Upper Clutha riparian - upper bank species

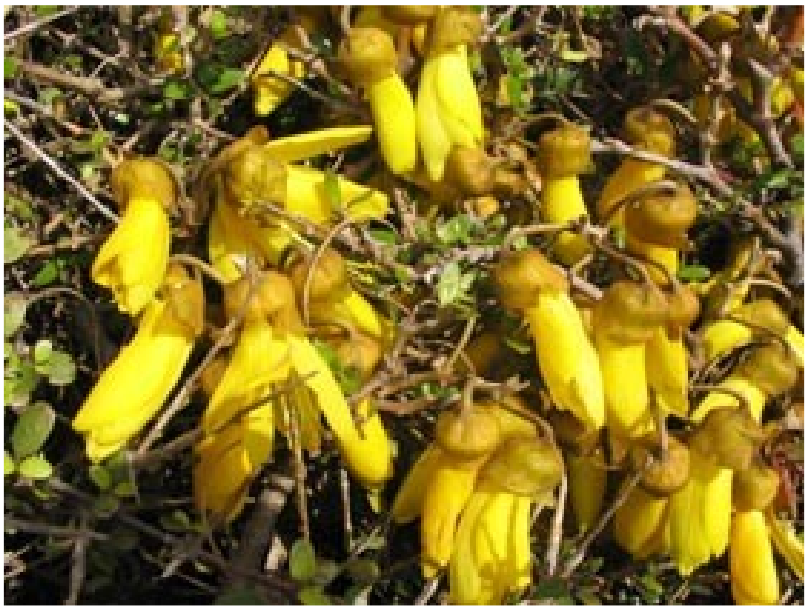


Table of contents

Made on the New Zealand Plant Conservation Network website: www.nzpcn.org.nz

INTRODUCTION

This book was compiled from information stored on the website of the New Zealand Plant Conservation Network (www.nzpcn.org.nz).

This website was established in 2003 as a repository for information about New Zealand's threatened vascular plants. Since then it has grown into a national database of information about all plants in the New Zealand botanic region including both native and naturalised vascular plants as well as non-vascualr plants and fungi.

Funding to develop the website was provided by the New Zealand Government's Terrestrial and Freshwater Biodiversity Information System Programme (TFBIS). The website is run by a team of volunteers and is continually improving in both the richness of content and the range of functions it offers.

The species information used on the website has come from a variety of sources which are cited at the bottom of a species page.

Where no published treatment was available Peter used herbarium specimens and his own knowledge of the flora to prepare species pages. Various other contributors have provided text and additional information to many species pages including botanists such as John Barkla, Cathy Jones, Simon Walls, Nick Singers, Mike Thorsen and many others. The threatened fungi text was written by Eric Mackenzie and Peter Buchanan (Landcare Research) and aquatic plant information was supplied by Paul Champion from NIWA. Colin Ogle has contributed to the exotic species fact sheets.

More than 200 photographers have kindly provided images to illustrate the website and for use in this book especially John Smith-Dodsworth, Jeremy Rolfe, Peter de Lange, Wayne Bennett and Gillian Crowcroft, Mike Thorse, Colin Ogle and John Sawyer.

THE NEW ZEALAND BOTANIC REGION

The information on the Network website, from which this book was compiled, is for species that are indigenous to or naturalised within the New Zealand Botanic Region as defined by Allan (1961). The New Zealand botanic region encompases the Kermadec, Manawatawhi/Three Kings, North, South, Stewart Island/Rakiura, Chatham, Antipodes, Bounties, Snares, Auckland Campbell island/Motu Ihupuku and Macquarie.

ABOUT THE NETWORK

The Network has more than 800 members worldwide and is New Zealand's largest non-governmental organisation solely devoted to the protection and restoration of New Zealand's indigenous plant life.

The vision of the New Zealand Plant Conservation Network is that '*no indigenous species of plant will become extinct nor be placed at risk of extinction as a result of human action or indifference, and that the rich, diverse and unique plant life of New Zealand will be recognised, cherished and restored*'.

Since it was founded in 2003 the Network has undertaken a range of conservation initiatives in order to achieve its vision.

That work has included:

- Training people in plant conservation
- Publishing plant books, reports and posters
- Raising money for the David Given Threatened Plant Research Trust to pay for plant conservation research scholarships
- Educating people about plant life through the Network website
- Connecting people through our website, the monthly newsletter, the Network conference and the annual general meeting

WHAT IS A THREATENED PLANT?

The NZ Threatened Plant Committee was formed in 1991 and ever since then it has met at regular intervals to review the status of indigenous vascular plants. It is made up of a team of botanists that between them have an extensive knowledge of the native plants of New Zealand.

This committee applies a set of criteria to each native plant to determine its conservation status. The resulting list of species classified as threatened is published in the NZ Journal of Botany (see for example de Lange et al. 2018). The main threat categories used are: Extinct, Nationally Critical, Nationally Endangered and Nationally Vulnerable, Declining. Other categories used are: Recovering, Relict, Naturally Uncommon, Coloniser, Vagrant and Data Deficient. For vascular plants the threat status used in this book is taken from the 'Conservation status of New Zealand indigenous vascular plants, 2017' by de Lange et al. (2018).

Recently other committees have been established to review the status of non-vascular plants and have produced assessments for New Zeland mosses (Rolfe et al., 2016) as well as horworts and liverworts (de Lange et al., 2015).

Aristotelia fruticosa

Balls clearing, December. Photographer: John Smith-Dodsworth

Mount Holdsworth, Tararua Forest Park. Photographer: Jeremy Rolfe

COMMON NAME
mountain wineberry

FAMILY
Elaeocarpaceae

AUTHORITY
Aristotelia fruticosa Hook.f.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
ARIFRU

CHROMOSOME NUMBER
2n = 28

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
A small-leaved shrub with hairy branchlets and veins evident on the underside of leaves

DISTRIBUTION
Endemic. North, South and Stewart Islands. Throughout, but often localised in occurrence

HABITAT
Lowland to subalpine forest understory and shrubland, commoner at hgher altitudes

FEATURES
Dioecious, variable, much branched erect or low growing shrub, sometimes spiny, to 2 m tall; trunk and branches sub-divaricate to upright, rigid, sometimes entangled; bark reddish brown; branchlets reddish brown, pubescent. Leaves opposite or in opposite fascicles on arrested branchlets; petioles c. 2 mm long, widening into lamina; midvein inconspicuous above, midvein and secondary veins obvious below; lamina either 5-7 x 4-5 mm, obovate to oblong, coriaceous, dark green, or c. 15 x 9 mm, ovate to lanceolate, thinner, lighter green, margins distinctly serrate, tip acute to obtuse, base cuneate, undersides pale green. Juvenile leaves larger, thinner, irregularly lobed and serrate. Inflorescences inconspicuous, lateral along branchlets, flowers c. 2-3 mm diam., solitary, in opposite pairs or in 3-6 flowered cymes, on short pubescent pedicels 1-2 mm long. Sepals 4, oblong, pubescent; petals 4, slightly > sepals, with 1-4 crenate teeth, white to light pink to red. Stamens 4-6, not projecting beyond corolla, anthers > filaments. Ovary 2- celled(?), styles 2(?). Fruit a c. 2(?)-seeded fleshy berry, 3-4 mm diam., pale, white, pink, bright red to black, bitter to taste. Seed irregularly angled, ventral surface flattened, elliptic, 2.0-2.6 mm, surface irrregular, attachment scar obvious, small orange aril sometimes present.

SIMILAR TAXA
Similar to other small leaved shrub species with veins conspicuous below, particularly Raukaua anomalous (which has a flattened, jointed petiole) and Melicytus micranthus (which has a pale blotch at the base of the lamina)

FLOWERING
October-December

FLOWER COLOURS
Red/Pink, White

FRUITING
November to April

LIFE CYCLE
Fleshy berries are dispersed by frugivory (Thorsen et al., 2009).

ETYMOLOGY
aristotelia: Named after Aristotle, the Greek philosopher and polymath
fruticosa: Shrubby

ATTRIBUTION
Description adapted from Allan 1961, Heenan and de Lange 2006, Eagle 2000 and Webb and Simpson 2001.

REFERENCES AND FURTHER READING
Allan, H.H. 1961. Flora of New Zealand. Government Printer, Wellington
Heenan, P.B, de Lange, P.J. 2006. Pseudowintera insperata (Winteraceae), an overlooked and rare new species from northern New Zealand. NZ J. Botany 44: 89-98
Eagle, A. 2000. Eagle's complete trees and shrubs of NZ. Te Papa Press, Wellington
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 2009 Vol. 11 No. 4 pp. 285-309
Webb, C.J. & Simpson, M.J.A. 2001. Seeds of NZ gymnosperms and dicotyledons. Manuka Press, Christchurch
Wilson, H; Galloway, T. 1993. Small-leaved shrubs of New Zealand. Manuka Press, Christchurch

CITATION
Please cite as: de Lange, P.J. (Year at time of access): Aristotelia fruticosa Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/aristotelia-fruticosa/ (Date website was queried)

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/aristotelia-fruticosa/

Carmichaelia petriei

L. Pukaki, November. Photographer: John Smith-Dodsworth

At Lake Pukaki, November. Photographer: John Smith-Dodsworth

COMMON NAME
Desert broom

SYNONYMS
Carmichaelia petriei var. minor G.Simpson; Carmichaelia ramosa G.Simpson; Carmichaelia virgata Kirk

FAMILY
Fabaceae

AUTHORITY
Carmichaelia petriei Kirk

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
CARPET

CHROMOSOME NUMBER
2n = 32

CURRENT CONSERVATION STATUS
2018 | At Risk – Declining

PREVIOUS CONSERVATION STATUSES
2012 | Not Threatened
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Yellowish shrub with untidy erect leafless branches. Branches rounded, 1-3.5mm wide, with long yellow tips. Flowers small, pea-like, pink, in small clusters. Fruit a drooping dry pod containing 1-4 hard mottled seeds.

FLOWER COLOURS
Violet/Purple, White

LIFE CYCLE
Seeds are possibly dispersed by wind and granivory (Thorsen et al., 2009).

ETYMOLOGY
carmichaelia: After Carmichael, a botanist
petriei: Named after Donald Petrie (1846 -1925), Scottish born Otago botanist

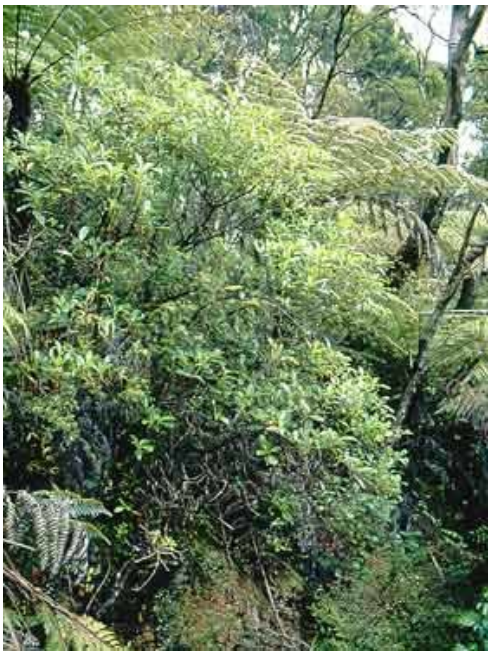
REFERENCES AND FURTHER READING
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 2009 Vol. 11 No. 4 pp. 285-309

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/carmichaelia-petriei/

Coprosma lucida

Coromandel, August. Photographer: John Smith-Dodsworth



Coromandel, August. Photographer: John Smith-Dodsworth

COMMON NAME
karamū, shining karamū

SYNONYMS
Coprosma australis (Richard) Robinson, Ronabea australis Richard, Coprosma grandifolia Hook.f.

FAMILY
Rubiaceae

AUTHORITY
Coprosma lucida J.R.Forst. et G.Forst.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
COPLUC

CHROMOSOME NUMBER
2n = 44

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Tall shrub with green stems and glossy green pairs of leaves. Leaves 12-17cm long, oval, tapering to leaf stem and tip, main vein pale and causing a ridge on the upper and lower surface of leaf. Small colourless point on stem between bases of leaf pairs. Fruit red, in clusters.

FLOWER COLOURS
Green, White

ETYMOLOGY
coprosma: From the Greek kopros ‘dung’ and osme ‘smell’, referring to the foul smell of the species, literally ‘dung smell’
lucida: Shining

REFERENCES AND FURTHER READING
Large, M.F.; Mabberly, D.J.; Wood, E. 2020: *Coprosma autumnalis* (kanono; Rubiaceae) in New Zealand: nomenclature, iconography and phenology, *Kew Bulletin 75*: 37-43. DOI 10.1007/S12225-020-9876-4

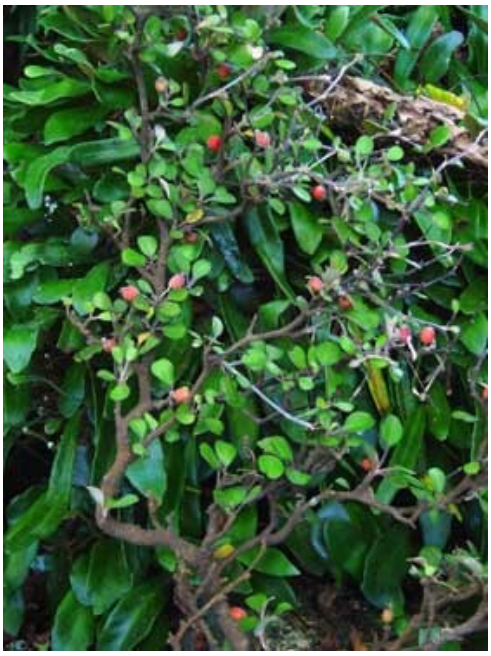
CITATION

Please cite as: de Lange, P.J. (Year at time of access): Coprosma lucida Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/coprosma-lucida/ (Date website was queried)

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/coprosma-lucida/

Corokia cotoneaster



Cotoneaster. Photographer: Wayne Bennett

Close up of leaves and fruit. Photographer: Wayne Bennett

COMMON NAME
korokio, wire-nettting bush

FAMILY
Argophyllaceae

AUTHORITY
Corokia cotoneaster Raoul

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
CORCOT

CHROMOSOME NUMBER
2n = 18

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Common variable shrub with zig-zag thin grey twigs bearing clusters of small leaves that are white underneath with a dented or rounded tip and on a dark flattened leaf stalk. Flowers yellow, star-shaped. Fruit red.

DISTRIBUTION
North, South and Three Kings Islands.

HABITAT
Lowland shrubland, river-flats and rocky places throughout.

FEATURES
Much-branched shrub up to 3 m or more tall. Branchlets rigid, divaricate; bark dark, rough. Leaves of seedlings obovate-spathulate, often elongate and 3-lobed. Leaves of adults varying in size according to exposure, alternate or in alternate fascicles, obovate-cuneate to obovate-oblong to suborbicular, obtuse, emarginate or not; lamina dark or coppery green above, silvery white beneath, 2-15 x 2-10 mm, on flattened petiole up to 20 mm long. Flowers axillary and terminal, solitary or in fascicles of 2-4; 5-8 mm diameter, numerous per plant. Calyx-segments 1-1.5 mm long, ovate-triangular, pubescent on backs; petals bright yellow, usually 5, approximately 4-5 mm long, narrow oblong-ovate, acute to subacute, pubescent on backs. Drupes red or orange or yellow, 5-8 mm long.

SIMILAR TAXA

Helichrysum lanceolatum can closely resemble *Corokia* in the absence of flowers or fruit. *Helichrysum* lacks the distinctive zigzagging of stiff, dark branchlets, and has paler green, duller, thinner leaves with pointed rather than blunt or indented tips.
Olearia odorata has opposite leaves or leaf clusters and fluffy seeds.
Olearia capillaris has wavy or crinkle-cut edges to the leaves, fawn, peeling bark, and fluffy seeds.
Olearia polita has opposite leaves or leaf clusters, two ridges (lens helpful) along the young branchlets, and fluffy seeds.

FLOWERING

(September-) October-December (-April)

FLOWER COLOURS

Yellow

FRUITING

February-May (-September)

LIFE CYCLE

Fleshy drupes are dispersed by frugivory (Thorsen et al., 2009).

ETYMOLOGY

corokia: From the Maori name korokio or korokia-tarango
cotoneaster: from Latin cotneum, meaning 'quince', and the suffix -aster meaning 'imperfectly resembling'.

TAXONOMIC NOTES

Corokia is a small genus of three species occurring naturally only in New Zealand. *C. cotoneaster* hybridises with the larger leaved *C. buddleioides* where the two species grow together, and some of the hybrid forms are popular as garden plants.

ATTRIBUTION

Description adapted by M. Ward from Allan (1961) and Wilson & Galloway (1993).

REFERENCES AND FURTHER READING

Allan, H. H. 1961. Flora of New Zealand. Vol. 1. Wellington: Government Printer. pg. 441.
Moorfield, J. C. (2005). Te aka : Maori-English, English-Maori dictionary and index. Pearson Longman: Auckland, N.Z.
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 11: 285-309.
Wilson, H. D., & Galloway, T. 1993. Small-leaved shrubs of New Zealand. Manuka Press. pg. 182-184.

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/corokia-cotoneaster/

Veronica cupressoides

Photographer: Neil Simpson

Flowering branch of Leonohebe cupressioides.
Photographer: David Norton

COMMON NAME
cypress hebe

SYNONYMS
Hebe cupressoides (Hook.f.) Andersen, Hebe cupressoides (Hook.f.) Cockayne et Allan nom. illeg., Leonohebe cupressoides (Hook.f.) Heads

FAMILY
Plantaginaceae

AUTHORITY
Veronica cupressoides Hook.f.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
Yes

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
LEOCUP

CHROMOSOME NUMBER
2n = 42

CURRENT CONSERVATION STATUS
2012 | Threatened – Nationally Endangered | Qualifiers: RF

PREVIOUS CONSERVATION STATUSES
2009 | Threatened – Nationally Endangered | Qualifiers: RF
2004 | Threatened – Nationally Vulnerable

BRIEF DESCRIPTION
Rare bushy shrub bearing masses of thin green slightly knobbly leafless twigs that have clusters of pinkish flowers at tips. Leaves scale like, 1-2mm long, triangular, spaced along and clasping the stem. Flowers with long projecting filaments. Fruit a dry rounded capsule.

DISTRIBUTION
Endemic. Eastern South Island, occurring historically recorded from 35 sites extending from Marlborough south to Otago.

HABITAT
Veronica 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.

FEATURES
Aromatic bushy shrub up to 3 × 2 m. Branches erect, whip-like; branches green, grey-green, glaucous; internodes 1.5–6.5 mm; branchlets, including leaves 1.0–3.7 mm wide; leaf bases connate, hairy or glabrous; nodal joint distinct, exposed; leaves not readily abscising, persistent. Leaves connate, appressed; lamina 0.8–2.0 × 0.4–2.0 mm; deltoid, apex acute to obtuse; margin ciliolate or glandular-ciliolate, lower surface glaucous or glaucescent or yellowish-green, glabrous or covered in minute glandular hairs. Juvenile leaves pinnatifid, glabrous or puberulent. Inflorescences 2–22-flowered, terminal, unbranched, 3–40 mm long, rachis 2–33 mm long, glabrous or hairy. Bracts opposite and decussate, shortly connate or free, ovate or deltoid, obtuse or subacute, externally hairy, hairs glandular. Flowers hermaphrodite, mostly sessile. Calyx 1.3–2.0 mm long, 2–4-lobed; lobes acuminate or emarginate, glandular ciliolate, especially externally. Corolla tube 0.9–1.4 × 0.8–1.1 mm, internally hairy; lobes longer than corolla tube, inner surface papillate, cream, white, pale blue, pink or mauve at anthesis, white, cream, pink or mauve with age, obtuse, suberect to recurved, corolla throat pink, mauve or white. Stamen filaments 2.1–3.0 mm long, coloured cream, pink or mauve when young, fading white; anthers 0.9–1.2 mm, reddish-pink to purplish–mauve. Ovary 0.8–1.1 mm long, ovoid or globose, apex didymous. Capsules 1.9–2.4 × 0.9–1.4 mm, angustiseptate, grooved along septum, emarginate, septicidal split extending ⅓-way to base, loculicidal split extending up to ⅓-way to base. Seeds 0.7–1.1 × 0.4–0.6 mm, weakly flattened, ovoid to ellipsoid-oblong or obovoid, pale brown.

SIMILAR TAXA
Veronica cupressoides is superficially similar to V. propinqua from which it differs by its finer branches, blue-green branchlets and wide spaces between scale leaves. Furthermore the foliage of V. cupressoides is very aromatic smelling strongly of turpentine. In contrast Veronica propinqua has white flowers, non aromatic foliage, green branchlets, with a shorter gap between the pairs of scale leaves.

FLOWERING
November - February

FLOWER COLOURS
Blue, Violet/Purple

FRUITING
March - May

LIFE CYCLE
Seeds are wind dispersed (Thorsen et al., 2009).

PROPAGATION TECHNIQUE
Easy from semi-hardwood and hardwood cuttings and fresh seed. In cultivation flowering plants often produce numerous spontaenous seedlings. Rarely flowers in lowland, warmer or more humid climates.

THREATS
Habitat loss has been a key factor in the historical decline of Leonohebe cupressoides. The dominant threats now are recruitment failure caused by invasive herbaceous plants that rapidly occupy the disturbed sites this species requires to germinate in. Grazing animals, including domestic stock and wild species such as rabbits and hares can seriously damage or kill plants. Small populations are vulnerable to local extinction through disturbance such as river flooding, and fire – particularly as this species is extremely flammable wet or dry.

ETYMOLOGY
veronica: Named after Saint Veronica, who gave Jesus her veil to wipe his brow as he carried the cross through Jerusalem, perhaps because the common name of this plant is ‘speedwell’. The name Veronica is often believed to derive from the Latin vera ‘truth’ and iconica ‘image’, but it is actually derived from the Macedonian name Berenice which means ‘bearer of victory’.

WHERE TO BUY
Occasionally available from plant nurseries.

ATTRIBUTION
Fact Sheet Prepared by P.J. de Lange (1 November 2009). Description based on Bayly & Kellow (2006) but see also de Lange et (2010)

REFERENCES AND FURTHER READING

Bayly M.; Kellow A. 2006: An Illustrated Guide to New Zealand Hebes.Te Papa Press: Wellington
de Lange, P.J.; Heenan, P.B.; Norton, D.A.; Rolfe, J.R.; Sawyer, J.W.D. 2010: Threatened Plants of New Zealand. Canterbury University Press, Christchurch.
Norten, D.A. 2000. Hebe cupressoides recovery plan, 2000-2010. Threatened Species Recovery Plan 33. Department of Conservation
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 11: 285-309

CITATION

Please cite as: de Lange, P.J. (Year at time of access): Veronica cupressoides Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.
https://www.nzpcn.org.nz/flora/species/veronica-cupressoides/ (Date website was queried)

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/veronica-cupressoides/

Melicytus alpinus

In cultivation ex Wairarapa. Photographer: Jeremy Rolfe

In cultivation ex Wairarapa. Photographer: Jeremy Rolfe

COMMON NAME
porcupine shrub

SYNONYMS
Hymenanthera dentata var. alpina Kirk, Hymenanthera alpina (Kirk) W.R.B.Oliv.

FAMILY
Violaceae

AUTHORITY
Melicytus alpinus (Kirk) Garn.-Jones

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
MELALP

CHROMOSOME NUMBER
2n = 36

CURRENT CONSERVATION STATUS
2012 | Not Threatened

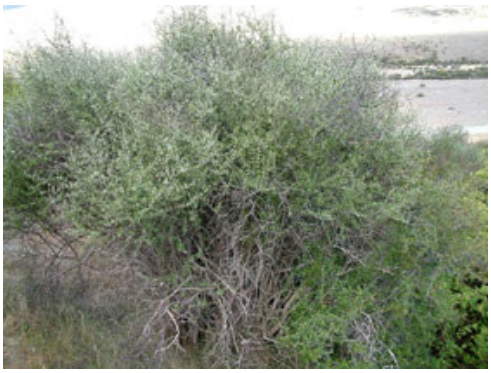
PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Rigid dense small hard shrub with many thick tapering grey speckled branches bearing clusters of small dark green oval leaves. Leaves variable, about 1cm long, widest towards the blunt tip. Flowers inconspicuous, bell-shaped, underneath branches. Fruit white, usually with purple patches.

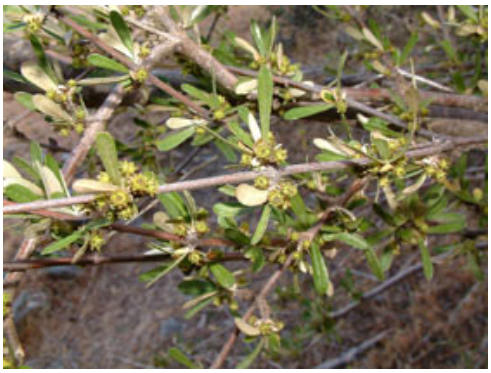
ETYMOLOGY
melicytus: From the Greek meli (honey) and kytos (hollow container), referring to the staminal nectaries of the flowers. Literally “honey-cave”
alpinus: Alpine

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/melicytus-alpinus/

Olearia odorata



Hakataramea pass, January. Photographer: John Smith-Dodsworth



At Hakataramea pass, January. Photographer: John Smith-Dodsworth

COMMON NAME
scented tree daisy

FAMILY
Asteraceae

AUTHORITY
Olearia odorata Petrie

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
OLEODO

CHROMOSOME NUMBER
2n = 108

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Bushy shrub with many erect reddish twigs bearing pale narrow oval leaves that are white underneath inhabiting open areas east of Main Divide. Leaves 10-22mm long by 4-6mm wide. Flowers small. Seed fluffy.

FLOWER COLOURS
White

ETYMOLOGY
olearia: Named after Johann Gottfried Olearius, a 17th-century German scholar, writer of hymns and author of Specimen Florae Hallensis
odorata: Scented

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/olearia-odorata/

Coprosma rugosa

Arthurs Pass, May. Photographer: John Smith-Dodsworth

Arthurs Pass, May. Photographer: John Smith-Dodsworth

SYNONYMS
Plagianthus linarifolia Buchanan, Coprosma antipoda W.R.B.Oliv.

FAMILY
Rubiaceae

AUTHORITY
Coprosma rugosa Cheeseman

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
COPRUG

CHROMOSOME NUMBER
2n = 44

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Orangeish very bushy large shrub with many interlacing wide-angled twigs bearing clusters of pairs of very narrow leaves. Twigs fuzzy becoming orange towards base. Leaves 10-14 mm long by up to 1.5mm wide, sometimes bearing tiny clusters of hairs on upper side (lens needed). Fruit pale blue.

FLOWER COLOURS
White, Yellow

LIFE CYCLE
Fleshy drupes are dispersed by frugivory (Thorsen et al., 2009).

ETYMOLOGY
coprosma: From the Greek kopros ‘dung’ and osme ‘smell’, referring to the foul smell of the species, literally ‘dung smell’
rugosa: Wrinkled

REFERENCES AND FURTHER READING
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 11: 285-309

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/coprosma-rugosa/

Myrsine australis

Fruit. Photographer: Wayne Bennett

Mapou. Photographer: Wayne Bennett

COMMON NAME
red mapou, red matipo, mapau, red maple

SYNONYMS
Suttonia australis Richard, Myrsine urvillei A.DC., Rapanea australis (Richard) W.R.B.Oliv.

FAMILY
Primulaceae

AUTHORITY
Myrsine australis (A.Rich.) Allan

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
MYRAUS

CHROMOSOME NUMBER
2n = 46

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Common tall bushy shrub with bright red twigs bearing wavy yellow-green leaves. Leaves 3-6cm long, with an undulating edge. Flowers small, in clusters. Fruit almost black.

DISTRIBUTION
Endemic. Three Kings, North, South and Stewart Islands.

HABITAT
Common tree of regenerating and mature forest in coastal to montane situations. Often common on northern offshore islands.

FEATURES
Shrub or small tree up 6 m tall. Trunk stout, 0.2-0.6 m diam. Bark dark black or purple-black, red on younger branches. Branchlets numerous erect to spreading, very leafy. Petioles stout, fleshy, 5 mm long, often red or green mottled red. Leaves 30-60 x 15-25 mm, dark green to yellow-green variously mottled or blotched with red, or purple spots, leathery, glabrous except for finely pubescent mid vein, obovate-oblong to broad-elliptic, apex obtuse, margins entire, strongly undulate, rarely flat. Inflorescence a fascicle, usually numerous and crowded, produced along branchlets and in leaf axils. Fixed female and inconstant male flowers on different plants, 1.5-2.5 mm diam., white, cream or pale green. Pedicels short, stout, dark red or purple-black. Calyx-lobes 4, sometimes heavily reduced, long persistent. Petals 4, lanceolate, obtuse, free, revolute. Fruit a 1-seeded drupe, 2-3 mm diam., purple-black to black when mature.

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

FLOWERING
August - January

FLOWER COLOURS
Cream, White

FRUITING
September - May

PROPAGATION TECHNIQUE
Easy from fresh seed. Can be grown from semi-hardwood cuttings but tricky. Best results are obtained using a mist unit.

ETYMOLOGY
myrsine: Myrrh
australis: Southern

WHERE TO BUY
Occasionally cultivated. Easily grown in a wide range of habitats, making an ideal hedge or small specimen tree. Sometimes available from mainline commercial nurseries, and commonly sold by specialist native plant nurseries.

KEYSTONE IMPORTANCE
One of three known hosts for Adams mistletoe (*Trilepidea adamsii*).

ATTRIBUTION
Fact Sheet Prepared for NZPCN by: P.J. de Lange 28 October 2009. Description based on Allan (1961)

REFERENCES AND FURTHER READING
Allan, H.H. 1961: Flora of New Zealand. Vol. I. Wellington, Government Printer.

CITATION
Please cite as: de Lange, P.J. (Year at time of access): Myrsine australis Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/myrsine-australis/ (Date website was queried)

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/myrsine-australis/

Carpodetus serratus

Mikimiki, Tararua Forest Park. Photographer: Jeremy Rolfe

Mikimiki, Tararua Forest Park. Photographer: Jeremy Rolfe

COMMON NAME
putaputāwētā, marbleleaf

FAMILY
Rousseaceae

AUTHORITY
Carpodetus serratus J.R.Forst. et G.Forst.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
CARSER

CHROMOSOME NUMBER
2n = 30

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Small tree with smallish round or oval distinctively mottled (hence common name) toothed leaves; branchlets zig-zag (particularly when young)

DISTRIBUTION
Endemic. Widespread. North, South and Stewart Islands.

HABITAT
Coastal to montane (10-1000 m a.s.l.). Moist broadleaf forest, locally common in beech forest. A frequent component of secondary forest. Streamsides and forest margins.

FEATURES
Monoecious small tree up to 10 m tall. Trunk slender, bark rough, corky, mottled grey-white, often knobbled due to insect boring. Juvenile plants with distinctive zig-zag branching which is retained to a lesser degree in branchlets of adult. Leaves broad-elliptic to broad-ovate or suborbicular; dark green, marbled; membranous becoming thinly coriaceous; margin serrately toothed; tip acute to obtuse. Juvenile leaves 10-30 mm x 10-20 mm. Adult leaves 40-60 mm x 20-30mm. Petioles c. 10 mm; petioles, peduncles and pedicels pubescent; lenticels prominent. Flowers in panicles at branchlet tips; panicles to 50 x 50 mm; flowers 5-6 mm diam.; calyx lobes c. 1 mm long, triangular-attenuate; petals white, ovate, acute, 3-4 mm long. Stamens 5-6, alternating with petals; filaments short. Stigma capitate, tip dark; ovules many. Fruit an indehiscent subfleshy-fleshy capsule, 4-6 mm diam., black when mature; cupped in remains of calyx. Seeds many per capsule, in 3-5 locules, small, 1-2 mm long; testa reticulate.

SIMILAR TAXA
Not likely to be confused with any other NZ shrub or small tree. Perhaps most similar to juvenile kaikomako Pennatia corymbosa which does not have mottled leaves and the leaves are only toothed in the top half (reminiscent of a ducks foot).

FLOWERING
November-March

FLOWER COLOURS
White

FRUITING
January-February (though dried fruit present at any time)

LIFE CYCLE
Fleshy berries are dispersed by frugivory (Thorsen et al., 2009).

ETYMOLOGY
carpodetus: Fruit bound together (girdled)
serratus: Saw-toothed

NOTES
This species is damaged by the burrowing larvae of the native puriri moth (*Aenetus virescens*). Caterpillars create burrows in the trunk and feed on cambium at the burrow entrance, creating characteristic diamond-shaped feeding scars. The caterpillar hides the web entrance with a silken web. Heavy feeding can weaken trees, in particular those with thin trunks. For more information about the life-cycle of the puriri moth and a list of other host species follow this link. (Martin, 2010).

ATTRIBUTION
Description adapted from Allan (1961), puriri moth information modified from Martin (2010.

REFERENCES AND FURTHER READING
Allan, H.H. 1961. Flora of NZ I. Government Printer, Wellington.
Martin, N. A. (2010). Puriri moth - *Aenetus virescens* fact sheet, retrieved from the website Interesitng Insects and other Invertebrates.
http://nzacfactsheets.landcareresearch.co.nz/factsheet/OrganismProfile/Puriri_moth_-_Aenetus_virescens.html
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 2009 Vol. 11 No. 4 pp. 285-309

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/carpodetus-serratus/

Dacrycarpus dacrydioides

Kahikatea. Photographer: DoC

Upper Hutt. Photographer: Jeremy Rolfe

COMMON NAME
kahikatea, white pine

SYNONYMS
Dacrydium excelsum D.Don in Lamb., Dacrydium ferrugineum Houttee ex Gord., Dacrydium thuioides Banks et Solander ex Carr., Nageia excelsa Kuntze, Podocarpus dacrydioides Richard, Podocarpus thujoides R.Br. In Bennett, Podocarpus excelsus (D.Don) Druce; Podocarpus excelsus (D. Don.) Druce

FAMILY
Podocarpaceae

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

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Gymnosperms

NVS CODE
DACDAC

CHROMOSOME NUMBER
2n = 20

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

DISTRIBUTION
Endemic. North, South and Stewart Islands

HABITAT
Lowland forest, formerly dominant on frequently flooded, and/or poorly drained alluvial soils. Occasionally extends into lower montane forest. Once the dominant tree of a distinct swamp forest type all but extinct in the North Island - the best examples remain on the West Coast of the South Island.

FEATURES
Stout, dioecious, cohort-forming conifer, 50 (-65) m. tall. Trunk 1(-2) m diam., often fluted and buttressed. Bark grey to dark-grey, falling in thick, sinuous flakes. Wood white, odourless. Trunks bare for 3/4 of length, subadults with a distinctive columnar growth habit, branches arising from 1/3 to 1/2 of trunk length. Branchlets slender, drooping. Leaves of juveniles subdistichous, subpatent, narrow-linear, subfalcate, acuminate, decurrent, 3-7 x 0.5-1mm red, wine-red, dark-green to green.; of subadults less than or equal to 4 mm., dark green or red; those of adults 1-2 mm., imbricating, appressed, keel, subtrigonous, lanceolate-subulate to acuminate with broader base, brown-green or glaucous. Male cones terminal, oblong, 10 mm. Pollen pale yellow. Ovule, terminal, solitary glaucescent. Receptacle fleshy, oblong, compressed, warty, 2.5-6.5 mm., yellow to orange-red. Seed broadly obovate to circular (4-)4.5-6 mm diam., purple-black, thickly covered in glaucous bloom.

SIMILAR TAXA
A distinctive tree of usually swampy alluvial terraces. The columnar growth form of subadults, buttressed and fluted trunk bases, scale-like leaves, and terminal fruits bearing the distinctive circular seeds serve to immediately distinguish this species from all other indigenous conifers.

FLOWERING
October - January

FLOWER COLOURS
No flowers

FRUITING
February - April

PROPAGATION TECHNIQUE
Easily grown from fresh seed. Can be grown from hard-wood cuttings but rather slow to strike.

THREATS
Not Threatened, although as a forest-type it has been greatly reduced through widespread logging. Very few intact examples of kahikatea-dominated forest remain in the North Island.

ETYMOLOGY
dacrycarpus: Tear shaped fruit
dacrydioides: Like a dacrydium

WHERE TO BUY
Commonly cultivated and frequently sold by most commercial nurseries and outlets. A very popular garden tree. A form with distinctly glaucous foliage is occasionally on offer.

CULTURAL USE/IMPORTANCE
Kahikatea is New Zealands tallest indigenous tree. The white odourless timber was used extensively to make butter boxes, for much of the late 1800s and early 1900s. It was this practice which all but eliminated kahikatea-dominated swamp forest from the North Island and northern South Island.

ATTRIBUTION
Fact Sheet prepared for NZPCN by P.J. de Lange 12 January 2004: Description adapted from Allan (1961).

REFERENCES AND FURTHER READING
Allan, H.H. 1961: Flora of New Zealand. Vol. I. Wellington, Government Printer.
Gardner, R. 2001. Notes towards an excursion Flora. Rimu and kahikatea (Podocarpaceae). Auckland Botanical Society Journal, 56: 74-75

CITATION
Please cite as: de Lange, P.J. (Year at time of access): Dacrycarpus dacrydioides Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.
https://www.nzpcn.org.nz/flora/species/dacrycarpus-dacrydioides/ (Date website was queried)

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/dacrycarpus-dacrydioides/

Griselinia littoralis

Coromandel, October. Photographer: John Smith-Dodsworth

Coromandel, October. Photographer: John Smith-Dodsworth

COMMON NAME
broadleaf, kāpuka, papauma

FAMILY
Griseliniaceae

AUTHORITY
Griselinia littoralis Raoul

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
GRILIT

CHROMOSOME NUMBER
2n = 36

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Bushy tree with a rough dark trunk bearing thick glossy green rounded leaves that are paler underneath on a yellowish stem. Leaves 5-10cm long by 2-5cm, base slightly uneven. Flowers small, yellowish or cream. Fruit dark purple, 6-7mm long, with a small ring at tip, arranged in a spike.

FLOWER COLOURS
Green, Yellow

LIFE CYCLE
Fleshy berries are dispersed by frugivory (Thorsen et al., 2009).

ETYMOLOGY
griselinia: After Griselini
littoralis: From the Latin littus ‘shore’, meaning shore-loving or growing on the shore

REFERENCES AND FURTHER READING
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 11: 285-309

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/griselinia-littoralis/

Hoheria lyallii

Upper Otira, Arthurs pass. January. Photographer: John Smith-Dodsworth

Emergent through briar, matagouri, Clarence Reserves. Photographer: Simon Moore

COMMON NAME
mountain lacebark

SYNONYMS
Plagianthus lyallii (Hook.f.) Hook.f., Gaya lyallii Baker, G. lyallii var. ribifolia Kirk, G. ribifolia Cockayne

FAMILY
Malvaceae

AUTHORITY
Hoheria lyallii Hook.f.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
Yes

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
HOHLYA

CHROMOSOME NUMBER
2n = 42

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Small spreading soft-wooded deciduous tree inhabiting dryer mountain areas of the South Island. Leaves thin, covered in small hairs, widest at base and narrowing to point, margin with many uneven blunt teeth and some deeper divisions, on long stalks. Flowers white, cupped, developing into a dry narrowly-winged fruit.

DISTRIBUTION
New Zealand: South Island where it is mostly known from eastern Canterbury and Marlborough with a disjunct population in Nelson (Kahurangi National Park)

HABITAT
Found in montane and subalpine areas in the upper forest margins. Occasionally found on river and stream terraces where it may be found in groves.

FEATURES
Tree up to 8 m tall, deciduous; hairs stellate; leaves heteroblastic. Juvenile leaves: lamina 13–40 × 15–40 mm, broad-elliptic to suborbicular, both surfaces sparsely to moderately hairy; apex subacute; base cordate to weakly truncate; margin deeply lobed to strongly crenate; petiole 15–52 mm long, sparsely to moderately hairy. Adult leaves: lamina 33–156 × 22–89 mm, elliptic to deltoid,adaxial and abaxial surfaces moderately to densely hairy, occasionally sparsely hairy; apex acute to subacute; margins crenate or double-crenate, often deeply lobed; base cordate to occasionally weakly truncate; petiole 10–43 mm long, moderately to densely hairy. Flowers axillary, solitary or in cymose fasicles of 2–3. Pedicels 12–25 mm long, sparsely to moderately hairy. Calyx 3.6–6.2 mm high, 7.0–9.5 mm wide, campanulate, densely hairy; lobes 5–6, 3.5–5.8 × 3.5–5.1 mm, triangular to narrowly triangular, apex acute. Petals 5(–6), 15.7–20.0 × 11.6–15.0 mm, white, oblong-orbicular to broadly oblong, adaxial surface and margin toward proximal part with scattered simple hairs, abaxial surface sparsely to moderately hairy; claw 1.5–2.5 mm long. Stamens 35–50; filaments 8.4–10.8 mm long, white, in pairs and adnate for one-quarter to three-quarters of their length, column with stellate and simple patent hairs; anthers 0.6–0.8 mm long. Carpels 8–14; ovary ovoid, 0.8–2.0 mm long, 0.8–2.0 mm diameter, densely hairy; style 8.4–10.0 mm long, pink, sparsely hairy, fused in lower half; stigma 0.3–0.4 mm diameter, capitate to slightly decurrent with style. Mericarp body 4.7–6.2 × 3.5–5.3 mm, broadly elliptic, laterally compressed; wing 1.2–2.2 mm wide, extending from upper two-thirds of dorsal surface, weakly ribbed, moderately hairy, margin irregularly toothed. Seeds 2.2–3.4 × 2.2–2.8 mm, orange brown, glabrous, semicircular to triangular, broader toward base, biconvex or with a rounded dorsal surface, sometimes with a narrow wing up to 0.4 mm wide, usually separating from mericarp at maturity. Description from Heenan et al. (2005).

SIMILAR TAXA
Distinguishing Characters: Hoheria lyallii differs from H. glabrata by the shorter leaves which have truncate bases, moderately to densely hairy surfaces, and an acute apex. Hoheria lyallii and H. glabrata are a species pair, with H. lyallii confined to the drier part of the South Island, and H. glabrata to the wetter areas. Hoheria glabrata is the only species of the pair known to extend to the North Island.

FLOWERING
November - March

FLOWER COLOURS
Violet/Purple, White

FRUITING
April - July

LIFE CYCLE
Winged mericarps are dispersed by wind (Thorsen et al., 2009).

PROPAGATION TECHNIQUE
Best from fresh seed. An extremely attractive species, unusual in the New Zealand flora for its deciduous habit. Prefers a damp soil in a sunny site, and does best in cooler climates. Dislikes humidity and will not flower in warmer climates unless it is subjected to cold treatment

ETYMOLOGY
hoheria: Latin version of the Maori name houhere which refers to H. populnea and H. glabrata.
lyallii: Named after David Lyall (1817-1895), 19th century Scottish naturalist and surgeon with the Royal Navy, who explored Antarctica, New Zealand, the Arctic and North America and was a lifelong friend of Sir Joseph Hooker.

WHERE TO BUY
Occasionally sold by specialist garden centres.

ATTRIBUTION
Fact Sheet Prepared for NZPCN by: P.J. de Lange 3 April 2011

REFERENCES AND FURTHER READING

Heenan, P.B.; Dawson, M.I.; Redmond, D.N.; Wagstaff, S.J. 2005: Relationships of the New Zealand mountain ribbonwoods (Hoheria glabrata and H. lyallii: Malvaceae), based on molecular and morphological data. New Zealand Journal of Botany 43: 527–549.
Moorfield, J. C. (2005). Te aka : Maori-English, English-Maori dictionary and index. Pearson Longman: Auckland, N.Z.
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 11: 285-309

CITATION

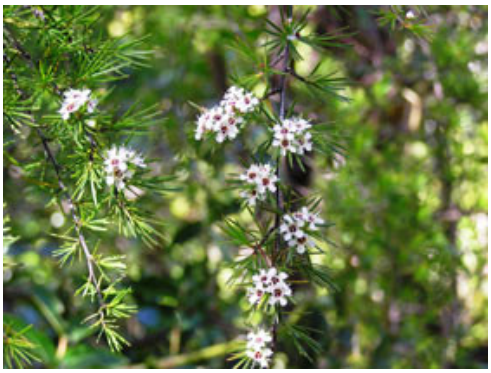
Please cite as: de Lange, P.J. (Year at time of access): Hoheria lyallii Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/hoheria-lyallii/ (Date website was queried)

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/hoheria-lyallii/

Kunzea ericoides

Kunzea ericoides - tree showing weeping branches characteristic of this species.
Photographer: Peter de Lange



Pupu Walkway & Springs 5 Jan 2006.
Photographer: Mike Wilcox

COMMON NAME
kānuka

SYNONYMS
Leptospermum ericoides A.Rich.

FAMILY
Myrtaceae

AUTHORITY
Kunzea ericoides (A.Rich) Joy Thomps.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
KUNEVE

CHROMOSOME NUMBER
2n = 22

CURRENT CONSERVATION STATUS
2018 | Threatened – Nationally Vulnerable

PREVIOUS CONSERVATION STATUSES
2012 | Not Threatened
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Common tree of the northern South Island only. Bark flaky. Branches often pendent at ends, bearing masses of needle-like bright green leaves and clusters of small white flowers. Branchlets appearing hairless (sparsely covered in very small erect hairs (20x magnification)). Leaves to 25 mm long, soft to grasp. Flowers borne in ‘corymbiform’ clusters, white with a red centre. Fruit a small dry capsule 1.9-3.4 × 1.8–3.9 mm.

DISTRIBUTION
Endemic. New Zealand: Northern South Island only - north of the Buller and Wairau Rivers. Most common in North West Nelson.

HABITAT
Coastal to lowland shrubland, regenerating forest and forest margins, also present in montane forest, ultramafic shrubland and very occasionally present in subalpine shrubland.

FEATURES
Trees up to 18 m. Trunk 1–4, 0.10–0.85 m d.b.h. Early bark brown to grey-brown, ± elongate, usually firmly attached, margins elongate sinuous, ± entire with scarcely any flaking; old bark similar. Branches slender, initially ascending soon spreading, apices often pendulous. Branchlets numerous, slender, glabrescent; indumentum sparse, deciduous, hairs divergent 0.02–0.05 mm long; leaves of branchlets densely crowded along stems. Leaves sessile, ± glabrous, except for the margins; lamina 4.0–25.0 × 0.5–1.8 mm, green to yellow-green, linear, linear-lanceolate, to narrowly lanceolate, straight or with upper ¼ weakly recurved, apex acute, sometimes cuspidate, base attenuate; lamina margins initially finely sericeous, glabrate or glabrous; hairs forming a fine, discontinuous band failing just short of lamina apex. Inflorescence a compact corymbiform to shortly elongate 3–15-flowered botryum up 60 mm long. Pherophylls foliose ± persistent, 1 per flower; lamina 3.0–7.8 × 0.9–1.4 mm, elliptic, lanceolate to narrowly lanceolate, apex acute, base attenuate; Pedicels 1.6–3.8 mm long at anthesis, usually glabrous. Flower buds pyriform to narrowly obconic, apex of mature buds weakly domed to flat, calyx lobes distant. Flowers 4.1–8.3 mm diam. Hypanthium 1.4–3.2 × 1.9–4.1 mm; sharply obconic, apex terminating in 5 persistent suberect to spreading calyx lobes; hypanthium glabrous (very rarely with basal ¼ finely , sparsely covered in minute hairs). Calyx lobes 5, suberect to spreading, 0.4–1.0 × 0.4–1.0 mm, orbicular, obtuse to broadly deltoid, red-green, pink or crimson, margins glabrous or finely ciliate. Receptacle green or pink at anthesis, darkening to crimson or dark magenta after fertilisation. Petals 5, 1.4–2.6 × 1.5–2.0 mm, white, orbicular, suborbicular to narrowly ovate, spreading, apex rounded, entire or very finely denticulate, oil glands usually not evident when fresh, ± colourless. Stamens 10–34 in 1–2 weakly defined whorls, filaments white. Anthers dorsifixed, 0.35–0.48 × 0.16–0.24 mm, broadly ellipsoid. Pollen white. Anther connective gland prominent, pink or pinkish-orange when fresh, drying red to orange, ± spheroidal ± coarsely papillate. Ovary 4–5 locular, each with 16–24 ovules in two rows on each placental lobe. Style 1.5–2.2 mm long at anthesis; stigma capitate, about 1¼× the style diam., flat, cream or white, flushing pink after anthesis, surface very finely granular-papillate. Fruits rarely persistent, 1.9-3.4 × 1.8–3.9 mm, glabrous, dark green to reddish-green, maturing brown to grey-brown to grey-black, cupular, barrel-shaped, shortly cylindrical to hemispherical, calyx valves erect with the apices incurved, split concealed by dried, erect, free portion of hypanthium. Seeds 1.00–1.05 × 0.32–0.50 mm, semi-glossy, orange-brown to dark brown, obovoid, oblong, oblong-ellipsoid, or cylindrical and ± curved, surface coarsely reticulate.

SIMILAR TAXA
Easily distinguished from all other members of the Kunzea ericoides complex by the glabrescent to glabrous branchlets. The bright green, finely, linear-lanceolate leaves and small flowers with very low stamen numbers also help to identify this variety.

FLOWERING
October-February

FLOWER COLOURS
White

FRUITING
November-March

LIFE CYCLE
Seeds are dispersed by wind and possibly water (Thorsen et al., 2009).

PROPAGATION TECHNIQUE
Very easy from fresh seed. Seed must be sown fresh, even if left for a few weeks before sowing viability can drop, especially if seed is allowed to dry out. Very difficult from cuttings, though soft wood water shoots give the best results.

THREATS
Not threatened, though some stands are at risk from clearance for farmland or through felling for firewood.

ETYMOLOGY
kunzea: Named after Gustav Kunze (4 October 1793, Leipzig -30 April 1851), 19th century German botanist from Leipzig who was a German professor of zoology, an entomologist with an interest mainly in ferns and orchids
ericoides: Like a heath

WHERE TO BUY

Uncommon in cultivation. It does not seem to be commericially available. Most plants sold as *K. ericoides* are another, very common, allied species *Kunzea robusta*.

ATTRIBUTION

Fact Sheet prepared for NZPCN by P.J. de Lange 25 August 2014. Description modified from de Lange (2014).

REFERENCES AND FURTHER READING

de Lange, P.J. 2014: A revision of the New Zealand *Kunzea ericoides* (Myrtaceae) complex. *Phytokeys 40*: 185p doi: 10.3897/phytokeys.40.7973.

Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. Perspectives in Plant Ecology, Evolution and Systematics 11: 285-309

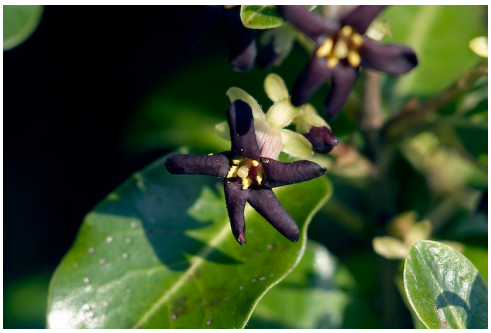
CITATION

Please cite as: de Lange, P.J. (Year at time of access): Kunzea ericoides Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/kunzea-ericoides/ (Date website was queried)

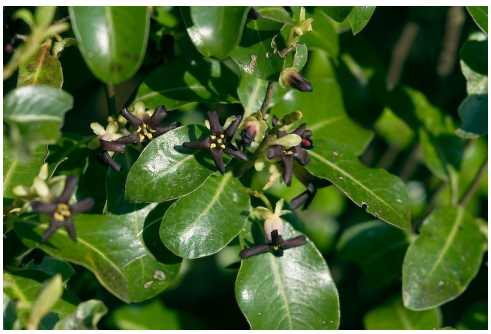
MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/kunzea-ericoides/

Pittosporum tenuifolium



Bartons Bush, Trentham, Upper Hutt.
Photographer: Jeremy Rolfe



Bartons Bush, Trentham, Upper Hutt.
Photographer: Jeremy Rolfe

COMMON NAME
kohukohu, kōhūhū, black matipo

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, Pittosporum tenuifolium Sol. ex Gaertn. subsp. tenuifolium

FAMILY
Pittosporaceae

AUTHORITY
Pittosporum tenuifolium Sol. ex Gaertn.

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
PITTEN

CHROMOSOME NUMBER
2n = 24

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
Small tree with very dark twigs bearing pale green shiny wavy thin leaves and very dark flowers and 12mm wide capsules that split into two or three to show the black sticky seeds. Leaves usually 2-4cm long.

DISTRIBUTION
Endemic and widespread throughout country.

HABITAT
A small tree of coastal to montane shrubland and forested habitats. Preferring successional habitats.

FEATURES
Shrub or small gynodioecious tree up to 10 m tall (usually much less). Trunk 0.3-0.4(-0.6) m diam., stout, clad in dark grey-black or brown persistent bark. Branches numerous, erect then spreading. Branchlets and young leaves pubescent, hairs pale yellow or cream. Petioles short, somewhat fleshy. Leaves alternate, (10-)30(-70) x (5-)10(-20) mm, leathery, pale-green to dark green above, lighter below, oblong, oblong-ovate or elliptic-obovate, apex obtuse to acute, rarely acuminate, margins entire, often undulose. Flowers solitary or in axillary cymes, rather fragrant, especially at night. Pedicels stout, pale green, fleshy, bracts entire, lanceolate, caducous. Sepals narrowly ovate-oblong, subacute to obtuse, silky hairy. Petals 12 mm long, lanceolate, dark red, black (rarely yellow or white). Capsules 2-valved (rarely 3), subglobose, valves woody, black when mature, long persistent. Seeds immersed in sticky, red or yellow viscid pulp.

FLOWERING
October - November (-December)

FLOWER COLOURS
Black, Red/Pink

FRUITING
January - March

PROPAGATION TECHNIQUE
Easy from fresh seed. Can be grown from semi-hardwood cuttings.

ETYMOLOGY
pittosporum: Pitch seed
tenuifolium: Thin leaf

WHERE TO BUY
Very common in cultivation. Kohuhu and cultivars are commonly sold by commercial nurseries and are also grown throughout the world.

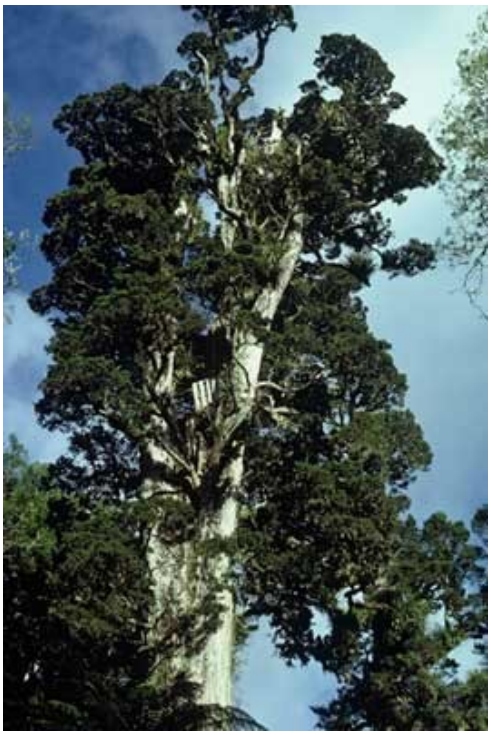
ATTRIBUTION
Fact sheet prepared for NZPCN by P.J. de Lange 10 January 2004. Description adapted from Allan (1961).

REFERENCES AND FURTHER READING
Allan, H.H. 1961: Flora of New Zealand. Vol. I. Wellington, Government Printer

CITATION
Please cite as: de Lange, P.J. (Year at time of access): Pittosporum tenuifolium Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.
https://www.nzpcn.org.nz/flora/species/pittosporum-tenuifolium/ (Date website was queried)

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/pittosporum-tenuifolium/

Podocarpus totara var. totara



Totara. Photographer: DoC

Totara bark. Photographer: DoC

COMMON NAME
tōtara

SYNONYMS
Podocarpus totara G.Benn. ex D.Don

FAMILY
Podocarpaceae

AUTHORITY
Podocarpus totara G.Benn. ex D.Don var. totara

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Gymnosperms

NVS CODE
PODTOT

CHROMOSOME NUMBER
2n = 34

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

DISTRIBUTION
Endemic. Common throughout most of the North and South Islands. Present but extremely scarce on Stewart Island (Freshwater River).

HABITAT
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.

FEATURES
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.

SIMILAR TAXA
Most frequently confused with Podocarpus laetus 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. See also Gardner (1990) in references below.

FLOWERING
(August-) October (-December)

FLOWER COLOURS
No flowers

FRUITING
Fruits take a year or so to ripen, and may be found throughout the year, usually peaking at about the same time that cones are produced. They are most frequently seen between April and May

PROPAGATION TECHNIQUE
Easily grown from fresh seed and hard-wood cuttings.

THREATS
Not Threatened, though as a vegetation type it is all but extinct throughout most of its former range.

ETYMOLOGY
podocarpus: Foot or stalk fruit
totara: After the Maori name, totara

CULTURAL USE/IMPORTANCE
The distinctive red, somewhat oily wood was the timber of preference for use by Maori for constructing canoes (waka), and carvings. The stringy bark was harvested to make bags in which to hold preserved birds.

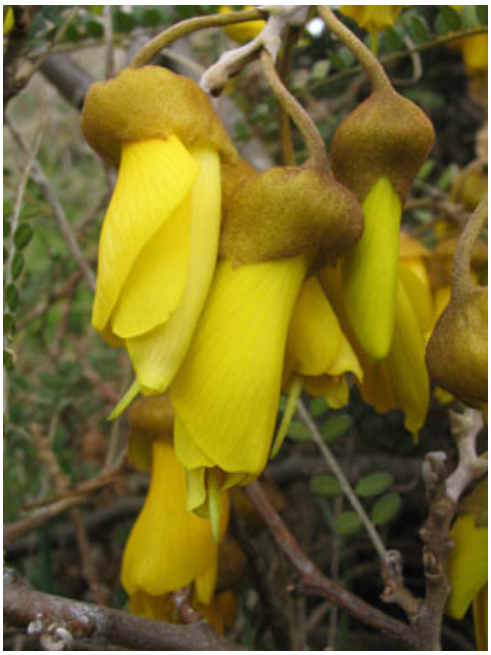
ATTRIBUTION
Fact sheet prepared by P.J. de Lange for NZPCN (1 June 2013)

REFERENCES AND FURTHER READING
Gardner, R. 1990. Totara and Halls totara. Auckland Botanical Society Journal, 45:27-28.
Moorfield, J. C. (2005). Te aka : Maori-English, English-Maori dictionary and index. Pearson Longman: Auckland, N.Z.
Landcare Research. Nga Tipu Whakaoranga - Maori Plant Use Database.
http://maoriplantuse.landcareresearch.co.nz/WebForms/default.aspx

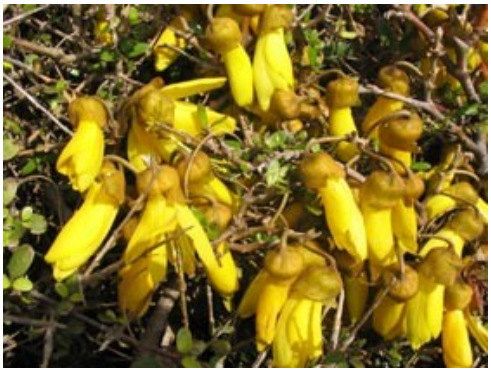
CITATION
Please cite as: de Lange, P.J. (Year at time of access): Podocarpus totara var. totara Fact Sheet (content continuously updated). New Zealand Plant Conservation Network.
https://www.nzpcn.org.nz/flora/species/podocarpus-totara-var-totara/ (Date website was queried)

MORE INFORMATION
https://www.nzpcn.org.nz/flora/species/podocarpus-totara-var-totara/

Sophora microphylla



Flowers, Nugget Point. Photographer: John Barkla



Flowers, Nugget Point. Photographer: John Barkla

COMMON NAME
kōwhai, weeping kōwhai, small-leaved kōwhai

SYNONYMS
Edwardsia microphylla (Aiton) Salisb., Edwardsia grandiflora var. microphylla (Aiton) Hook.f., Sophora tetraptera var. microphylla (Aiton) Hook.f.; Sophora microphylla Aiton var. microphylla; Sophora microphylla Aiton subsp. microphylla; Sophora microphylla Aiton subsp. microphylla var. microphylla

FAMILY
Fabaceae

AUTHORITY
Sophora microphylla Aiton

FLORA CATEGORY
Vascular – Native

ENDEMIC TAXON
Yes

ENDEMIC GENUS
No

ENDEMIC FAMILY
No

STRUCTURAL CLASS
Trees & Shrubs - Dicotyledons

NVS CODE
SOPMIC

CHROMOSOME NUMBER
2n = 18

CURRENT CONSERVATION STATUS
2012 | Not Threatened

PREVIOUS CONSERVATION STATUSES
2009 | Not Threatened
2004 | Not Threatened

BRIEF DESCRIPTION
A common kowhai tree bearing leaves 30-50mm long that have spaced equal-sized leaflets 4.5-12.5mm long and with bunches of drooping yellow flowers and dry ridged and knobbly seed pods 50-200mm long containing hard yellow seeds. Juveniles with zig-zagging branches.

DISTRIBUTION
Endemic. Throughout the main islands of New Zealand but scarce in parts of Northland.

HABITAT
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.

FEATURES
Tree up to 25 m tall, usually a single trunk. Branches weeping, and spreading. Juveniles divaricating and/or strongly flexuose, and interlacing. Leaves on seedlings sparsely to moderately leafy, 3-5.8 x 2.3-4.9 mm, broadly obovate to orbicular, glabrous to sparely pubescent, distant, not crowded or overlapping. Adult leaves up to 150 mm long, imparipinnate, moderately to sparsely hairy, hairs, straight, appressed. Leaflets 30-50, not crowded or overlapping, distant, 4.5-12.5 x 2.3-5.7 mm, elliptic, broadly elliptic, obovate to ovate, sometimes orbicular, distal and proximal leaflets of similar size. Inflorescences racemose with up to 7 flowers. Calyx 5-11 x 7-10 mm, cupulate. Flowers yellow, keel petal blade 18-50 x 7-13 mm, wing petal blade 18-50 x 6-11 mm, standard petal blade 20-35 x 14-25 mm; petals with distinct claws 4-8 mm long. Fruit 50-200 mm long, 4-winged, brown, with up to 12 seeds. Seeds 5.5-8.5 x 4.-5.5 mm, oblong, elliptic to orbicular, yellow to light yellow-brown.

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

FLOWERING
(May-) August-October

FLOWER COLOURS
Yellow

FRUITING
October -May

PROPAGATION TECHNIQUE
Easy from seed, provided the hard seed shell is nicked first with a knife or rubbed with sandpaper to expose the endosperm. Soaking seed treated this way overnight often helps speed up germination. Can be grown with difficulty from cuttings.

THREATS
The main threat that faces all wild New Zealand kowhai species is the risk posed through planting for revegetation and horticultural purposes of hybrid material, foreign species, such as the Chilean Pelu (S. cassioides) and also of kowhai species outside their natural range. In many places S. microphylla occurs as isolated stands within otherwise cleared alluvial forest, and in this situations the loss of trees over time is inevitable. The species is genuinely uncommon in Northland, and in that area inadequately represented within reserves and other conservation land.

ETYMOLOGY
sophora: After the Arabic name for a similar tree
microphylla: Small leaf

WHERE TO BUY
Commonly available at most commercial nurseries. A popular native tree for larger gardens. However many plants sold by nurseries are hybrids with either *S. chathamica* or *S. tetraptera*.

POISONOUS PLANT
All parts of the plant but especially the ripe yellow seed are poisonous. Because the seed are hard they will take a lot of chewing to cause harm, and also will need to be consumed in large quantities to effectively poison a human. If the seed are crushed before eating it is more likely that they will cause harm. The major toxin is Cytisine and symptoms of poisoning include nausea, vomiting, increased heart rate, twitching of muscles or loss of coordination. Onset of these symptoms may occur within one hour. In extreme cases symptoms include paralysis and respiratory failure. Click on this link for more information about Poisonous native plants.

ATTRIBUTION
Fact Sheet prepared for NZPCN by P.J. de Lange (31 July 2004). Description adapted from Heenan et al. (2001).

REFERENCES AND FURTHER READING
Anonymous. 1944. Kowhai. *Wellington Botanical Society Bulletin 9*: 4-5
Duguid, F. 1971. Germination of kowhai at Hokio beach. *Wellington Botanical Society Bulletin 37*: 65-66.
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*: 17-53

CITATION

Please cite as: de Lange, P.J. (Year at time of access): Sophora microphylla Fact Sheet (content continuously updated). New Zealand Plant Conservation Network. https://www.nzpcn.org.nz/flora/species/sophora-microphylla/ (Date website was queried)

MORE INFORMATION

https://www.nzpcn.org.nz/flora/species/sophora-microphylla/