



## Plant species for A & R Thompson



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Made on the New Zealand Plant Conservation Network website – [www.nzpcn.org.nz](http://www.nzpcn.org.nz)

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## Introduction

This book was compiled from information stored on the website of the New Zealand Plant Conservation Network ([www.nzpcn.org.nz](http://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, threatened mosses, liverworts and fungi.

Funding to develop the website was provided by the New Zealand Government's Terrestrial and Freshwater Biodiversity Information System Programme (TFBIS).

The species information used on the website has come from a variety of sources. The indigenous vascular plant text was written largely by Dr Peter de Lange (former Network Vice President). Peter based the descriptions on a wide range of sources including the Flora of NZ Series (Allan 1961, Moore and Edgar 1970 and Webb et al 1987) as well as numerous other taxonomic treatments. For a full bibliography of information sources see the References at the end of this book.

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 Mike Thorsen, John Barkla, Cathy Jones, Simon Walls, Nick Singers and many others. The threatened fungi text was written by Eric Mackenzie and Peter Buchanan (Landcare Research).

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.

## 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 encompasses 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
- Advocacy to raise awareness of the importance of plant life in general and especially New Zealand's status as a Global Centre of Plant Diversity
- Lobbying central and regional government and business to protect indigenous plant life
- Educating people about plant life through the Network website
- Connecting people through 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 small group of botanists that between them have an extensive knowledge of the native plants of New Zealand. This group is chaired by Dr Peter de Lange of the New Zealand Department of Conservation.

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. 2009). The main threat categories used are: Extinct, Critical, Endangered, 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 2009 conservation assessment (see de Lange et al 2009).

More recently other committees have been established to review the status of non-vascular plants but their lists are yet to be published.

## *Aristotelia serrata*

### Common Name(s):

Makomako, wineberry

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic. North, South and Stewart Islands. Throughout, but less common in drier areas.

### Habitat:

Lowland to montane forests. Often forming dense thickets following disturbance.

### Features\*:

Dioecious tree to c. 10 m tall; trunk and branches upright, to 30 cm diam.; bark smooth, grey, spotted with lenticels; branchlets light to dark red, pubescent. Leaves opposite to subopposite; petiole slender, to 50 mm long, greenish often flushed pink; midvein conspicuous above, raised below; secondary veins obvious and raised below giving surface a wrinkled uneven appearance; lamina membranous, 5-12 x 4-8 cm, glabrate (pubescence may persist on veins below), broad-ovate, margin deeply doubly and irregularly sharply serrate, tip acuminate, base cordate to truncate, upper surface light or dark green, undersides pale green, frequently infused with purple or pink. Juvenile leaves larger. Inflorescences conspicuous, axillary, flowers 4-6 mm diam., in panicles 6-10 cm long, on slender pubescent pedicels 5-10 mm long. Sepals 4, ovate, c. 3 mm long, pubescent, pink; petals 4, 3-lobed (often deeply), c. 9 mm long, white to light pink to red. Stamens many, on glandular minutely pubescent disc, not exceeding petals. Ovary 3-4-celled, styles 3-4. Fruit a c. 8-seeded fleshy depressed-obovoid berry, 5 x 4 mm, bright red to black. Seed irregularly angled, ventral surface flattened, circular or broadly elliptic, 1.9-3.1 mm, surface irregular, aril absent.

### Flowering:

September-December

### Fruiting:

November-January

### \*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

Webb, C.J. & Simpson, M.J.A. 2001. Seeds of NZ gymnosperms and dicotyledons. Manuka Press, Christchurch.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1512](http://nzpcn.org.nz/flora_details.asp?ID=1512)



**Caption:** Flowering wineberry

**Photographer:** Jane Gosden



**Caption:** Waikuku, Aorangi

**Photographer:** John Sawyer

# *Austroderia toetoe*

## Common Name(s):

Toetoe

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. Confined to the North Island where it grows from about Carters Beach (western Waikato) south to Wellington. There are reports of it from the Waitakere Ranges that require further investigation. It has been planted and has sparingly naturalised on Waiheke Island

## Habitat:

Common in freshwater swamps and wet places from sea level to montane habitats. Often growing in association with flax/harakeke (*Phormium tenax*).

## Features\*:

Stout, tussock-forming grass up to 4 m tall when in flower. Leaf sheath glabrous, ivory with green midrib, copiously covered in white wax. Ligule 4 mm. Collar dark brown, upper surface clothed in short hairs. Leaf blade 2(-3) m x 3 cm, straw-yellow, light-green, rarely dark-green, undersides long hairy toward margins, upper surface with a thick weft of hairs at base, otherwise minutely hairy through, and rather harsh due to numerous prickly-teeth. Culm up to 4 m, inflorescence portion up to 1 m tall, stiff, erect, densely plumose. Spikelets numerous, 25 mm with 2-3 florets per spikelet. Glumes equal, 25 mm, > florets. Lemma 10 mm, 3-nerved, scabrid. Palea 6.5 mm, keels ciliate. Callus hairs 1.5 mm. Rachilla 0.5 mm. Flowers either perfect or female. Anthers of perfect flowers 4.8 mm, in females 2.8 mm. Ovary of perfect flowers 1 mm, stigma -styles 1.8 mm; female flowers with ovary 1.3 mm, stigma-style 3.5 mm. Seed 2.5-3 mm.

## Flowering:

November - February

## Fruiting:

October - March

## Threats:

Abundant and not threatened. Often naturalising in suitable habitats.

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 1 October 2003. Description adapted from Edgar & Connor (2000).

## References and further reading:

Edgar, E.; Connor, H.E. 2000: Flora of New Zealand. Vol. V. Grasses. Manaaki Whenua Press, Christchurch.

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

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1760](http://nzpcn.org.nz/flora_details.asp?ID=1760)



**Caption:** Ligule.

**Photographer:** Jeremy Rolfe, Wainuiomata River mouth. Dec 2006.



**Caption:** Toetoe

**Photographer:** John Smith-Dodsworth

## *Carex secta*

### **Common Name(s):**

Purei, Pukio, Niggerhead

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Endemic. Found throughout the North, South and Stewart Islands. Also on the main Chatham Island, though scarce.

### **Habitat:**

Widespread in suitable wetlands from coastal to montane wetlands.

### **Features\*:**

Tussock forming sedge up to 1.5 x 0.8 m, mature specimens with trunk-like bases comprised of matted rhizomes, roots and old culm-bases. Culms 0.25-1(-1.5) m, drooping, trigonous, scabrid, basal sheaths brown to light-brown. Leaves 1.5-7 mm wide, light green to yellow-green (rarely dark green - then in heavy shade), equal to or longer than culms, drooping, channelled, margins and keel scabrid. Inflorescence a loosely branched, somewhat slender, drooping panicle 0.45-1 m long. Spikes pale brown, mostly clustered towards the ends of the slender branchlets. Utricles chestnut brown to dark brown, margins weakly winged, scabrid, light brown to brown, apex with a minute to distinct beak.

### **Flowering:**

(September-) October-November (-December)

### **Fruiting:**

October - March

### **Threats:**

Not Threatened.

### **\*Attribution:**

Fact Sheet prepared by P.J. de Lange (10 August 2006). Description adapted from Moore and Edgar (1970)

### **References and further reading:**

Moore, L.B.; Edgar, E. 1970: Flora of New Zealand. Vol. II. Government Printer, 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

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1418](http://nzpcn.org.nz/flora_details.asp?ID=1418)



**Caption:** Carex secta

**Photographer:** Wayne Bennett



**Caption:** Carex secta (Purei)

**Photographer:** Wayne Bennett

## *Carpodetus serratus*

### Common Name(s):

putaputaweta, marbleleaf

### Current Threat Status (2012):

Not Threatened

### 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 knobbed 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.

### Flowering:

November-March

### Fruiting:

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

### Threats:

Not Threatened.

### \*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 Interesting Insects and other Invertebrates. [http://nzacfactsheets.landcareresearch.co.nz/factsheet/OrganismProfile/Puriri\\_moth\\_-\\_Aenetus\\_virescens.html](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

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1605](http://nzpcn.org.nz/flora_details.asp?ID=1605)



**Caption:** Rotoiti Mainland Island, Nelson Lakes National Park  
**Photographer:** John Sawyer



**Caption:** Rotoiti Mainland Island, Nelson Lakes National Park  
**Photographer:** John Sawyer

# *Chionochloa flavicans* f. *flavicans*

## Common Name(s):

snow tussock

## Current Threat Status (2012):

Not Threatened

## Distribution:

Found in North Island from Coromandel to Hawkes Bay.

## Habitat:

Coastal to subalpine. Inhabiting sparsely vegetated cliff and rock faces, and talus slopes

## Features\*:

Tall, stout, often sprawling, flabellate tussock with persistent leaves and sheaths. Leaf-sheath to 150 mm, pinkish or purplish, chartaceous, entire, becoming fibrous, keeled, glabrous or with a few long hairs, apical tuft of hairs to 1 mm. Ligule to 0.7 mm. Leaf-blade to 750 × 8 mm, dark green to yellow-green, keeled, persistent, glabrous except for some short hairs above ligule and prickle-teeth on margins and abaxially at apex. Culm to 1.5 m, internodes glabrous. Inflorescence to 300 mm, clavate, dense and compact, not naked below; rachis smooth below, branches and pedicels densely scabrid and with some long hairs at branch axils. Spikelets of up to 4 distant florets. Glumes to 7 mm, broad, shallowly bifid, sometimes purpled, margins ciliate, prickle-teeth adaxially above, < nearest lemma lobes; lower 3-nerved, upper 5-nerved. Lemma to 6 mm; hairs dense on margin, usually fewer or none aside central nerve, rarely reaching sinus, prickle-teeth above adaxially and abaxially on nerves; lateral lobes up to 2.5 mm, conspicuously awned adjacent to a small lobe; central awn to 16 mm, reflexed, column absent. Palea to 6 mm, interkeel with prickle-teeth above. Callus to 1.5 mm, hairs to 4 mm. Rachilla to 0.25 mm. Lodicules to 1 mm. Anthers to 4 mm. Ovary to 1 mm; stigma-styles to 3 mm. Seeds to 3 mm

## Flowering:

September - November

## Fruiting:

October - June

## Threats:

Not Threatened

## \*Attribution:

Description modified from Edgar and Connor (2000).

## References and further reading:

Edgar, E.; Connor, H.E. 2000: Flora of New Zealand. Vol. V. Grasses. Christchurch, Manaaki Whenua Press. 650 pp

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1664](http://nzpcn.org.nz/flora_details.asp?ID=1664)



**Caption:** Lonely Bay, Whitianga  
**Photographer:** John Smith-Dodsworth



**Caption:** Lonely Bay, Whitianga  
**Photographer:** John Smith-Dodsworth



## *Coprosma propinqua* var. *propinqua*

**Common Name(s):**

mingimingi

**Current Threat Status (2012):**

Not Threatened

**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

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1728](http://nzpcn.org.nz/flora_details.asp?ID=1728)



**Caption:** Waikanae Estuary.  
**Photographer:** Jeremy Rolfe



**Caption:** *Coprosma propinqua*  
var. *propinqua*  
**Photographer:** Wayne Bennett

## *Coprosma robusta*

### Common Name(s):

karamu, glossy karamu

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic. North and South Islands. Naturalised on the Chatham Islands within a small area between Waitangi and Owenga.

### Habitat:

Common throughout coastal, lowland and lower montane habitats within shrublands and open sites within forest.

### Features:

Shrub or small tree up to 6 m tall. Branches numerous, stout, erect to somewhat spreading. Petioles stout, 10-20 mm long. Stipules fused towards base, obtuse, glabrous with one of two prominent, black, glandular denticles. Leaves 70-120 x 30-40-50 mm, leathery, dark green above, paler green beneath, glabrous, elliptic, elliptic-oblong to broad-ovate, acute or obtuse, apex mucronate. Venation reticulated, conspicuous. Male flowers in axillary many-flowered glomerules, corolla conspicuous, lobes triangular, acute, stamens 4-5, prominent. Females in compound clusters on peduncles 10-15 mm. Calyx and corolla much reduced, stigmas prominent. Drupe dark orange (rarely yellow), 8-8 x 4-5 mm, oblong to narrow-ovoid.

### Flowering:

(July-) August-September (-November)

### Fruiting:

(March-) April-May (-July)

### Threats:

Not Threatened

### 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

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1733](http://nzpcn.org.nz/flora_details.asp?ID=1733)



**Caption:** Fruit of *Coprosma robusta*

**Photographer:** Wayne Bennett



**Caption:** *Coprosma robusta* (Karamu)

**Photographer:** Wayne Bennett

# *Cordyline australis*

## Common Name(s):

cabbage tree, ti, ti kouka, palm lily

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. Common in the North, South and Stewart Islands. Probably naturalised on the Chatham Islands.

## Habitat:

Widespread and common from coastal to montane forest. Most commonly encountered on alluvial terraces within riparian forest.

## Features:

Tree up to 20 m tall, trunk stout, 1.5-2 m diam, many-branched above (prior to flowering, trunk slender and solitary, branching happens after the first flowering). Bark corky, persistent, fissured, pale to dark grey. Leaves numerous (0.2-)0.3-1(-1.5) x (0.2)-0.3(-0.6) m, dark to light green, narrowly lanceolate to lanceolate, erect to erecto-patent, scarcely inclined to droop, midrib indistinct. Petiole indistinct, short. Inflorescence a panicle. Peduncle stout, fleshy 40 mm or more in diam., panicle of numerous flowers, (0.6-)1(-1.8) x .3-0.6(-0.8) m, branching to third or fourth order, these well spaced, basal bracts green and leaf-like, ultimate racemes 100-200 mm long, 20 mm diam., bearing well-spaced to somewhat crowded, almost sessile to sessile flowers and axes. Flowers sweetly perfumed, perianth 5-6 mm diam., white, tepals free almost to base, reflexed. Stamens about same length as tepals. Stigma short, trifid.

## Flowering:

(September-) October-  
December (-January)

## Fruiting:

(December-)  
January-March

## Threats:

Populations have been decimated from some parts of the country due to a mysterious illness linked to a Myoplast Like Organism (MLO) which is believed to cause the syndrome known as Sudden Decline. Plants stricken with this illness suddenly, and rapidly, wilt, with the leaves failing off still green. If the bark is peeled off the base of the tree near the soil line blackened or rotten spots are typically present. Once stricken with Sudden Decline there is no cure and the trees can die within days. Recently there has been some evidence to suggest the severity of Sudden Decline is lessening.

## References and further reading:

Beever, R. et al. 1996. Sudden decline of cabbage tree. *NZ Journal of Ecology*, 20(1): 53-68

Duguid, F. 1976. *Cordyline australis* at Lake Kopureherehe. *Wellington Botanical Society Bulletin*, 39: 46-47

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

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1744](http://nzpcn.org.nz/flora_details.asp?ID=1744)



**Caption:** Awhitu Regional Park, Auckland region

**Photographer:** John Sawyer



**Caption:** *Cordyline australis*

**Photographer:** Wayne Bennett

# *Dacrycarpus dacrydioides*

## Common Name(s):

kahikatea, white pine

## Current Threat Status (2012):

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, subtrigonus, lanceolate-subulate to acuminate with broader base, brown-green or glaucous. Male cones terminal, oblong, 10 mm. Pollen pale yellow. Ovule, terminal, solitary glaucous. 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.

## Flowering:

October - January

## Fruiting:

February - April

## 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.

## \*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

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

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2099](http://nzpcn.org.nz/flora_details.asp?ID=2099)



**Caption:** Fruit.

**Photographer:** © John Braggins



**Caption:** *Dacrycarpus dacrydioides*

**Photographer:** Wayne Bennett

# *Dacrydium cupressinum*

## Common Name(s):

rimu, red pine

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. North, South and Stewart Islands from North Cape south. 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*.

## Habitat:

Lowland to montane forest - occasionally ascending to subalpine scrub.

## Features\*:

Dioecious conifer 35(-60) m tall. Adult trees with trunk bare of branches for 3/4 of length. Trunk stout, 1.5-2 m diam., bark dark brown, falling off in large thick flakes. Wood dark red. Branches in juveniles numerous, slender, branchlets pendulous. Adult branches few, spreading, branchlets slender, pendulous. Leaves dark green, bronze-green, red-green or orange, imbricate, those of juveniles 4-7(-10) mm., 0.5-1 mm wide, keeled, acute, linear-subulate, subfalcate, decurrent; those of subadults ascending, incurved 4-6 mm., rhomboid; of adults similar but appressed, 2-3 mm., rigid, subacute, trigonous. Male and Female "cones" first appear on subadults. Male cones (strobili) solitary or paired, terminal 5-10 mm., oblong. Pollen yellow. Ovules solitary, terminal on up-curved branchlets. Receptacle a fleshy red or deep-orange cup 1-2 mm long. Seed oblong or elliptic-oblong, compressed in section, 3-3.8(-4) mm long, semi-glossy, dark-brown.

## Fruiting:

### Flowering:

December -  
March

Fruits take a year or more to mature and co-occur with young female cones, they are most frequently seen between February and May.

## Threats:

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

## \*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 3 February 2006. Description adapted from Allan (1961), Webb & Simpson (2001), fresh material and herbarium specimens.

## References and further reading:

Allan, H.H. 1961: Flora of New Zealand. Wellington, Government Printer.

Gardner, R. 2001. Notes towards an excursion Flora. Rimu and kahikatea (Podocarpaceae). Auckland Botanical Society Journal, 56: 74-75

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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

Webb, C.J.; Simpson, M.J.A. 2001: Seeds of New Zealand Gymnosperms and Dicotyledons. Christchurch, Manuka Press.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2100](http://nzpcn.org.nz/flora_details.asp?ID=2100)



**Caption:** Pihanga, Tongariro National Park

**Photographer:** John Sawyer



**Caption:** Pihanga, Tongariro National Park

**Photographer:** John Sawyer

# *Dicksonia squarrosa*

## Common Name(s):

rough tree fern, harsh tree fern, wheki

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. North, South, Stewart and Chatham Islands.

## Features\*:

Tree ferns up to 8 m tall. Rhizomatous usually forming colonial stands. Rhizomes numerous spreading from main stock 1–2 m or more distant, giving rise to subsidiary erect caudices. Trunk slender, solitary, bifurcated (sometimes several times over), up to c.200 mm diam., composed of long-persistent, black stipe bases, interwoven dark brown to black rootlets, red-brown hairs and dormant or active aerial buds. Fronds numerous, persistent or not in death, either falling or forming an untidy, tattered skirt (especially on young plants); in life erect, arching, forming an often tattered, untidy crown, 1.0–2.0(–2.6) m long, 0.5–1.0 m wide. Stipes (180–)280–300(–320) mm long, black, ± rugose, base densely clad deciduous dark red-brown to brown filiform hairs 30–40(–55) mm long; rachises initially clad in dark reddish brown hairs when young, becoming rugose with age. Lamina (0.68–)1.6–(2.28) m long, oblong-lanceolate, (2–)3–4-pinnate, adaxially light to dark glossy green, abaxially paler, harshly coriaceous; primary pinnae 250–500 mm long, deltoid-ovate to lanceolate, acuminate; secondary pinnae close-set to ± overlapping, 50–80 mm long, acute. Barren pinnules 10–18 mm, acute, often sharply toothed, widened and confluent at base, shallowly concave; fertile pinnules close-set, narrowly confluent at base, 10–15 mm long; lobes strongly concavo-convex c.5 mm. long, rounded, each bearing a sorus. Sorus ± rounded, terminating veins at fertile pinnae margins; sporangia on raised receptacle, partially obscured by in rolled pinnae margin, and delicate, submembranous inner indusium. Spores golden brown to red-brown.

## Flowering:

Not applicable - spore producing

## Fruiting:

Not applicable - spore producing

## Threats:

Not Threatened

## \*Attribution:

Fact Sheet Prepared for NZPCN by P.J. de Lange (10 November 2012). Description by P.J. de Lange.

## References and further reading:

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1791](http://nzpcn.org.nz/flora_details.asp?ID=1791)



**Caption:** *Dicksonia squarrosa*

**Photographer:** Wayne Bennett



**Caption:** *Dicksonia squarrosa*

**Photographer:** Wayne Bennett

# *Hoheria sexstylosa*

## Common Name(s):

Houhere, lacebark

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. North Island from the northern Waikato and Coromandel Peninsula south to the south Wellington Coast and Wairarapa. South Island rather local and wild populations are now hard to recognise from naturalised ones. Those from North West Nelson, inland Marlborough and Banks Peninsula are probably natural. Some botanists regard all South Island occurrences of *H. sexstylosa* as naturalised but this seems unlikely. *Hoheria sexstylosa* currently includes plants that AP Druce referred to as *Hoheria 'Tararua'*.

## Habitat:

Coastal, lowland to montane riparian forest.

## Features\*:

Heteroblastic, much-branched tree up to 18 m tall; bark of mature trunk and branches dark grey-brown that of younger growth dark red brown branches and branchlets rather slender, ascending often with branchlet apices pendulous; indumentum on mature parts, sparse, comprised of short stellate hairs; indumentum of younger parts and inflorescences rather denser, comprised of copious stellate hairs. Juvenile and sub-adult plants usually filiramate, sub-divaricate to  $\pm$  fully divaricate (such growth sometimes persisting as reversion shoots on the damaged trunk of mature trees); leaves rather distant, on very slender, brittle petioles (4.8)-5.0(-8.0) mm long; lamina (10-)15(-30)  $\times$  (10-)15(-25) mm, adaxially dark green to grey-green, dull or glossy, adaxially paler and dull, broad-ovate to suborbicular, base cuneately narrowed, margins irregularly and deeply 3-5-lobed or coarsely incised, teeth dentate; lamina surfaces usually finely covered in caducous stellate hairs. Adult leaves on slender, pliant petioles 5-10(-20) mm long; lamina (50-)150  $\times$  (10-)50(-60) mm, adaxially dark green to grey-green, dull or glossy, adaxially paler and dull, lanceolate to ovate-lanceolate, apices mostly acuminate, sometimes obtuse to broadly rounded, base cuneately narrowed; lamina surfaces  $\pm$  glabrous, sometimes sparsely covered in reddish to grey caducous stellate hairs (especially abaxially on and near midrib). Flowers 18-20 (-25) mm diameter, in 2-5-flowered cymose fascicles or solitary, on slender pedicels 20-30 mm long. Calyx campanulate, (4.5-)6.0(-8.0) mm long, teeth narrowly triangular, indumentum usually dense, hairs stellate; petals 10-15 mm long, white, obliquely oblong, notched.; styles (5)-6-7, stigmas capitate; anthers white. Carpels (5-)6(-7) compressed. Mericarp winged, main body 4.5-6.5 mm long, brown; wing 3.2-8.0 mm long, abruptly curved outwards, orange yellow, finely and sparsely covered with stellate hairs.

## Flowering:

February - May

## Fruiting:

April - August

## Threats:

Not Threatened

## \*Attribution:

Fact Sheet Prepared for NZPCN by P.J. de Lange 9 April 2011. Description based on herbarium specimens and live plants grown by P.J. de Lange (9 April 2011) supplemented by information obtained from Allan (1961) and Webb & Simpson (2011).

## References and further reading:

Allan, H.H. 1961: Flora of New Zealand. Vol. I, Wellington, Government Printer.

Moorfield, J. C. (2005). Te aka : Maori-English, English-Maori dictionary and index. Pearson Longman: Auckland, N.Z.

Webb, C.J.; Simpson, M.J.A. 2001: Seeds of New Zealand Gymnosperms and Dicotyledons. Christchurch, Manuka Press.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=825](http://nzpcn.org.nz/flora_details.asp?ID=825)



**Caption:** *Hoheria sexstylosa* (Houhere)

**Photographer:** Wayne Bennett



**Caption:** Flowers of *Hoheria sexstylosa*

**Photographer:** Wayne Bennett

## *Juncus effusus* var. *effusus*

### **Common Name(s):**

leafless rush

### **Current Threat Status (2009):**

Exotic

### **Distribution:**

Widespread and common throughout.

### **Habitat:**

Wet pasture and a wide range of wet habitats, including peaty areas.

### **Features\*:**

Dense tuft-forming rush with short rhizomes. Stems 30-120 cm x 1.5-3 mm, cylindrical, bright or yellow-green, softer than most similar spp, easily split or compressed, smooth, shining; with continuous, cobwebby pith. No true leaves, only reddish-brown basal sheaths, closely held to stem. Seedhead not at end of stem, with many tiny green flowers along short, downward-curving branchlets. Seed capsule 2-3 mm long, oval, light brown.

### **Flowering:**

Spring to early summer

### **Fruiting:**

Summer to autumn

### **\*Attribution:**

Factsheet prepared by Paul Champion and Deborah Hofstra (NIWA). Features description from Healy and Edgar (1980).

### **References and further reading:**

Healy, A.J.; Edgar, E. (1980). Flora of New Zealand, Volume III. Adventive Cyperaceous, Petalous and Spathaceous Monocotyledons. Government Printer, Wellington. 220pp.

Johnson PN, Brooke PA (1989). Wetland plants in New Zealand. DSIR Field Guide, DSIR Publishing, Wellington. 319pp.

Johnson, A. T. and Smith, H. A (1986). Plant Names Simplified: Their pronunciation, derivation and meaning. Landsman Bookshop Ltd: Buckenhill, UK.

Champion et al (2012). Freshwater Pests of New Zealand. NIWA publication. <http://www.niwa.co.nz/freshwater-and-estuaries/management-tools/identification-guides-and-factsheets/freshwater-pest-species>

Kirschner, J. (compiler) (2002). Juncaceae 3: *Juncus* subg. *Agathryon*, Species Plantarum: Flora of the World Part 8: 1-192.

Healy, A.J. (1982). Identification of weeds and clovers. New Zealand Weed and Pest Control Society Publication. Editorial Services Limited, Featherston. 299pp.

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3343](http://nzpcn.org.nz/flora_details.asp?ID=3343)



**Caption:** Lake Waiporohita. Feb 2011.

**Photographer:** Jeremy Rolfe



**Caption:** *Juncus effusus*

**Photographer:** John Smith-Dodsworth



## *Kunzea ericoides*

### Common Name(s):

Manuoa, Titira, Atitira, Kanuka

### Current Threat Status (2012):

Not Threatened

### 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 to 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.

### Flowering:

October-February

### Fruiting:

November-March

### Threats:

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

### \*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

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=885](http://nzpcn.org.nz/flora_details.asp?ID=885)



**Caption:** *Kunzea ericoides* - tree showing weeping branches characteristic of this species

**Photographer:** Peter de Lange



**Caption:** Marahau

**Photographer:** Peter de Lange

## *Laurelia novae-zelandiae*

### **Common Name(s):**

Pukatea

### **Current Threat Status (2012):**

Not Threatened

### **Threats:**

Not Threatened

### **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

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=901](http://nzpcn.org.nz/flora_details.asp?ID=901)



**Caption:** *Laurelia novae-zelandiae*

**Photographer:** John Smith-Dodsworth



**Caption:** Lake Rotokare,  
Taranaki. Jun 2012.

**Photographer:** Colin Ogle

# *Leptospermum scoparium* var. *scoparium*

## Common Name(s):

manuka, tea tree, kahikatoa

## Current Threat Status (2012):

Not Threatened

## Distribution:

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.

## Habitat:

Abundant from coastal situations to low alpine habitats.

## Features\*:

Decumbent shrub, subshrub, shrub, or small tree up to 5 m in height and in decumbent forms 2-4 m across. Bark light grey to charcoal grey, peeling in long papery flakes, these curling with age. Wood red. Branches numerous erect, spreading or decumbent, arising from base, sometimes sprouting adventitious roots and/or layering on contact with soil. Young branches, young leaves and flower buds densely to sparingly clad in long silky, white hairs. Leaves leathery, pale to dark green, glabrescent to glabrous, linear-filiform, narrowly lanceolate, lanceolate, oblanceolate, to elliptic or obovate (5-)10-15(-20) x 1-2-5(-8) mm, invariably apex drawn out into a long stiff, pungent point, midrib usually distinct sometimes obscure, leaf margin finely crenate, veins simple, scarcely branched. Flowers solitary in leaf axils, (8-)10-20(-25) mm diam. Receptacle dark red, crimson or pink. Petals white, sometimes flushed pink or dark red. Stamens numerous.

## Flowering:

Throughout the year

## Fruiting:

The capsules are long persistent so invariably mature plants always possess at least some capsules.

## Threats:

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

## \*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 1 February 2004. Description by P.J. de Lange.

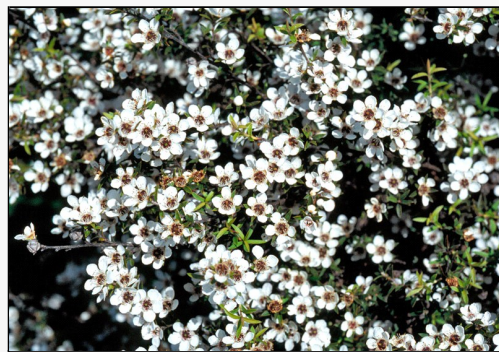
## References and further reading:

Gardner, R. 2002. Notes towards an excursion Flora .Manuka *Leptospermum scoparium* myrtaceae. Auckland Botanical Society Journal, 57: 147-149

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

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2302](http://nzpcn.org.nz/flora_details.asp?ID=2302)



Photographer: © John Braggins



Caption: Flowers of *Leptospermum scoparium* var. *scoparium*

Photographer: Wayne Bennett

# *Melicytus ramiflorus*

## Common Name(s):

mahoe, hinahina, whitey wood

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic subspecies. Three other subspecies occur, one endemic to Norfolk (probably a different species), one to Fiji and one to Samoa. In addition forms from Raoul Island (Kermadec Islands Group) and the Three Kings and eastern Northland may warrant formal recognition. Research into this variation is in progress.

## Habitat:

Abundant small tree of coastal, lowland, and lower montane forests throughout the country.

## Features:

Shrub or small tree up to 15 m tall. Trunk 1 or more, 0.6-0.8 m diam, typically much branched from near base. Wood soft, white. Bark greyish-white, underbark bright green. Branchlets numerous, twiggy, rather brittle. Petioles 20 mm or more long. Leaves, firmly fleshy, 50-150 x 30-50 mm, light or dark green, lanceolate-oblong to elliptic oblong, apex acute to acuminate (rarely obtuse), leaf margins coarsely serrated (very rarely subentire, or irregularly coarsely toothed). Inflorescence 2-10 flowered fascicles arising from branchlets or leaf axils. Flowers 3-4 mm diam., female or inconstant male (flowers types on separate plants) borne on slender pedicels 5-10 mm long. Bracts subtending flowers, calyx lobes minute, petals greenish-yellow, yellow (rarely cream), lanceolate, apex obtuse. Anthers sessile, stigma 4-6-lobed. Fruit a violet, dark blue or purple berry, 4-5 mm diam., obovoid to globose. Seeds 3-6 per berry.

## Flowering:

November - February

## Fruiting:

November - March

## Threats:

Not Threatened

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=973](http://nzpcn.org.nz/flora_details.asp?ID=973)



**Caption:** Carter Scenic Reserve, Wairarapa

**Photographer:** John Sawyer



**Caption:** Carter Scenic Reserve, Wairarapa

**Photographer:** John Sawyer

## *Ozothamnus leptophyllus*

**Common Name(s):**

Tauhinu

**Current Threat Status (2012):**

Not Threatened

**Threats:**

Not Threatened

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1081](http://nzpcn.org.nz/flora_details.asp?ID=1081)



**Caption:** Ozothamnus leptophyllus (Tauhinu)  
**Photographer:** Wayne Bennett



**Caption:** Ozothamnus leptophyllus (Tauhinu)  
**Photographer:** Wayne Bennett

## *Pennantia corymbosa*

### **Common Name(s):**

Kaikomako

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Endemic. Found throughout the North, South and Stewart Islands.  
Uncommon north of Auckland and on Stewart Island

### **Threats:**

Not Threatened

### **References and further reading:**

Beddie, A.D. 1958. Precocious fruiting of *Pennantia corymbosa*. Wellington Botanical Society Bulletin, 3-: 12-14

Gardner, R. 1998. No kaikomako (*Pennantia corymbosa*) on Great Barrier Island. Auckland Botanical Society Journal, 53: 75-76

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1103](http://nzpcn.org.nz/flora_details.asp?ID=1103)



**Caption:** Points Bush

**Photographer:** Melissa Hutchison



**Caption:** *Pennantia corymbosa*  
**Photographer:** Wayne Bennett

## *Phormium cookianum* subsp. *cookianum*

### Common Name(s):

Mountain flax, wharariki

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic. Scarce in North Island where only known from high alpine situations in the Tararua Ranges, and possible elsewhere within the central axial ranges. Common in the South Island, in subalpine/alpine situations.

### Habitat:

Strictly confined to subalpine, alpine situations.

### Features:

Stout liliaceous herb, 0.6-1(-2) m tall. Leaves numerous, arising from fan-like bases. Individual leaves "paddle-shaped", erect, stiff, rarely decurved or pendulous 0.6-1(-1.5) x 20-80 mm, glaucous. Lamina margin, entire, somewhat thickened and distinctly pigmented by a dark, rather broad often encircling band 3-5 mm wide. Inflorescence (0.8-)1(-2) m tall, somewhat woody and fleshy when fresh, long persistent, drying charcoal grey or black, with the fibrous interior becoming progressively more exposed. Peduncle 20-30 mm diam., inclined, dark red-green, glabrous. Flowers 25-40 mm long, tubular, dull pink or yellow; tips of inner tepals markedly recurved. Ovary erect. Capsules 100-120 mm long, dark green, trigonous in cross-section, pendulous, tapering toward tip, twisted, initially fleshy becoming papery with age, long persistent. Seeds 8-10 x 4-5 mm, black, elliptic, flat and plate-like, margins frilled or twisted.

### Flowering:

(September-) October-  
November (-January)

### Fruiting:

(November-) December  
(-March)

### Threats:

Not Threatened

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1110](http://nzpcn.org.nz/flora_details.asp?ID=1110)



**Caption:** Swampy Summit,  
Dunedin

**Photographer:** John Barkla



**Caption:** Hollyford Valley,  
Fiordland

**Photographer:** John Sawyer

## *Phormium tenax*

### **Common Name(s):**

flax, harakeke, korari (maori name for inflorescence).

### **Current Threat Status (2012):**

Not Threatened

### **Distribution:**

Indigenous to New Zealand and Norfolk Island. A broad circumscription has been adopted here - many botanists feel that plants from the Chatham Islands could be distinguished at species rank from the mainland New Zealand species, other distinctive variants occur on the Three Kings and outer Hauraki Gulf Islands, and along the Kaikoura coast. Norfolk Island plants though uniform differ in subtle ways from the New Zealand forms of *P. tenax*. Further study into this variation is underway.

### **Habitat:**

Common from lowland and coastal areas to montane forest, usually but not exclusively, in wetlands and in open ground along riversides.

### **Features:**

Stout liliaceous herb, 1-5(-6) m tall. Leaves numerous, arising from fan-like bases. Individual leaves rather stiff at first, but becoming decurved, somewhat pendulous or "floppy" in upper half to a third, 1-3 x 50-120 mm, usually blue-grey (glaucous) or dark green, lamina margin, entire, somewhat thickened and pigmented black, dark red, pink, yellow or cream. Inflorescence 5(-6) m tall, somewhat woody and fleshy when fresh, long persistent, drying charcoal grey or black, with the fibrous interior becoming progressively more exposed. Peduncle 20-30 mm diam., erect, dark grey-green or red-green, glabrous. Flowers 25-50 mm long, tubular, predominantly dull red but may also be pink or yellow; tips of inner tepals slightly recurved. Ovary erect. Capsules 50-100 mm long, dark green, red-green or black, trigonous in cross-section, erect, abruptly contract at tip, not twisted, initially fleshy becoming woody with age, long persistent. Seeds 9-10 x 4-5 mm, black, elliptic, flat and plate-like, margins frilled or twisted.

### **Flowering:**

(September-) October-November (-January)

### **Fruiting:**

(November-) December (-March)

### **Threats:**

Not threatened although see the discussion below about flax dieback. This die back phenomenon is characterised by abnormal yellowing of the leaves and may result in collapse of flax plants or whole populations.

### **References and further reading:**

Boyce, et al. 1951. Preliminary note on yellowleaf disease. NZJ of Science and Technology, 32(3): 76-77

Scheele, S. 1997. Insect pests and diseases of harakeke, Manaaki Whenua Press

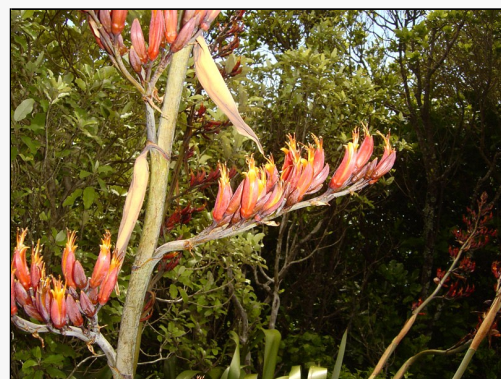
### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2219](http://nzpcn.org.nz/flora_details.asp?ID=2219)



**Caption:** *Phormium tenax*

**Photographer:** Wayne Bennett



**Caption:** Flowers of *Phormium tenax*

**Photographer:** Wayne Bennett



## *Podocarpus totara* var. *totara*

### Common Name(s):

Totara

### Current Threat Status (2012):

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.

### Fructing:

### Flowering:

(August-)  
October (-  
December)

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

### Threats:

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

### 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>

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1176](http://nzpcn.org.nz/flora_details.asp?ID=1176)



**Caption:** Podocarpus totara var. totara at Pokemokemoke

**Photographer:** Wayne Bennett



**Caption:** Seeds of Podocarpus totara var. totara

**Photographer:** Wayne Bennett

# *Prumnopitys taxifolia*

## **Common Name(s):**

Matai, black pine

## **Current Threat Status (2012):**

Not Threatened

## **Distribution:**

Endemic. North, South and Stewart Islands. Uncommon on Stewart Island.

## **Habitat:**

Lowland forest. Often in drier climates, where it can dominate alluvial soils which are waterlogged/flooded in winter and dry in summer. Seems to prefer base-rich substrates and soils.

## **Features:**

Dioecious conifer 25(-30) m tall. Trunk 1-2 m diam. Bark dark brown (almost black), falling in thick circular flakes, leaving a distinctive hammer-like scar patterning on trunk. Wood dark brown to rich yellow-brown, very hard. Juveniles filiramulate, with distinctive, dark brown, slender, flexuous, divarciating branchlets. Leaves brown, pale yellow, or dirty white, 5-10 x 1-2 mm, linear-lanceolate, apex acute; adults dark green, somewhat glaucous above, glaucous below, 10-15 x 1-2 mm, subdistichous, linear, straight to subfalcate, obtuse, often apiculate. Male cones (strobili) in spikes, 30-50 mm long, with 10-30 cones per spike. Ovules on short axillary branches, 3-10 per 40 mm long spike. Fruit a fleshy, oily, aromatic, terpene-tasting, purple-black drupe with a glaucous bloom. Stone more or less circular (5.5-)6-8.5 mm diam., surface dull to semi-glossy, pale orange-yellow to light orange-yellow.

## **Flowering:**

(October-) November - February

## **Fruiting:**

Fruits take 12-18 months to mature. Ripe fruits may be found throughout the year.

## **Threats:**

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

## **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1193](http://nzpcn.org.nz/flora_details.asp?ID=1193)



**Caption:** Matai with female cones

**Photographer:** Bill Clarkson



**Caption:** Cones of *Prumnopitys taxifolia* (male)

**Photographer:** Wayne Bennett

# *Pseudopanax arboreus*

## Common Name(s):

Fivefinger, five finger, whauwhaupaku

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. Widespread (though rare in Central Otago). North and South Islands

## Habitat:

Coastal to montane (10-750 m a.s.l.). Moist broadleaf forest. Frequently epiphytic. A frequent component of secondary forest. Streambanks and forest margins.

## Features\*:

Us. Dioecious. Small multi-branched tree to 8 m tall, branches and branchlets brittle. Leaves alternate, leaflets 5-7 (us. 5), palmate. Petioles c. 15-20 cm long, sheathing branchlet at base. Petiolules c. 3-5 cm long, pale green. Leaflets obovate-oblong to oblong-cuneate, thinly coriaceous, coarsely serrate-dentate, acute or acuminate to obtuse; midveins and main lateral veins obvious above and below; terminal lamina 10-20 x 4-7 cm. Inflorescence and panicle, terminal, compound; flowers usually unisexual; 8-20 primary rays (branchlets), up to 10 cm long; 15-20 secondary rays; umbellules with 10-15 flowers in each. Calyx truncate or obscurely 5-toothed; flowers c. 5 mm diam., sweet-scented; petals 5, white to pink flushed, ovate to triangular, acute; stamens 5, obvious, filaments c. = petals; ovary 2-loculed, each containing 1(-2) ovules; style branches 2, spreading. Fruit fleshy, 5-8 mm diam., style branches retained on an apical disc, very dark purple, laterally compressed. Seeds 2(-3) per fruit, wrinkled, 3-6 mm long.

## Flowering:

June to August

## Fruiting:

August to February

## Threats:

Not Threatened. In places the petiolules of *Pseudopanax arboreus* (and other fleshy-leaved *Pseudopanax* species) are a conspicuous element of possum (*Trichosurus vulpecula*) diet and the forest floor can become littered with discarded leaflets.

## \*Attribution:

Description adapted from Allan (1961) and Webb and Simpson (2001).

## References and further reading:

Allan, H.H. 1961. Flora of NZ, Vol. I. Government Printer, Wellington

Webb, C.J. & Simpson, M.J.A. 2001. Seeds of NZ gymnosperms and dicotyledons. Manuka Press, Christchurch.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1194](http://nzpcn.org.nz/flora_details.asp?ID=1194)



**Caption:** *Pseudopanax arboreus*

**Photographer:** Wayne Bennett



**Caption:** Flowers of *Pseudopanax arboreus*

**Photographer:** Wayne Bennett

## *Pseudowintera colorata*

### Common Name(s):

Red horopito, mountain horopito, alpine peppertree

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic. North, South and Stewart Islands

### Habitat:

Coastal, lowland, or montane forest margins and shrubland

### Features\*:

Shrub to 3.5 m tall; trunks and branches upright; bark dark; branchlets dark. Plants glabrous. Petiole slender, 5-10 mm long, dark reddish brown. Leaves alternate, pungent and pepper-tasting; midvein inconspicuous above, raised below; lamina 2-6(-8) x 1-3 cm, elliptic, margin undulate, tip obtuse to subacute, coriaceous, upper surface matt green to yellowish-green, blotched with red in exposed situations, undersides glaucous to white and often pink-flushed. Inflorescences axillary, flowers bisexual, c. 1 cm diam., in fascicles of 1-3, on slender pedicels 5-10 mm long, bracts ciliate. Calyx cupule margins subentire to shallowly lobed. Corolla comprised of 5-(6) free petals, these 4-5 mm long, linear to narrow-oblong, greenish yellow, apex obtuse. Carpels 1-5, us. 1-2 maturing, stigma apical. Stamens 5-20. Fruit a 2-3-seeded fleshy globose to subglobose berry, 5-6 mm diam., dark red or black, flesh red. Seed 1- or 3-angled, obovate to elliptic, 2.6-3.6 mm, surface irregular.

### Flowering:

November-March

### Fruiting:

December-June

### Threats:

Not Threatened. Often one of the few shrub species in heavily browsed forests

### \*Attribution:

Description adapted from Allan (1961, Heenan and de Lange (2006), Eagle (2000), 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;

Webb, C.J. & Simpson, M.J.A. 2001. Seeds of NZ gymnosperms and dicotyledons. Manuka Press, Christchurch.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1201](http://nzpcn.org.nz/flora_details.asp?ID=1201)



**Caption:** Flowers, South Otago coast

**Photographer:** John Barkla



**Caption:** Harbour Cone, Otago Peninsula

**Photographer:** John Barkla

# *Rhopalostylis sapida*

## Common Name(s):

Nikau palm

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. North Island, South Island from Marlborough Sounds and Nelson south to Okarito in the west and Banks Peninsula in the east. Also on Chatham and Pitt Islands. However Chatham Islands plants have a distinct juveniel form, larger fruits, and thicker indumentum on the fronds.

## Habitat:

Primarily a species of coastal to lowland forest in the warmer parts of New Zealand.

## Features:

Trunk up to 15 m, stout, covered in grey-green leaf scars, otherwise green. Crownshaft 0.6(-1) m long, dark green, smooth, bulging. Fronds up to 3 m long; leaflets to 1 m, closely set (sometimes over lapping), ascending. Spathes c.300 x 150 mm., between pink and yellow, caducous. Inflorescence shortly stalked, with many branches, 200-400 mm long. Flowers sessile, unisexual, tightly packed, lilac to pink. Males in pairs, caducous, stamens 6. Females solitary, with minute staminodes, ovary 1-locular, stigmas terminal, recurved, persistent. Fruit c.10 x 7 mm, elliptic-oblong, flesh red.

## Flowering:

November - April

## Fruiting:

February - November

## Threats:

Not Threatened

## References and further reading:

Esler, A.E. 1969. Leaf fall and flowering of nikau. Wellington Botanical Society Bulletin, 36: 19-22

Greenwood, R.M. 1969. Notes on growth of young nikau plants. Wellington Botanical Society Bulletin, 36: 22-23

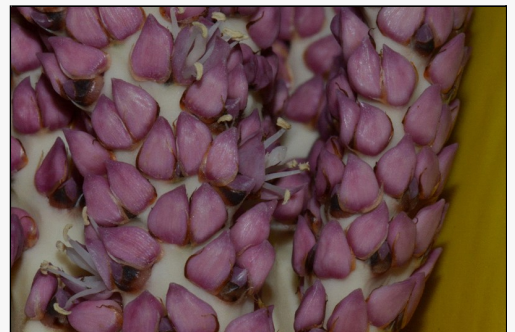
## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1259](http://nzpcn.org.nz/flora_details.asp?ID=1259)



**Caption:** *Rhopalostylis sapida*

**Photographer:** Pat Enright



**Caption:** *Rhopalostylis sapida*

**Photographer:** Pat Enright

# *Schefflera digitata*

**Common Name(s):**

Patete, pate, seven-finger

**Current Threat Status (2012):**

Not Threatened

**Distribution:**

Endemic. Widespread. North, South and Stewart Islands.

**Habitat:**

Lowland to montane forest (sealevel to 1000 m a.s.l.).

**Features:**

Dioecious(?) small tree to 8 m. Trunk irregularly branched; bark greenish, finely ridged and with scattered prominent lenticels. Petioles terete, to 25 cm long, sheathing branchlet, reddish. Petiolules to 2 cm, reddish. Leaves alternate, palmate, with (3)-10 leaflets (us. 7), upper surface evenly green in adult, underside pale, shiny, purplish in juvenile. Terminal leaflet to 20 cm long; lateral leaflets decreasing in size; obovate-cuneate, tip acuminate to obtuse; margins sharply serrate in adult, irregularly lobed to pinnatifid in juvenile. Inflorescence a panicle, axillary (occ. cauline), branches many, spreading, to 35 cm; bracts and bractlets small. Umbels many, up to 10 flowers in each; peduncles subsessile to 10 mm long, pedicels shorter. Flowers greenish cream, c. 7 mm diam. Petals 5(-6), acute. Stamens 5, filaments c. = petals. Style branches 5 (or more), connate below forming an irregular disc. Fruit subglobose, c. 3.5 mm diam., fleshy, dark purple when ripe, containing (5-)7-10(-11) seeds. Seed 2-2.5 mm.

**Flowering:**

February-March

**Fruiting:**

February-March

**Threats:**

Not Threatened

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=1281](http://nzpcn.org.nz/flora_details.asp?ID=1281)



**Caption:** Waipoua Forest, Northland

**Photographer:** John Sawyer



**Caption:** Schefflera digitata (Patete)

**Photographer:** Wayne Bennett

# *Sophora tetraptera*

## Common Name(s):

kowhai, large-leaved kowhai

## Current Threat Status (2012):

Not Threatened

## Distribution:

Endemic. Known in a natural state only from the eastern portion of the the North Island from East Cape south to the Wairarapa, extending west toward Taihape, Lake Taupo and along the Waikato River to about Lake Karapiro. However, extensively planted outside this range and often naturalising.

## Habitat:

Widespread and common from coastal forested habitats inland along rivers and within associated low scrub and forest. Common around lake margins (especially Lake Taupo) and on ignimbrite cliffs bordering the upper Waikato River. Although a primarily lowland species it can occur in montane riparian forest.

## Features\*:

Tree up to 15 m tall, trunk 0.6-1 m diam., often several arising from ground. Branches spreading, sometimes pendulous. Branchlets clad in golden yellow or grey tomentum. Juvenile plants not divaricating or flexuous, exhibiting an erect growth, non-interlacing habit from germination. Leaves 100-150(-220) mm, imparipinnate, moderately hairy, hairs, straight, appressed. Leaflets 10-20(-25) pairs, 15-35(-40) x 5-8 mm, well spaced, never overlapping or crowded, narrowly ovate to elliptic-oblong. Inflorescences racemose with up to 10 flowers. Calyx 10-20 x 10-15 mm, cupulate. Flowers golden-yellow, keel petal blade 20-50(-60) x 10-16(-18) mm, wing petal blade 25-50(-62) x 10-16 mm, standard petal blade 30-35(-42) x 18-30(-35) mm; petals with distinct claws 6-8 mm long. Fruit (100-)200(-280) mm long, broadly 4-winged, brown, with 6-12 or more seeds. Seeds 6.5-9(-10) x 6-7.5 mm, oblong, elliptic to orbicular, yellow to light yellow-brown.

## Flowering:

(September-) October-December

## Fruiting:

October-May

## 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. However, *S. tetraptera* seems to be very common throughout its range, and is adequately protected within a range of reserves and land set aside for conservation purposes.

## \*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange (31 July 2004). Description adapted from Allan (1961).

## References and further reading:

Allan, H.H. 1961: Flora of New Zealand. Vol. I. Wellington, Government Printer.

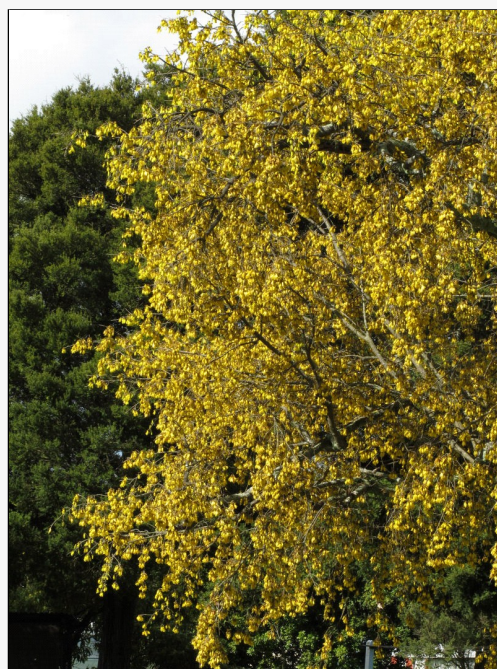
Anonymous. 1944. Kowhai. *Wellington Botanical Society Bulletin* 9: 4-5

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1304](http://nzpcn.org.nz/flora_details.asp?ID=1304)



**Caption:** Dunedin Botanic Garden  
**Photographer:** John Barkla



**Caption:** Masterton, Wairarapa  
**Photographer:** John Barkla

## *Veronica stricta* var. *stricta*

### Common Name(s):

koromiko

### Current Threat Status (2012):

Not Threatened

### Distribution:

Endemic to the North and northern South Island. Somewhat local in the far North, otherwise common and widespread in the North Island. Only locally common in the northern South Island.

### Habitat:

Common in successional habitats from coastal areas to lower montane habitats.

### Features\*:

Shrub or small tree (1-)2(-4) m tall. Branchlets finely pubescent. Stem internodes longer than stem diameter. Leaf bud without sinus. Leaves, spreading, 50-100(-120) mm, dull green to yellow-green (not glossy), lanceolate, linear-lanceolate, somewhat leathery, apex often acuminate, leaf margin usually entire, occasionally toothed. Inflorescence lateral, racemose, much longer than leaves, drooping, sometimes spiraled, all parts except flower finely pubescent. Flowers sweetly (sometimes over powerfully so) scented, lilac, mauve or white. Corolla tube 6 mm, exceeding calyx, narrow, cylindric, lobes rounded. Capsules < 5 mm long, pendent, all parts pubescent.

### Flowering:

(July-) August (-October) but flowering can also occur sporadically throughout the year

### Fruiting:

(September-) November (-January) but seed capsules may be found throughout the year

### Threats:

Not Threatened

### \*Attribution:

Fact Sheet Prepared by P.J. de Lange (1 February 2005). Description based on Allan (1961) - see also Bayly & Kellow (2006)

### References and further reading:

Allan, H.H. 1961: Flora of New Zealand. Vol. I, Wellington, Government Printer

Bayly M. and Kellow A. 2006. An Illustrated Guide to New Zealand Hebes. 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 11: 285-309

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2009](http://nzpcn.org.nz/flora_details.asp?ID=2009)



**Caption:** Rotorua, February  
**Photographer:** John Smith-Dodsworth



**Caption:** Rotorua, February  
**Photographer:** John Smith-Dodsworth