



## Gemmels Crossing: Tall(ish) trees for sheltered sites



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Prepared for the Gemmels Crossing Village by Max Crowe - max@fieldlab.nz

## *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

# *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

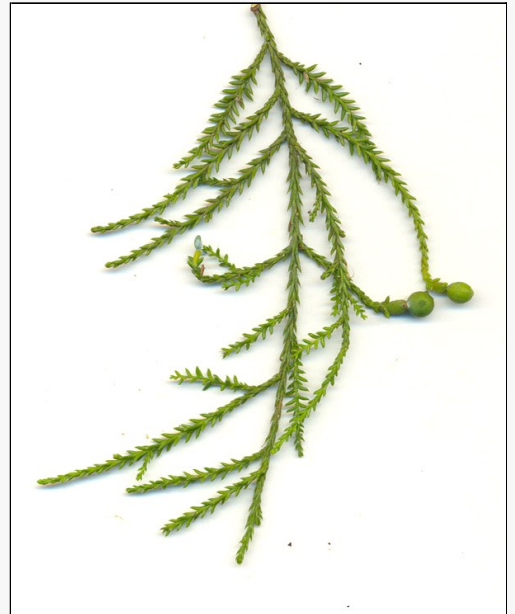
## For more information, visit:

[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



## *Fuchsia excorticata*

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

kotukutuku, tree Fuchsia

### **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=1901](http://nzpcn.org.nz/flora_details.asp?ID=1901)



**Caption:** Rotoiti Mainland Island,  
Nelson Lakes National Park

**Photographer:** John Sawyer



**Caption:** Rotoiti Mainland Island,  
Nelson Lakes National Park

**Photographer:** John Sawyer

## *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

## *Myrsine australis*

### Common Name(s):

Red mapou, red matipo, mapau, red maple

### Current Threat Status (2012):

Not Threatened

### 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.

### Flowering:

August - January

### Fruiting:

September - May

### Threats:

Not Threatened

### \*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.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1007](http://nzpcn.org.nz/flora_details.asp?ID=1007)



**Caption:** Male flowers. Rimutaka Forest Park.

**Photographer:** Jeremy Rolfe



**Caption:** Male flowers. Rimutaka Forest Park.

**Photographer:** Jeremy Rolfe



## *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

## *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

# *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 microphylla*

## Common Name(s):

Kowhai, weeping kowhai, small-leaved kowhai

## Current Threat Status (2012):

Not Threatened

## 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 sparsely 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.

## Flowering:

(May-) August-October

## 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. 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.

## \*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

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=1302](http://nzpcn.org.nz/flora_details.asp?ID=1302)



**Caption:** Bark, Dunedin Botanic Gardens

**Photographer:** John Barkla



**Caption:** *Sophora microphylla* (Kowhai)

**Photographer:** Wayne Bennett