genus: [Todea](#)

Names: [Acrostichum barbarum](#) L. (1753)

[Osmunda barbara](#) (L.) Thunb. (1800)

[Todea africana](#) Willd. ex Bernh. (1801)

• [Todea barbara](#) (L.) T.Moore (1857) (preferred)

[Todea rivularis](#) Sieber ex Kunze (1837)

Characteristics (e.g. leaf shape, seed, flower, colour, texture, height, growth habit etc. in order to ID it): Stock stout, erect, up to 6 dm. diam. and 12 dm. tall. Stipes up to 1 cm. or more diam. and 6 dm. long, brown, grooved, smooth; rachides and costae similar. Primary pinnae 10-20 cm. long; pinnules coriaceous, bluntly toothed, 1.5-5 cm. long, 2-5 mm. wide, about linear-lanceolate, uppermost confluent. Sporangia crowded on veinlets of lower pinnules, often hiding surface of pinnule.

A well marked species quite unlike any other indigenous or cultivated species of fern present in New Zealand. However, there has been some confusion with the introduced Royal fern, *Osmunda regalis* L. perhaps because both species share the same vernacular. *Osmunda* is an aggressive species, which is readily distinguished from *Todea* by the deciduous habit, softer pale-green to blue-green fronds, and by the fertile portion of the frond occurring as a distinct branchlet at the apex of the frond.

Distribution in NZ (location if specific and habitat associated): DIST.: N. Lowland forest and scrub, open to rocky places, often in gullies, from North Cape to a little south of lat. 35°. Also on Poor Knights Is.

Distribution overseas (if any): Native in Tasmania, Australia and S. Africa.

<http://www.home.aone.net.au/~byzantium/ferns/descriptions/todea/todea.html>

<http://fernkloof.com/species.mv?155>

Environmental factors and limitations: Coastal to lowland areas. A species of gumland scrub, coastal shrublands, and streamside margins in open forest, occasionally found on coastal cliffs or on serpentinite. Often found on bare claybanks or fringing sinkholes in gumland scrub.

Temperature:

Climate:

Soil type:

Pests:

Other: