



Putative Hosts for *Dactylanthus* (Recovery Plan 2004-2014)



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Made on the New Zealand Plant Conservation Network website – 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).

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



Caption: Flowering wineberry

Photographer: Jane Gosden



Caption: Waikuku, Aorangi

Photographer: John Sawyer

Beilschmiedia tawa

Common Name(s):

Tawa

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Common throughout the North Island. In the South Island common from Cape Farewell east through the Marlborough Sounds. Extending south of their only in the east where it almost reaches Kaikoura (the southern limit is just north of the main town).

Habitat:

Major canopy dominant in the lowland and lower montane forests of the North Island and northern South island. May form pure stands but usually occurs in close association with podocarps such as rimu (*Dacrydium cupressinum*).

Features*:

Evergreen tree up to 35 m tall. Trunk straight, 1.2-2 m diam., with buttressed base. Bark smooth, dark brown. Branches erect to spreading, slender to moderately robust. Young branchlets, leaves and inflorescences finely pubescent, hairs simple, pale golden. Foliage opposite to sub-opposite, simple, somewhat leathery when mature. Petioles (6-)8(-12) mm. Leaves (30-)40-80(-95) x (8-)11-16(-40) mm, narrowly to broadly lanceolate sometimes elliptic, yellow-green to green, glabrous when mature, undersides glaucous. margins entire, and undulate, apex acute to acuminate. Inflorescences, an erect, axillary panicle up to 100 mm long. Flowers sexually perfect, 2-4 mm diam, pale green, perianth cleft into 6 segments, ovate-oblong, stamens 12. Fruit a pendulous, ellipsoid to ovoid drupe (20-)30(-38) x (9-)12(-18) mm, 1-seeded, pericarp fleshy, dark purple-black when ripe, glaucous or shiny.

Flowering:

(October-) January (- May)

Fruiting:

(December-) January (- March)

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 12 February 2004. Description adapted from Allan (1961) and Wright (1984).

References and further reading:

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

de Lange, P.J.; Cameron, E.K. 1999: The vascular flora of Aorangi Island, Poor Knights Islands, northern New Zealand. *New Zealand Journal of Botany* 37: 433-468

Moorfield, J. C. 2005: *Te aka : Māori-English, English-Māori dictionary and index*. Pearson Longman: Auckland

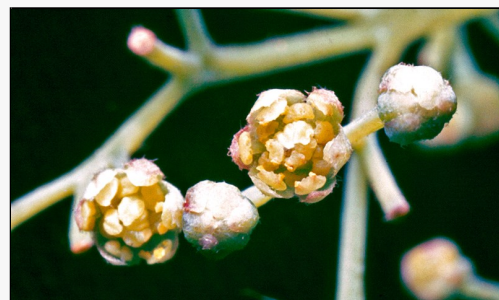
Landcare Research. Ngā Tipu Whakaoranga - Māori Plant Use Database.
<http://maoriplantuse.landcareresearch.co.nz>

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.

Wright, A. E. 1984: *Beilschmiedia* Nees (Lauraceae) in New Zealand. *New Zealand Journal of Botany* 22: 109-125.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1541



Caption: Flowers ex Hakarimata Range.

Photographer: John Braggins



Caption: Flowers of *Beilschmiedia tawa*

Photographer: Wayne Bennett

Brachyglottis repanda

Common Name(s):

rangiora, bushman's toilet paper, bushman's friend

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island throughout. South Island - north west Nelson to just south of Greymouth in the west, and near Kekerengu in the east. Naturalised on Banks Peninsula, Otago Peninsula, and on Stewart Island at Oban.

Habitat:

Common in coastal, lowland and lower montane shrubland and open forest. Often a pioneer species.

Features:

Shrub to small tree up to 6 m or more tall. Trunk one or more arising from ground, covered in somewhat corky bark. Branches stout, spreading, rather brittle, initially densely clad in fine white to buff tomentum becoming glabrescent with age. Petiole stout, grooved, 80-100 mm long. Leaves leathery, 50-250(-300) X 50-20(-30) mm, dark green to pale green above, undersides clad in fine, appressed vivid white hairs, broad- to ovate-oblong, obtuse to subacute, obliquely cordate to truncate at base, margins distantly dentately lobed to sinuate. Inflorescence a much branched panicle. Capitula 5 mm diam., numerous, without ligules (discoïd). Involucral bracts 3 mm long, narrow-oblong to narrow spatulate, margins scarious except at base. Florets 10-12, yellow. Seeds (cypsela) narrowly oblong-elliptic to oblong elliptic, 1-1.8 mm long, ribs 6, rounded, broad. Pappus 2-3 mm, buff-yellow, scabrid.

Flowering:

(July-) August-October
(-November)

Fruiting:

(October-) November-
December (-January)

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* 2009 Vol. 11 No. 4 pp. 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1562



Caption: *Brachyglottis repanda*
Photographer: Wayne Bennett



Caption: *Brachyglottis repanda*
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

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



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



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

Coprosma arborea

Common Name(s):

mamangi, tree Coprosma

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: Three Kings and North Island, where found from Te Pahi south to near Waitomo in the west and about Gisborne in the East

Habitat:

Coastal to lower montane forest - but mostly coastal to lowland. Often forming the subcanopy in coastal kauri forest or mixed pohutukawa-hardwood forest. rarely, such as on Waiheke Island, forming a distinct forest type where it dominates the canopy.

Features*:

Tree 8-12 m tall; trunk 200-500 mm diameter; branches rather close-set, suberect to spreading; branchlets slender, pubescent. Petioles winged in upper 1/2, 8-20 mm long. Stipules short, triangular, connate near base, ciliate, with prominent denticle. Adult lamina submembranous to subcoriaceous, glabrous, somewhat glossy, 50-80 × 30-48 mm, yellow-green, dark green above, usually mottled maroon or purple, pale wine-red below, ovate to broad-elliptic to oblong, sometimes suborbicular; apex rounded or retuse, sometimes apiculate or mucronulate; cuneately or abruptly narrowed to petiole; margins thickened, indistinctly wavy, often subcrenulate; juvenile lamina 12-30 × 10-18 mm, spatulate, maroon, dark green mottled with maroon, undersides dull wine-red. Reticulations of lamina obscure above, usually distinct below. Male flower in dense glomerules, terminal on main and axillary branches; calyx-teeth linear, obtuse, ciliate; corolla funnellform, lobes ovoid, acute, more or less = tube. Female flowers in clusters of 2-4; calyx-teeth obtuse, ciliate; corolla-tube short, lobes long, acute. Drupe fleshy, 6-8 mm long, white, broad-oblong.

Flowering:

September - December

Fruiting:

January - December

Threats:

Not Threatened

*Attribution:

Description adapted from Allan (1961)

References and further reading:

Allan, H.H. 1961: Flora of New Zealand. Vol. I, 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 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2306



Caption: *Coprosma arborea* (Mamangi)

Photographer: Wayne Bennett



Caption: Fruit

Photographer: John Smith-Dodsworth

Coprosma dumosa

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island from Kaimai Range south; South Island (rare in Fiordland), Stewart Island.

Flowering:

October - November (-
January)

Fruiting:

February-April (-
October)

Threats:

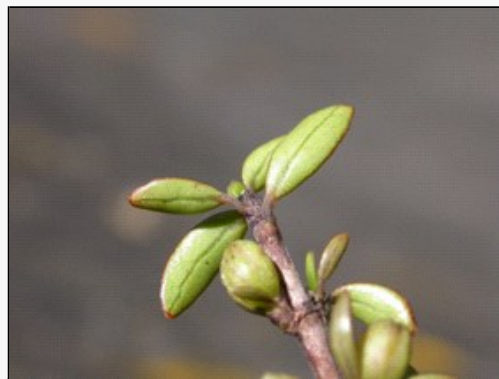
Not Threatened

References and further reading:

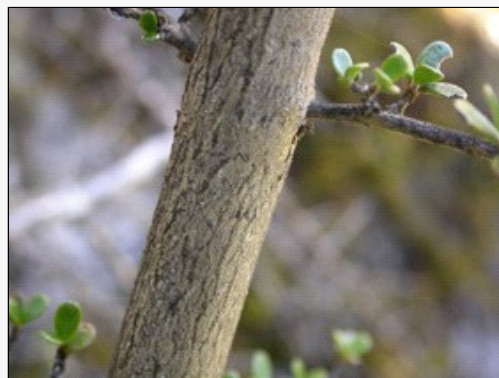
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2322



Caption: Coprosma dumosa
Photographer: Graeme Jane



Caption: Coprosma dumosa
Photographer: Graham Jane

Coprosma grandifolia

Common Name(s):

kanono, manono, large-leaved coprosma, raurekau

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North to South Islands. In the South Island extending to Lake Ianthe in the west and the Marlborough Sounds in the east.

Habitat:

Common in the understorey of forest, and in sheltered shady sites from the coast to montane and cloud forest. In areas of high rainfall can be a major component of shrublands, and within regenerating forest. Often common along the margins of logging tracks and roads.

Flowering:

(March-) April (-June) but may also occasionally flower in September.

Fruiting:

(September-) October-January (-April)

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=1717



Caption: Leaf of *Coprosma grandifolia*

Photographer: Wayne Bennett



Caption: *Coprosma grandifolia*

Photographer: Wayne Bennett

Coprosma tenuifolia

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Islands from Mt Pirongia and East Cape south to the Tararua Ranges.

Habitat:

Lowland to montane forest especially on alluvium and other base-rich soils. In the northern part of its range it is exclusively montane

Features*:

Rather slender shrub or tree up to c. 5 m tall, with stout glabrous ascending branches and branchlets. Leaves on slender pubescent petioles 10-25 mm long. Stipules broad-oblong, connate, obtuse, more or less ciliate; denticle prominent, stout, acute to acuminate. Lamina membranous to thinly coriaceous, pubescent above on midrib, 70-110 × 30-45 mm, dull dark green, red-green or variously blotched, tinged or blemished with red, maroon or purple, ovate to oblong, acute, usually apiculate, rather abruptly narrowed into petiole; margins slightly wavy, sometimes crenulate. Reticulated veins fine, evident. Male flowers in clusters of 2-3 on short branchlets; calyx 0; corolla subcampanulate, lobes short, acute. Female flowers in clusters of opposite pairs, on short leafy branchlets; calyx-teeth short, ciliate; corolla tubular, lobes short, acute. Drupe orange, ovoid, 7-8 mm long.

Flowering:

November - January

Fruiting:

March - May

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared by P.J. de Lange (10 January 2007): Description adapted from Allan (1961)

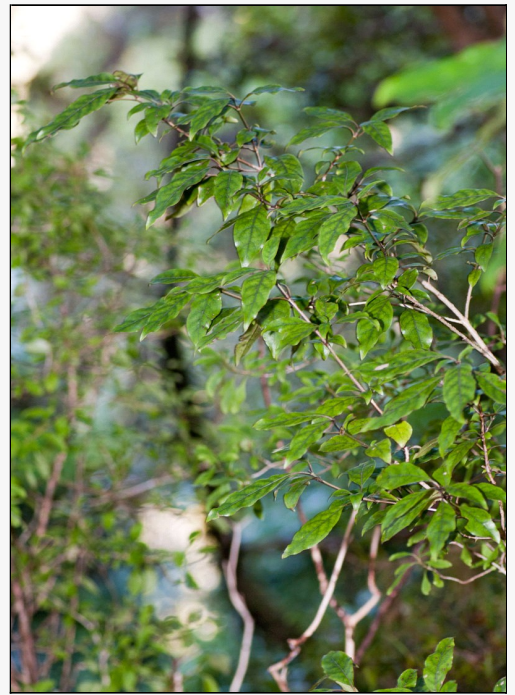
References and further reading:

Allan, H.H. 1961: Flora of New Zealand. Vol. I, 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* 11: 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1740



Caption: Herepai Ridge, Tararua Forest Park.

Photographer: Jeremy Rolfe



Caption: Pureora, May

Photographer: John Smith-Dodsworth

Coriaria arborea var. *arborea*

Common Name(s):

tutu, tree tutu

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=1749



Caption: Makarora Valley. March
Photographer: John Sawyer



Caption: Makarora Valley
Photographer: John Sawyer

Geniostoma ligustrifolium var. *ligustrifolium*

Common Name(s):
hangehange

Current Threat Status (2012):
Not Threatened

Threats:
Not Threatened

References and further reading:

Conn, B.J. 1980: A taxonomic revision of *Geniostoma* subg. *Geniostoma* (Loganiaceae). *Blumea* 26: 245-364.

Connor, H.E.; Edgar, E. 1987: Name changes in the indigenous New Zealand flora, 1960–1986 and Nomina Nova IV, 1983–1986. *New Zealand Journal of Botany* 25: 115-170.

Murray, B.G.; de Lange, P. J. 1999: Contributions to a chromosome atlas of the New Zealand flora - 35. Miscellaneous families. *New Zealand Journal of Botany* 37: 511-521

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=1923



Caption: Puketi Forest, Northland
Photographer: Dean Baigent-Mercer



Caption: Puketi Forest, Northland
Photographer: Dean Baigent-Mercer

Hedycarya arborea

Common Name(s):

Porokaiwhiri, Pigeonwood

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Three Kings, North and South Islands. In the South island uncommon in the east south of Kaikoura reaching its southern limit on that coastline on Banks Peninsula, it is more ranging in the west reaching northern Fiordland at least.

Habitat:

A common forest tree of coastal and lowland forest, extending into montane areas in the warmer parts of the North Island

Features*:

Tree up to 12 m. tall; trunk up to 0.5m dbh, clear of branches for first few metres, ; bark dark grey to brown-grey, firm (not flaking) finely tessellated. Branches numerous, upright to spreading; branchlets finely brown-pubescent at tips. Leaves coriaceous, glabrous except for midrib and main veins and petioles, adaxially dark green, glossy or glaucescent, abaxially similar but paler and dull; petioles 10-15-20(-35)mm long; lamina 40-120(-180) × 25-30(-50-60) mm, elliptic-obovate, oblanceolate to lanceolate, cuneately narrowed to base, obtuse to subacute or acute, margins distantly serrate (with occasional subentire leaves) or toothed. Inflorescence a branched raceme; peduncles and pedicels slender, pubescent. Male with perianth c.10 mm diameter, pubescent, stamens numerous, anthers sessile. Female with perianth c.6 mm diameter; carpels up to 20. Drupe 1-seeded, ovoid, 10-15(-16) mm long, red or orange-red up to 10 per branch. Endocarp 9-14 mm long, elliptic to obovate, rarely circular, brown to grey-brown, surface ± smooth, usually with a few irregular bumps and/or longitudinal ridges. Description adapted from Allan (1961) and Webb & Simpson (2001).

Flowering:

December - February

Fruiting:

March - June

Threats:

Not Threatened

*Attribution:

Factsheet prepared for NZPCN by P.J. de Lange 20 February 2011.
Description adapted from Allan (1961) and Webb & Simpson (2001).

References and further reading:

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

de Lange, P.J.; Cameron, E.K. 1999: The Vascular Flora of Aorangi Island, Poor Knights Islands, Northern New Zealand. New Zealand Journal of Botany 37: 433-468.

de Lange, P.J.; Murray, B.G. 2002: Contributions to a chromosome atlas of the New Zealand flora – 37. Miscellaneous families. New Zealand Journal of Botany 40: 1-24.

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.

Wright, A. E. 1984: Beilschmiedia Nees (Lauraceae) in New Zealand. New Zealand Journal of Botany 22: 109-125.



Caption: Hedycarya arborea (Porokaiwhiri)

Photographer: Wayne Bennett



Caption: Fruit of Hedycarya arborea

Photographer: Wayne Bennett

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=805

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



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



Caption: Male flowers. Rimutaka Forest Park.

Photographer: Jeremy Rolfe



Caption: Male flowers. Rimutaka Forest Park.

Photographer: Jeremy Rolfe

Myrsine salicina

Common Name(s):

Toro

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South Islands from Te Pahi to about Hokitika

Habitat:

Coastal to montane in forest (rarely shrubland along riversides). On occasion *Myrsine salicina* may form a major part of forest canopy along stream sides.

Features*:

Small diffuse to moderately densely branched conical, gynodioecious tree up to 10 m tall. Branches stout, upright, glabrous. Bark firm (not flaking) dark red, maroon-red to almost black. Leaves, fleshy-coriaceous, adaxially dark green, yellow-green or pale pinkish-green, usually blemished with maroon spots, abaxially pink to wine-red or pale green, blemishing on adaxial surface apparent on abaxial surface, margins entire, flat or very slightly recurved, midrib deeply impressed adaxially, prominent ridged abaxially (side veins not evident when fresh); petioles 10-14 mm long, fleshy, stout, flattened. Lamina 70-180 × 20-30 mm, narrow-elliptic, narrow-oblong, to linear-oblong, apex obtuse, base attenuate to cuneately narrowed (gradually tapering to base). Inflorescences in ± dense 10-15(-20)-flowered fascicles.

Pistillate flowers; greenish yellow to cream with maroon spotting or wine-red with purple-black spotting; calyx 1.3-1.9 mm, tube 0.2-0.6 mm, lobes 4-5, 0.7-1.0 × 0.6-0.8 mm, oblong to ± triangular, apex acute to subacute, margins minutely ciliolate; corolla 2.8-4.2 mm, tube 0.2-0.3 mm, lobes 4-5(-6), 2.0-2.4 × 1.0 mm, elliptic, apex acute. Antherodes malformed, 0.82-1.10 × 0.5-0.6 mm, apiculus strongly recurved; pollen absent. Ovary 1 × 1 mm. Stigma 0.30-0.48 mm high, spreading, outer parts appressed to ovary ± 2.5 mm diameter.

Bisexual flowers with the same colouration; calyx 1.6-2.0 mm, tube 0.4-0.7 mm, lobes 4-5, 0.7-1.1 × 0.6-0.9 mm, oblong, apex acute, margins minutely ciliolate. Corolla 3.0-4.2 mm, tube 0.3-0.6 mm, lobes 4-5, 2.6-2.8 × 1.0-1.4 mm, elliptic, apex acute. Anthers 1.1-1.8 × 0.8-1.2 mm, apiculus upright; pollen white. Ovary 0.7-0.9 × 0.8-1.0 mm. Stigma 0.8-0.85 mm high, upright. Drupe (5-)8-9 mm long, obovoid, flesh red to orange (rarely maroon), on pedicels 8-10 mm long. Endocarp 5.0-6.7 × 3.5-4.5 mm, obovate to broadly obovate, dull, buff to buff brown, orange-brown or henna, bearing 1(-2) seeds.

Flowering:

August - January

Fruiting:

September - May

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 9 February 2011. Description adapted from Allan (1961) and Webb & Simpson (2001).

References and further reading:

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

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=1011



Caption: Ripe fruit, Whanganui Inlet, North West Nelson

Photographer: Simon Walls



Caption: Pinehaven. Jan 2005.

Photographer: Jeremy Rolfe

Pittosporum ellipticum

Current Threat Status (2012):

At Risk - Naturally Uncommon

Distribution:

Endemic. North Island from Te Pahi to Mt Pirongia in the west and about the Karangahake and Waioeka Gorges in the East.

Habitat:

Most usually associated with kauri (*Agathis australis*) forest, often on ridge lines, slips scars or in secondary regrowth within cut over kauri forest. Outside this forest type it is often found in association with tanekaha (*Phyllocladus trichomanoides*), towai (*Weinmannia silvicola*) or kamahi (*Weinmannia racemosa*). In all situations it prefers relatively open vegetation, where it typically forms apparently evenly-aged cohorts.

Features*:

Small gynodioecious tree up to 8 m tall but usually less. Trunk and branches dark brown, young branchlets clad in fine, appressed rust-coloured tomentum. Leaves alternate, crowded at tips of branches. Petioles 4-15 x 1.5-2 mm, densely invested in appressed, rust-coloured tomentum. Lamina 30-97 x 15-50 mm, yellow-green to dark green above, pale red-green or reddish-yellow beneath, elliptic-oblong, ovate or obovate, apex and base acute or obtuse, margin entire; emergent and expanding leaves densely invested in appressed, rust-coloured tomentum, soon becoming glabrate above and sparsely tomentose to glabrate beneath, coriaceous. Flowers in terminal 2-6-flowered fascicles; pedicels 5-14 mm, accrescent in fruit, rusty orange to rust-grey tomentose, subtended by several caducous, rusty-tomentose 1-2 mm long bud scales. Sepals linear, acuminate, 8-11 x 2-2.7 mm, rusty-tomentose, ciliate; petals 14-19.5 x 3-3.5 mm, oblanceolate-linear, subacute, recurved at tips, reddish-brown, chocolate or dark golden yellow; stamens 7-11 mm, anthers 1-3 mm. Ovary 2.5-7.5 x 1.5-4.5 mm, invested in rust-coloured hairs, style 1.5-6.5 mm long, stigma capitate or tuncate. Capsules, woody, subglobose, 3 or 2-valved, 15-20 x 13-17 mm, covered in rust-brown to rust-grey tomentum. Mucilage yellow-red to orange. Seeds 25-36 (with many aborted), reddish-brown, somewhat irregular in outline.

Flowering:

July - October

Fruiting:

August - January (though fruit is long persistent and may be seen year round)

Threats:

Not directly threatened though it is generally very uncommon throughout its range, and where found it is often known from one or two trees. However, there are exceptions, for example the species is common along the ridge lines of Mt Manaia, Bream Head and in the Waitakere Ranges (especially near Anawhata and Destruction Gully).

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 30 August 2006. Description adapted from Cooper (1956).

References and further reading:

Cooper, R.C. 1956: The Australian and New Zealand species of *Pittosporum*. *Annals of the Missouri Botanical Garden* 43: 87-188

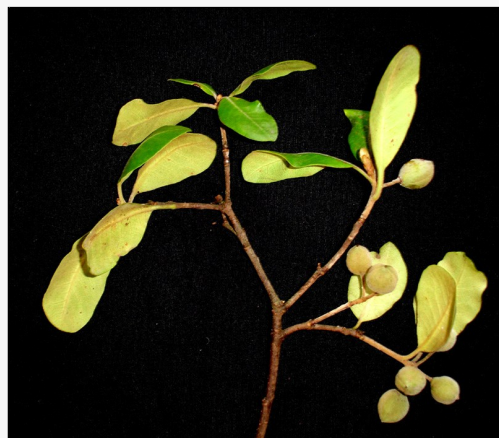
For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=300



Caption: Foliage

Photographer: Peter de Lange



Caption: *Pittosporum ellipticum* close up of foliage and fruits

Photographer: Peter de Lange

Pittosporum eugenioides

Common Name(s):

Tarata, lemonwood

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Common in the North and South Islands.

Habitat:

Common tree of regenerating and mature forest in coastal to montane situations.

Features*:

Gynodioecious tree up to 12 m tall but usually much less. Trunk 0.6-1 m diam, stout, clad in persistent pale-grey bark, branches numerous, erect then spreading. Leaf buds sticky, resinous. Leaves borne on slender petioles 10-20 mm long, alternate, 50-100(-150) x 25-40 mm, yellow-green, green, more or less blotched and mottled with paler green or yellow-green (sometimes white), somewhat leathery, glossy, smelling strongly when crushed of ivy or resin, elliptic to elliptic-oblong, apex acute to subacute; leaf margin undulate (very rarely not so), midrib pale green. Inflorescences terminal, numerous, subcorymbose compound umbels. Flowers pale yellow to yellow, very fragrant. Peduncles 10-20 mm, pedicels 5 mm, both sparsely hairy. Sepals 2 mm, ovate to narrow-ovate, pale caducous. Petals 5, 5-7 mm long, narrow-oblong. Capsules 2-valved (rarely 3), 5-6 mm, ovoid to elliptic, caducous, seeds immersed in dark yellow viscid pulp, whole structure covered in long persistent papery endocarp.

Flowering:

October - December

Fruiting:

October - January

Threats:

Not Threatened

***Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange 30 August 2006. Description adapted from Cooper (1956).

References and further reading:

Cooper, R.C. 1956: The Australian and New Zealand species of *Pittosporum*. *Annals of the Missouri Botanical Garden* 43: 87-188

Gardner, R. 1999. Notes towards an excursion Flora. *Pittosporum eugenioides* as a wild plant. *Auckland Botanical Society Journal*, 54, 1

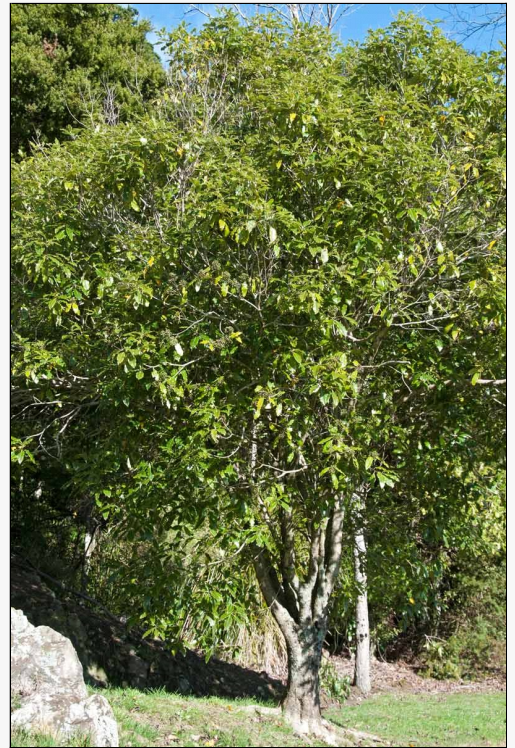
For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1135



Caption: Masterton

Photographer: John Barkla



Caption: Maidstone Park, Upper Hutt.

Photographer: Jeremy Rolfe

Pittosporum ralphii

Common Name(s):

Karo

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1137



Caption: Nov 2006.

Photographer: Peter de Lange



Caption: Nov 2006.

Photographer: Peter de Lange

Pittosporum tenuifolium

Common Name(s):

Kohukohu, kohuhu, black matipo

Current Threat Status (2012):

Not Threatened

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)

Fruiting:

January - March

Threats:

Not Threatened

*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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1139



Caption: *Pittosporum tenuifolium* in flower Dunedin

Photographer: John Barkla



Caption: Quail Island

Photographer: John Barkla

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).

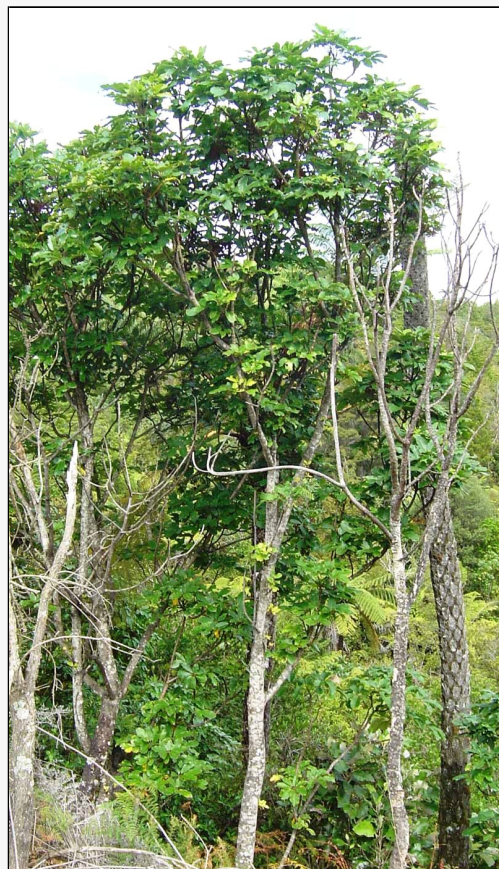
References and further reading:

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



Caption: *Pseudopanax arboreus*

Photographer: Wayne Bennett



Caption: Flowers of *Pseudopanax arboreus*

Photographer: Wayne Bennett

Pseudopanax colensoi var. *colensoi*

Common Name(s):

Mountain five-finger, three finger

Current Threat Status (2012):

Not Threatened

Distribution:

Central North Island and Coromandel Range south to Banks Peninsula (and possibly Dunedin) on South Island east coast. Apparently absent from South Island West Coast. Plants with sessile leaflets from the Fiordland-Stewart Island area are often referred to *Pseudopanax colensoi* var. *fiordensis* Wardle

Habitat:

Montane to low alpine forest and scrub

Features*:

Us. dioecious. Small multi-branched tree to 8 m tall, branchlets fleshy brittle. Leaves alternate, leaflets (3-)5(-7), palmate, subsessile or on short petiolules. Petioles 5-20 cm long, sheathing branchlet at base and with small erect stipule. Petiolules absent or short, of terminal leaflet to 0-5-10-(15) mm long, shorter on lateral leaflets, pale green, reddish at base. Leaflets narrow-ovate to broadly elliptic-oblong, cuneately narrowing to petiolule, thinly coriaceous, coarsely serrate-dentate in upper 2/3 - 3/4, acute to obtuse; midrib obvious above and below, lateral veins obscure; darker shiny green above; terminal lamina 5-17 x 2-11 cm, lateral leaflets decreasing in size. Inflorescence a terminal umbel; c. 8 primary rays (branchlets); 10-12 secondary rays; umbellules with 5-10 flowers in each. Calyx truncate or obscurely 5-toothed; flowers c. 5 mm diam.; petals 5, cream or greenish, ovate to triangular, acute; ovary 2-loculed, each containing 1 ovules; style branches 2. Fruit fleshy, 4-6 mm diam., style branches retained on an apical disc, dark purple when ripe. Seeds 2 per fruit, shallowly wrinkled, 2.9-4.3 mm long, rounded.

Flowering:

October-March

Fruiting:

October-March

Threats:

Not Threatened

*Attribution:

Description adapted from Wardle (1968), Allan (1961), Webb and Simpson (2001).

References and further reading:

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

Wardle, P. 1968. The taxonomy and distribution of the stipulate species of *Pseudopanax* in New Zealand. NZ J. Botany 6: 226-236

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=1195



Caption: Southern Taranui Range. Sep 2007.

Photographer: Jeremy Rolfe



Caption: Southern Taranui Range. Sep 2007.

Photographer: Jeremy Rolfe

Pseudopanax crassifolius

Common Name(s):

Horoeka, lancewood

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Lowland to montane forest. Sealevel to c. 750 m a.s.l.

Features*:

Bushy topped tree to 15 m tall, branchlets fleshy, trunk unbranched in lower part, to 50 cm diam., distinctly ridged when young, bark dark becoming paler with age, wood tough. Leaves alternate; leaflets 1-3 in seedling, palmate, sessile or subsessile on very short petiolule, submembranous coarsely toothed, absent from juvenile and adult. Juvenile leaves dark green, narrow-linear, deflexed, to 1 m long, coriaceous, midrib pale cream-yellow, raised, margins distantly sharply toothed, distal margin of tooth perpendicular to midvein, not swollen. Adult leaves shorter, 10-20 x 2-3 cm, dark green, very occ. trifoliate (probably due to hybridisation with other species), narrow elliptic-cuneate to lanceolate or linear-obovate, acute or obtuse, margins entire to sunuate or coarsely serrate, subsessile or on petioles to 10 mm long, petiole base expanded around stem. Inflorescence a terminal umbel, irregularly compound; primary rays (branchlets) 5-10, c. 6 cm long; umbellules sometimes racemosely arranged. Ovary 5-loculed, each containing 1 ovule; style branches 5, connate, tips sometimes free. Fruit fleshy, subglobose, 4-5 mm diam., style branches retained on an apical disc, dark purple when ripe. Seeds 4-5 per fruit, easily separated, broadly ovate, grooved, 2.2-3.5(-5.5) mm long.

Flowering:

January-April

Fruiting:

January-April

Threats:

Not Threatened

*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=1196



Caption: *Pseudopanax crassifolius*

Photographer: Wayne Bennett



Caption: Seeds of *Pseudopanax crassifolius*

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 subtire 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



Caption: Flowers, South Otago coast

Photographer: John Barkla



Caption: Harbour Cone, Otago Peninsula

Photographer: John Barkla

Quintinia serrata

Common Name(s):

Tawheowheo, quintinia

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North and South Islands (from about Kaitaia south to Wellington; in the South Island mostly westerly in the South Island to about Martins Bay)

Habitat:

Coastal to montane usually in forest, in the northern part of its range often confined to cooler valley heads and ridge lines or prominent on the summits of major ranges and peaks (in so called "cloud forest"). In the southern part of its range extending into coastal forest where it may form a major part of the forest understorey and/or canopy in disturbed sites

Features*:

Small tree up to 12 m tall; trunk up to 500 mm d.b.h. Bark greyish-white to grey-brown, often mottled and covered with small lichens, mosses and liverworts. branches ascending. Young branchlets, leaves, peduncles and pedicels ± viscid and invested with lepidote ± scurfy scales. Leaves alternate, exstipulate, yellow-green to dark green usually blotched dark maroon sometimes not, borne on petioles up to 20 mm long; lamina 20-160 × 10-50 mm, narrowly lanceolate, oblanceolate, narrowly oblong, elliptic, broadly elliptic-obovate to obovate-cuneate, apex obtuse, subacute to acute, margins weakly to strongly undulose or flat, obscurely to distinctly serrate, or entire (if serrate then serration apices distinctly glandular). Inflorescences racemose, axillary or terminal. Racemes 35-80 mm long, pedicels c.3-4 mm long; Flowers gynodioecious, 3-7 mm diameter, calyx tube adnate to ovary, lobes persistent; petals 1.5-3.5 mm long, white to whitish-pink, obovate-oblong, narrow ovate to ovate-oblong, imbricate; female flowers with 5 rudimentary stamen (often reduced to staminodes, sometimes completely absent); ovary 3-5-celled, style persistent; stigmas capitate, 3-5-lobed; hermaphrodite flowers similar but with 5 functional stamens and functional gynoeceium. Capsules 3-5-valved, 4-6 mm long, including style, obovoid, ellipsoid or oblong. Seeds 1.3-2.0 mm long, narrowly ovate, elliptic, ovate-elliptic to oblong, compressed, surface glabrous, finely reticulate with elongated cells, orange-brown to brown.

Flowering:

September - March

Fruiting:

November - June

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange January 2012. Description adapted from Allan (1961), Dawson & Lucas (2011) and Webb & Simpson (2001).

References and further reading:

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

Dawson, J.; Lucas, R. 2011: New Zealand's Native Trees. Craig Potton Publishing, Nelson.

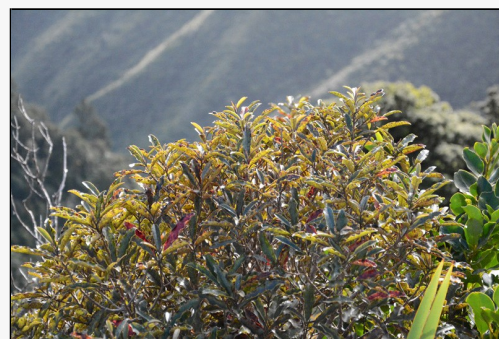
Eagle, A.L. 1982: Eagle's trees and shrubs of New Zealand, second series. Collins, Auckland.

Eagle, A.L. 2006: Eagle's complete trees and shrubs of New Zealand. Te Papa Press, Wellington.

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1220



Caption: Mt Karioi, south of Raglan

Photographer: John Sawyer



Caption: Tawheowheo (*Quintinia serrata*) in fruit Mt Karioi, Raglan

Photographer: Dean Baigent-Mercer

Raukaua edgerleyi

Common Name(s):

raukawa

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North (Kaitiaki southwards), South and Stewart Islands. Scattered and infrequent.

Habitat:

Lowland to montane forest. Near sea level to 900 m a.s.l.

Features*:

Tree 10-12 m tall; glabrous, branchlets ascending, bark cream to pale grey, rough. Leaves alternate, in juvenile plants 3-5-foliolate; adult leaves single; stipules absent. Petioles of juvenile to 10 cm long, 1.5-5 cm long in adults, reddish. Juvenile lamina 5-15 x 1.5-3.5 cm, linear oblong, deeply lobed, lobes acuminate to acute, terminal lamina subsessile or shortly petiolulate, thin. Adult lamina becoming entire, 5-10 cm long, membraneous to subcoriaceous, obovate to elliptic-oblong, acuminate to obtuse, base cuneate, shiny dark green above, paler below, veins visible above and below, midrib raised, green above, reddish below and often bearing small hooks, aromatic when crushed. Inflorescence axillary, a raceme bearing three or more 10-15 flowered umbellules on short peduncles. Flowers 4-5 mm in diameter, green, in male or female clusters on same raceme; calyx minutely 5-toothed; ovary 2-4-carpellate; style branches (2)-3-4, connate, free at tips; stamens 5, projecting, < petals. Fruit fleshy, 3-4 mm, globose, green ripening to dark purple; style bases retained on apical disc. Seeds 3-5 per fruit, ovate to broadly ovate, straight along ventral edge, surface irregularly ridged and dimpled, 2.0-3.4(-3.7) mm long.

Flowering:

September to
December

Fruiting:

October to March but some fruit may
be present throughout the year

Threats:

Heavily browsed by mammalian browsers. Consequently infrequently encountered throughout its range

*Attribution:

Description by M.J. Thorsen 29 October 2010 adapted from the references cited below.

References and further reading:

Mitchell, A.D, Frodin, D.G, Heads, M.J. 1997. Reinstatement of *Raukaua*, a genus of the Araliaceae centred on New Zealand. NZ J. Botany 305: 309-315

Wilson, H & Galloway, T. 1993. Small-leaved shrubs of NZ. Manuka Press, Christchurch

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.

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=202



Caption: A rare example of cauliflory on *Raukaua edgerleyi*. Endean forest, eastern Mamaku Plateau.

Photographer: John Hobbs



Caption: Close-up of cauliflory on *Raukaua edgerleyi*. Endean forest, eastern Mamaku Plateau.

Photographer: John Hobbs

Raukaua simplex

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Aucklands Islands. From Te Moehau (Coromandel) south

Habitat:

Lowland to montane forest and also shrubland at tree line. Near seal level to 1400 m a.s.l.

Features*:

Moneocious. Small much branched tree to 8 m tall; all parts glabrous; bark whiteish grey, branchlets non-fleshy. Leaves alternate; stipules absent. Seedling leaves unifoliate, becoming 3-5-foliate in juvenile stage and then 1-3-foliate in adult. Juvenile leaves sessile or subsessile, 4-15 cm long, narrowly oblong to elliptic, deeply lobed to pinnatifid, lobes acute to obtuse; petioles to 10 cm long. Later juvenile leaves shorter, 5-8 cm long, elliptic to obovate-oblong to lanceolate, acute or obtuse, margins sharply to bluntly serrate, petioles to 6 cm long. Adult leaves usually unifoliate, but trifoliate leaves common, 5-10 x 1.5-4 cm, coriaceous, dark green above, paler below, variously shaped from lanceolate to obovate-oblong, sharply serrate, tip acuminate to acute to obtuse, veins obvious, raised; petiole 3-8 cm long, reddish, non-clasping, terminating in small node in unifoliate leaves. Inflorescence axillary, a compound raceme. Umbellule 5-15 flowered; rays short. Flowers small, green; calyx minutely 5-toothed; ovary 2-loculed, each with 1 ovule; style branches 2, free at tips, strongly curved, connate; stamens 5, projecting, \leq petals. Fruit fleshy, 3-4 mm wide, laterally compressed, green ripening to mottled white cream or purple; style bases retained on apical disc. Seeds 2 per fruit, broadly ovate, straight along ventral edge, surface even, 2.2-3.1 mm long.

Flowering:

(June)-October-March

Fruiting:

(June)-October-March

Threats:

Not Threatened

***Attribution:**

Description adapted from Mitchell (2005), Mitchell et al (1997), Eagle (2000) and Webb and Simpson (2001).

References and further reading:

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

Mitchell, A.D, Frodin, D.G, Heads, M.J. 1997. Reinstatement of Raukaua, a genus of the Araliaceae centred on New Zealand. NZ J. Botany 305: 309-315;

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=1258



Caption: Kepler Track, Fiordland

Photographer: Jesse Bythell



Caption: Raukaua simplex, Auckland Islands

Photographer: John Barkla

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



Caption: Waipoua Forest, Northland

Photographer: John Sawyer



Caption: Schefflera digitata (Patete)

Photographer: Wayne Bennett

Streblus heterophyllus

Common Name(s):

small-leaved milk tree, turepo

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1311



Caption: Eastern Hutt hills, Naenae. Jul 2013.

Photographer: Jeremy Rolfe



Caption: Eastern Hutt hills, Naenae. Jul 2013.

Photographer: Jeremy Rolfe

Definitions of botanical terms

A glossary has been provided below with definitions for many of the botanical terms used in the species descriptions.

Glossary

Term	Definition
Abaxial	Facing away from the stem of a plant (especially denoting the lower surface of a leaf).
Acerose	Narrow with a sharp stiff point.
Achene	A simple, dry, one-seeded (one-celled) fruit
Acicular	Needle-shaped.
Acidic	Having a low pH, opposite of basic or alkaline.
Acroscopic	Pointing towards, or on the side of, the apex
Acuminate	Gradually tapered to a point. Sharply pointed.
Acute	Pointed or sharp, tapering to a point with straight sides.
Adnate	Fusion of unlike parts, e.g. stamens fused to petals.
Adventive	A plant that grows in the wild in New Zealand but which was introduced to the country by humans.
Agglutinated	Stuck together.
Allelopath	An organism that releases compounds that are toxic to other species.
Allelopathy	The release by an organism of compounds that are toxic to other species.
Alternate	Attached singly at each node but changing from one side of a stem to the other.
Alveolate	Honeycombed with ridged partitions.
Amplexicaul	clasping or surrounding the stem
Anamorph	Asexual fruiting stage, usually of an ascomycete fungus.
Anastomosing	Rejoining after branching, as in some leaf veins.
Annual	A plant that completes its complete life cycle within the space of a year
Annual evergreen	Plants that lose their over-wintering leaves rapidly in the first half of the growing season. Annual evergreens never present a leafless appearance, but are closer in a functional sense to a deciduous plant than they are to multi-annual evergreens.
Annulus	Line of thickened cells that governs the release of spores from a sporangium
Anterior	Towards the front.
Anther	The pollen-bearing portion of the stamen.
Antheridium	Male reproductive organ formed on the prothallus of a fern
Anthesis	When the flower is fully developed and functioning. The time of pollination or bloom.
Apex	Tip; the point furthest from the point of attachment.
Apices	Plural of apex. Tip, the point furthest from the point of attachment
Apiculate	Bearing a short slender and flexible point.
Apiculus	A small, slender point.
Apomixis	A form of reproduction whereby seed is formed without the usual mode of sexual fusion
Appressed	Pressed against another organ or surface.
Aquatic	Growing, or living in, or frequenting water. Applied to plants and animals and their habitats. Opposite of terrestrial (land living).
Archegonium	Female reproductive organ of a fern formed on the prothallus
Arcuate	Curved into an arch.
Aril	An often fleshy appendage on the outside of a seed.
Artificial thinning	Selectively removing vegetation to create gaps to facilitate natural invasion of native plants, or to plant later successional plants.
Ascending	Growing obliquely upward.
Asexual	Vegetative reproduction, lacking sexual involvement by sperm or egg cells
Attenuate	Narrowing gradually
Auricle	A small, ear-shaped appendage.
Auriculate	Bearing a small, ear-shaped appendage.
Autogamous	Self-fertilising flowers.
Autotrophic	Of or relating to organisms (as green plants) that can make complex organic nutritive compounds from simple inorganic sources by photosynthesis
awn	A stiff or bristle like projection often from the tip or back of an organ
Axil	The upper angle between the leaf and the stem.
Axis	The longitudinal supporting structure around which organs are borne, e.g., a stem bearing leaves.
Barbellate	Barbed, having or covered with protective barbs or quills or spines or thorns or setae
Basal	At the base.
Basisopic	Pointing towards the base
Beak	A prominent extension of an organ
Bifid	Deeply split into two lobes.
Bifurcate	Divided into two.

Term	Definition
Biosecurity	Preventing, eradicating, controlling and managing risks posed by pests and diseases.
Biotic	Pertaining to the living parts of the environment
Bipinnate	With each primary pinna divided to the midrib into a secondary pinna
Biserrate	Doubly serrate.
Blade	The flattened part of a leaf.
Blunt	Not pointed at the ends
Bog	A quagmire covered with specialised plants including sphagnum moss, grasses, sedges, rushes, sundews, umbrella ferns and other plants; has wet, spongy ground, a marsh-plant community on wet, very acid peat. Fed only by rainfall.
Bottleneck	A genetic term; refers to the fact that in smaller populations there could be lower genetic variability
Brachyblasts	Short shoots
Bract	A reduced leaf or leaf-like structure at the base of a flower.
Bracteate	Bearing bracts: leaves or leaf-like structure reduced at the base of a flower.
Bracteolate	With small bracts.
Bracteole	A small bract.
Bracteoles	Bracts directly below the flower
Brevideciduous	Brief (1 month or less) loss of most leaves from the canopy just before flowering or during flushing of a new cohort of leaves.
Bryophyte	Plant group including mosses, liverworts and hornworts
Bryophytes	Plant group including mosses, liverworts and hornworts
Bulbil	A bud produced vegetatively on the stem or frond that is capable of breaking off and growing into a new plant
Bullate	With rounded projections covering the surface as if blistered
Caespitose	Growing in dense tufts
Calli	Circular, warty, stalked thickenings commonly found on the lip (labellum) of the orchid (plural of callus).
Callose	Hardened or thickened.
Callus	Stalked thickening on the lip (labellum) of an orchid.
Calyx	The group of sepals, or outer floral leaves, of a flower
Campanulate	Bell-shaped.
Canaliculate	With longitudinal channels or grooves.
Canopy	The uppermost cover formed by the branches and leaves of trees or the spread of bushes, shrubs and ground covers.
Canopy closure	Stage where canopies of shrub and tree species meet.
Canopy manipulation	Selectively removing vegetation to create gaps to facilitate natural invasion of native plants, or to plant later successional plants.
Capillary	Hair-like
Capitula	Plural of capitulum: A dense head-like inflorescence of many flowers as occurs in most Asteraceae (daisies)
Capitulum	A dense head-like inflorescence of many flowers as occurs in most Asteraceae (daisies)
Capsule	A dry fruit formed from two or more fused carpels that splits open when ripe.
Carbon sinks	Carbon locked away, or sequestered e.g. by trees
Carpel	One unit of the female part of a flower that consists of a basal seed-bearing ovary joined to a receptive stigma by a stalk-like style.
Cauda	Tail-like appendage. (pl. caudae; adj. caudate)
Caudex	The axis of a woody plant, esp. a palm or tree fern, comprising the stem and root.
Cauline	Belonging to the stem, as in cauline leaves emerging from the stem.
Cerise	Bright or deep red.
Chartaceous	Having a papery texture.
Chlorophyll	The green pigment of plants.
Chlorotic	Lacking chlorophyll, therefore yellowish, suffering from chlorosis.
Cilia	Short small hair-like structures on a cell or microorganism
Ciliate	With small hairs (cilia).
Ciliolate	Diminutive of ciliate, i.e., having very small hairs
Cladode	Flattened stem with the function of a leaf
Cladodes	Usually flattened, photosynthetically active branches, these may be leaf-like (e.g., Phyllocladus) or branch-like (e.g., Carmichaelia)
Clavate	Club-shaped, gradually widening towards apex.
Cleft	Having indentations that extend about halfway to the center, as in certain leaves.
Cleistogamous	Flowers that self-fertilise without opening.
Coherent	Sticking together of like parts.
Column	Stamen and stigmas fused to form a single organ.

Term	Definition
Columnar	Shaped like a column
Composite	many small flowers tightly packed together e.g., daisy flowers.
Compound	Composed of several similar parts (cf simple)
Concave	Curved inward.
Concolorous	Of the same colour.
Conical	Cone-shaped.
Connate	Fusion of like parts.
Conspecific	Individuals of the same species.
Cordate	Heart-shaped with the notch at the base.
Coriaceous	Leather-like; thick, tough, and somewhat rigid.
Corolla	The whorl of petals of a flower.
Corymb	Modified raceme where stalks of lower flowers are elongated to same level as the upper flowers.
Cosmopolitan	A species or other taxonomic group that is distributed widely throughout the world.
Costa	The midrib
Crenate	With rounded teeth (bluntly toothed) along the margin.
Crisped	Margin tightly wavy or crinkled, curled or wavy.
Cristate	With a crest.
Crown	The growing point of an upright rhizome or trunk. This usually produces a tuft or ring of fronds.
Crura	The two small projections at the mouth of a utricle in Carex
Cucullate	Hood-shaped.
Culm	The erect stem of a grass.
Cuneate	Wedge-shaped.
Cupular	Cup-shaped.
Cuttings	Stems and/or leaves taken from plants for propagation
Cyathium	A cup-like structure that surrounds the inflorescence in Euphorbia
Cyme	Inflorescence at the terminus of a branch and where new flowering branches emerge laterally below the flower.
Cytorace	Populations (or infraspecific taxa) that differ in chromosome number or chromosome morphology, e.g., <i>Nematoceras trilobum</i> agg. has two cytoraces, a diploid and a tetraploid (in which the chromosomes are doubled).
Cytotype	Populations (or infraspecific taxa) that differ in chromosome number or chromosome morphology, e.g., <i>Nematoceras trilobum</i> agg. has two cytotypes, a diploid and a tetraploid (in which the chromosomes are doubled).
Deciduous	Marked leaflessness in winter, and greater than 90% leaves lost by beginning of spring flush.
Decrescent	Diminishing.
Decumbent	With a prostrate or curved base and an erect or ascending tip.
Decurrent	Attached by a broadened base.
Decurved	Curved downward.
Deflexed	Bent abruptly downward.
Dehiscence	The time of opening at maturity to release the contents, e.g., a capsule releasing the seeds.
Dehiscent	Splitting open at maturity to release contents (of a fruit).
Deltoid	Shaped broadly like an equilateral triangle.
Dentate	Toothed along the margin with the teeth pointing outward, not forward.
Denticles	minute teeth
Denticulate	having a very finely toothed margin
Dichotomous	Divided into two equal branches.
Digitiform	Finger-like.
Dioecious	Having male and female flowers on separate plants of the same species.
Diploid	With two complete sets of chromosomes in each cell.
Disarticulating	Separating at a joint.
Discoid	Disc-shaped.
Disjunct	A species or other taxonomic group that occupies areas that are widely separated and scattered and therefore have a discontinuous distribution.
Distal	Toward the apex, away from the point of attachment (cf. proximal).
Distichous	In two rows on opposite sides of the axis.
Divaricating	Branching at a very wide angle with stiff intertwined stems.
Domatia	small structures on the lower surface of a leaf in some woody dicotyledons, located in the axils of the primary veins and usually consisting of depressions partly enclosed by leaf tissue or hairs.

Term	Definition
Dorsal	Of the back or outer surface relative to the axis. (cf. ventral)
Drupe	A stone fruit, the seed enclosed in a bony covering (endocarp) which is surrounded by a + fleshy layer (mesocarp)
Early successional species	Plants which are able to colonise an open area after disturbance but which are often temporary and are replaced by taller plants in time and shaded out.
Echinate	having sharply pointed spines or bristles.
Ecological district	A characteristic landscape and biological community defined in the PNA (Protected Natural Area) programme.
Ecological restoration	Attempt to reinstate original (pre-disturbance) state of a habitat, plant community or ecosystem.
Ecosourced	Plants sourced from seed collected from similar naturally growing plants in the area of the planting site.
Ecosourcing	Using native plants grown from locally grown seeds. Eco-sourced plants help to preserve the ecological distinctiveness of an area, and ecosourced plants fare better and are adapted to survive in the local conditions.
Eglandular	Without glands.
Elaiosome	Fleshy, oil-rich structure attached to seed that attracts ants which act as dispersers.
Ellipsoid	Elliptic in long section and circular in cross-section.
Elliptic	Broadest at the middle
Emarginate	With a notch at the apex.
Emarginated	Having a shallow notch at the tip, as in some petals and leaves.
Emergent	In an aquatic sense - wetland herbs that are rooted in the substrate below water level, but carry leaves and stems above the water level e.g. rushes and raupo. Found on the shallow margins of lakes, ponds and waterways. In a forest sense - tree that is appearing above the surrounding canopy.
Emergent marginals	An aquatic plant having most of its structure above water. Other aquatic plants are submerged or floating.
Endemic	Unique or confined to a place or region, found naturally nowhere else.
Endophyte	An endosymbiont (usually a bacterium or fungus) that lives within a plant for at least part of its life without causing any apparent disease.
Endophytes	Endosymbionts (usually bacteria or fungi) that live within plants for at least part of their lives without causing any apparent disease.
Endosperm	The nutritive tissue of a seed, consisting of carbohydrates, proteins, and lipids.
Enrichment planting	Returning to a revegetation site and creating gaps, or filling existing gaps, with different plants of plants, usually later successional plants which may not have survived being planted in the first phases of the project.
Ensiform	Sword shaped
Entire	Smooth. Without teeth, notches or divisions.
Entomophilous	Pollinated by insects.
Epicalyx	Calyx-like structure outside, but close to, the true calyx.
Epigeal	Growing on or close to the ground or emerging from the ground after germination (often used for cotyledons).
Epiphyte	A plant that grows upon another plant but is not parasitic and does not draw nourishment from it.
Epiphytic	Growing upon another plant but not parasitic and not drawing nourishment it
Erose	Irregularly toothed, as if gnawed.
Estuarine	Pertaining to the meeting of freshwater and seawater wetlands.
Ethnobotany	The study of people's classification, management and use of plants.
Eusporangia	Sporangia that arise from groups of epidermal cells
Evanescent	Lasting a very short time or running a short distance.
Ex situ	Away from the place of natural occurrence.
Ex-situ	Maintenance of plants as live specimens or propagules in cultivation as insurance against the loss of wild populations and as source for material for translocation.
Excurrent	Having the axis prolonged to form an undivided main stem or trunk (as in conifers).
Extravaginal	Outside an enclosing sheath
Falcate	Hooked or curved like a sickle.
Fastigate	Branches erect and close to central axis.
Fen	A type of wet land that accumulates peat deposits. Fens are less acidic than bogs, deriving most of their water from groundwater rich in calcium and magnesium.
Ferruginous	Rust-like (a colour term)
Fertile frond	Fronds that bear sporangia.
Filamentous	Resembling a filament.
Filiform	Thread like, resembling a filament.
Filiramulate	Branching at a very wide angle with stiff intertwined stems.
Fimbriae	Plural of fimbria: Fringe. A fimbria is composed of many fimbriae (individual hair-like structures).
fimbriate	With fringes.
Flabellate	Fan shaped.
Flaccid	Limp, not rigid, flabby.
Flange	A projecting rim.

Term	Definition
Flexuose	With curves or bends.
Floccose	Having tufts of soft woolly hairs
Floret	A small flower, usually one of a cluster - the head of a daisy for example.
Foliaceous	Leaf-like.
Foliate	Having leaflets.
Founder effect	When a small number of plants (and therefore their genes) from a larger population are selected some genetic information is lost.
Fronid	A leaf, the complete leaf of a fern including the stipe and lamina
Fulvous	Orange–yellow.
Funneliform	Funnel-shaped.
Fusiform	Broadest near the middle and tapering toward both ends.
Galea	Helmet- or hood-shaped.
Galeate	Shaped like a helmet or hood.
Gametophyte	A plant that produces sperm and egg cells and in which sexual reproduction takes place - in ferns this is known as the prothallus
Gene pool	The mixture of all genes and gene variations of a group or population.
Genetic diversity	The variety of genes in a plants or populations.
Genetic variation	Differences displayed by individuals within a plant which may be favoured or eliminated by selection.
geniculate	abruptly bent
Genus	A taxonomic rank of closely related forms that is further subdivided in to species (plural = genera). In a scientific name (e.g., <i>Sicyos australis</i>), the first word is the genus, the second the species.
Gibbous	Swollen or enlarged on one side, as in a gibbous moon.
Glabrescent	Lacking hair or a similar growth or tending to become hairless
Glabrous	Without or devoid of hairs, smooth.
Gland	A structure that secretes a sticky or oily substance.
Glandular	A structure that secretes a sticky or oily substance.
Glaucous	Covered with a fine, waxy, removable powder that imparts a white or bluish cast to the surface.
Gley	A soil prone to seasonal inundation.
Globose	Globe-shaped.
Glume	One of two bracts at the base of a grass spikelet.
Groundwater	Groundwater is the water beneath the surface that can be collected with wells, tunnels, or drainage galleries, or that flows naturally to the earth's surface via seeps or springs. Groundwater is the water that is pumped by wells and flows out through springs.
Gymnosperm	Plants in the class Gymnospermae that have seeds which are not enclosed in an ovary.
Gynodioecious	A species population containing plants that produce bisexual (perfect) flowers, and plants that produce only female (pistillate) flowers.
Gynoeceium	The female reproductive organs of a flower; the pistil or pistils considered as a group. Means literally "womans house" i.e., the overall structure that contains the female sex organs
Hastate	Spear like. Shaped like an arrowhead, but with basal lobes pointing outward rather than downward.
Haustorium	The absorbing organ of a parasite or hemiparasite
Hemi–parasite	Obtains water and nutrients from the roots of other plants but also manufactures food through photosynthesis.
Hemi–parasitic	Obtaining water and nutrients from the roots of other plants then manufacturing food through photosynthesis.
Herbarium	The place where collections of dried/pressed plants are kept.
Hermaphrodite	Having both male and female sexual characteristics and organs.
Heteroblastic	Exhibiting differences in leaf shapes or forms in juvenile and adult phases of the plant.
Heteroblasty	The state of being heteroblastic (i.e., exhibiting differences in leaf shapes or forms in juvenile and adult phases of the plant).
Hirsute	Hairy.
Hyaline	Membranous, thin and translucent.
Hybrid	An individual that is the offspring of a cross between two different varieties or species.
Hybridise	Breeding with a member of a different plant or type.
Hydrophyte	A plant species adapted to growing in or on water or in wet situations. Aquatic or semi-aquatic.
Hymenium	The fertile, spore–bearing layer of a fruitbody.
Hypanthium	A ring–like, cup–shaped, or tubular structure of a flower on which the sepals, petals, and stamens are borne.
Imbricate	Overlapping.
imbricating	Overlapping.
Imparipinnate	Odd–pinnate, a leaf shape; pinnate with a single leaflet at the apex.
In-situ	On site conservation relating to the maintenance of plants in the wild.
Inbreeding	Genetic similarity in offspring of closely related individuals.

Term	Definition
Incoherent	Not sticking together.
Incursion	Entrance of a pest into an area where it is not present
Indumentum	A covering of fine hairs (or sometimes scales)
Indusia	Plural of indusium, a membrane covering a sorus of a fern
Indusium	A thin tissue that covers the sorus in many ferns. Plural: indusia.
Inflorescence	The arrangement of flowers on the stem. A flower head.
Infundibuliform	Funnel-like.
Interkeel	The space between the keel and the leaf blade
Internode	The part of an axis between two nodes; the section of the stem between leaves.
Internodes	Part of a stem between two nodes.
Intramarginal	Within or near the margin.
Involucral bracts	The scales surrounding the flower head or capitula.
Involucre	A group of bracts surrounding a flower head.
Involute	With margins rolled inward toward the upper side.
Irritable	Responding to touch.
Jugate	Paired.
Juvenile	A plant of non-reproducing size.
Keel	A prominent or obvious longitudinal ridge (as in a boat).
Labellar	Pertaining to the labellum: a lip; in orchid flowers referring to the middle petal which usually differs in size, shape or ornamentation from the two lateral petals.
Labellum	A lip; in orchid flowers referring to the highly modified middle petal which usually differs in size, shape or ornamentation from the two lateral petals.
Lacinia	A jagged lobe.
Laciniae	Jagged lobes.
Laciniate	Cut into narrow, irregular lobes or segments.
Lacustrine	Of or having to do with a lake, of, relating to, or formed in lakes, growing or living in lakes.
Lamina	The expanded flattened portion or blade of a leaf, fern frond or petal.
Lanceolate	Lance-shaped; of a leaf several times longer than wide with greatest width about one third from the base, tapering gradually to apex and more rapidly to base
Lateral	On or at the side.
Lax	With parts open and spreading, not compact.
Laxly	With parts open and spreading, not compact
Leaflet	One section of a compound leaf.
Lemma	The lower of two bracts enclosing the flower in grasses.
Lenticillate	Bark that is covered in fine lenticles (breathing pores)
Ligulate	Strap-like, tongue-shaped
Ligule	The membrane between the leaf and the stem of a grass; the "petal" of a ray floret in a composite inflorescence
Linear	Long and narrow with more or less parallel sides.
Littoral	Occurring at the border of land and sea (or lake). On or pertaining to the shore. The shallow sunlit waters near the shore to the depth at which rooted plants stop growing.
Lobe	A recognisable, but not separated, rounded division or segment of a leaf or pinna. Used to describe ferns and leaves in <i>Cotula</i> and <i>Leptinella</i> .
Lobed	Part of a leaf (or other organ), often rounded, formed by incisions to about halfway to the midrib.
Lobule	A small lobe or sub-division of a lobe
Lustrous	Glossy, shiny.
Lycophytes	Seedless vascular plants that belong to the phylum Lycophyta (characterised by microphylls -primitive leaves found in ancient plants).
Lyrate	Pinnatifid or pinnatisect terminal lobe much larger than lower lobes.
Maculate	Blotched or spotted.
Mangrove	Coastal wetland dominated by Manawa or mangrove <i>Avicennia marina</i> var. <i>resifera</i> . Northern New Zealand only, salt marsh replaces it further south.
Margin	The edge or border of a leaf
Marine	Pertaining to the sea and saltwater systems.
Marsh	A tract of wet land principally inhabited by partially-submerged herbaceous vegetation. Has fewer woody plants than swamplier habitats.
Mealy	Dry, powdery, crumbly.
Median	In the middle.
Membranous	Very thin, like a membrane.
Mid-lobe	The middle part into which a leaf is divided.
Midrib	The central or principal vein of a leaf or pinna of a fern.
Mire	Synonymous with any peat-accumulating wetland. Term covers bogs and peaty swamps, fens, carr, moor, muskeg and peatland. Term excludes marsh which is non-peat forming.

Term	Definition
Molecular techniques	Where proteins and genes are used to investigate plant relationships
Monitoring	Recording of quantitative data over time to document changes in condition or state of species or ecosystems.
Monoecious	Having male and female flowers on the same plant of the same species.
Montane	Land between 300 and 800 metres above sea level.
Mucronate	Tipped with a short, sharp, point.
Mucronulate	Having a very small mucro; diminutive of mucronate.
Multi-annual evergreen	Overlapping annual cohorts of leaves always present.
Multifid	Cleft into many lobes or segments
Multiseptate	With many septa.
muricate	Rough with short, hard points like the shell of Murex, a genus of tropical sea snails with elaborately pointed shells.
Mycorrhiza	A symbiotic relationship between a fungus and a plant.
Mycorrhizal associations	Symbiotic association between fungi and plant roots which assists plant health by allowing increased ability for uptake of nutrients and promote plant growth.
Napiform	A long swollen but tapering root – like a parsnip, or carrot.
Native	Naturally occurring in New Zealand (i.e., not introduced accidentally or deliberately by humans).
naturalised	Referring to plants that have escaped from cultivation (including gardens or forest plantations) and can now reproduce in the wild (without human assistance)
Nectary	Organ that produces nectar.
Nerve	Prominent vein or rib.
Nerves	Strands of conducting and usually strengthening tissue in a leaves or similar structures
Net veins	Veins that repeatedly divide and re-unite.
Net venation	Feather-like or hand-like venation on a leaf.
Nival	Growing at high altitudes. From Latin: nivalis, snowy etc. from nix, nivis, snow.
Node	The point at which leaves, branches or roots arise on a stem.
Ob-	Prefix meaning inverted, in reverse direction.
Obcordate	Heart shaped with the notch at the apex.
Oblanceolate	Tapering and widest towards the apex or inversely lanceolate.
Oblique	Slanting; of a leaf, larger on one side of the midrib than the other, in other words asymmetrical.
Oblong	Rectangular.
Obovate	Roughly elliptical or reverse egg shaped and widest near the apex (i.e., the terminal half broader than the basal half).
Obtuse	Blunt or rounded at the apex, with the sides meeting at an angle greater than 90°.
Operculate	With a small lid.
Opposite	A pair of organs attached at nodes in pairs on either side of a stem or axis.
Orbicular	Almost or approximately circular.
Outbreeding depression	A reduction in vigor of offspring from distant parents. It can occur when a locally adapted population is moved and mixed with plants adapted to different conditions.
Outer canopy deciduous	Marked reduction in leaf number in the outer canopy in exposed high light environments over winter.
Oval	Planar, shaped like a flattened circle, symmetrical about both the long and the short axis; about twice as long as broad, tapering equally both to the tip and the base. Synonymous with elliptical.
Ovary	Part of a flower containing the ovules and later the seeds.
Ovate	Egg-shaped and widest at base.
Ovoid	Oval; egg-shaped, with rounded base and apex.
Pakihi	A term which in its strict sense refers to open clears within forest dominated by low scrub and rushes. However, more usually used to refer natural and induced wetlands and their associated shrublands. A vernacular most frequently used in the West Coast for impoverished soils and their associated peats, left after forest has been cleared
Palea	The small upper bract enclosing the flower of a grass
palea	1. The upper of the two bracts that enclose each floret in a grass spikelet. 2. A small bract at the base of a disc floret in some plants of the composite family. 3. Scales on various parts of ferns (referred to as paleate or paleaceous). From the Latin word for 'chaff'.
paleae	Plural of palea, from the Latin word for 'chaff'. 1. The upper of the two bracts that enclose each floret in a grass spikelet. 2. A small bract at the base of a disc floret in some plants of the composite family. 3. Scales on various parts of ferns (referred to as paleate or paleaceous).
Palmately	Radiating from a point, as fingers radiating from the palm of a hand.
Palmatifid	Deeply divided into several lobes arising from more or less the same level.
Palmatisect	Intermediate between palmate and palmatifid, i.e. the segments are not fully separated at the base; often more or less digitate.
Palustrine	Pertaining to wet or marshy habitats. Term covers mires and marshes
Pandurate	Fiddle-shaped.
Panicle	Highly branched (multiple raceme).

Term	Definition
Papilla	A short rounded projection.
Papillae	A soft, fleshy projection, usually small and nipple-like.
Papillate	With short rounded projections.
Papillose	Warty, with short rounded projections or gland-dotted
Parallel venation	Veins are parallel along leaf.
Parasite	An organism that derives all its nourishment from its host.
Patent	Spreading or expanded, e.g., spreading petals.
Peat	A mass of partially carbonised plant tissue formed by partial decomposition in water of various plants and especially of mosses of the genus Sphagnum, widely found in many parts of the world, varying in consistency from a turf to a slime used as a fertiliser, as stable litter, as a fuel, and for making charcoal. Partially carbonized vegetable matter saturated with water; can be used as a fuel when dried. A type of soil deriving from dead organic material situated in a wet area, where the reduced amount of [[oxygen available in the wet conditions results in the organic material not decomposing as much as it usually would do so in the presence of more oxygen. Used in growing media. Represents an important carbon sink –drainage of peat releases large amounts of carbon (CO ₂) to the atmosphere.
Pedicel	The stalk of a single flower in an inflorescence or fruit (either in a cluster or existing singularly).
Peduncle	The stalk of a solitary flower or the main stalk of an inflorescence or flower cluster.
Pedunculate	Describing fruits, which are borne on a stalk (a peduncle).
Pellucid	Transparent.
Peltate	Shield-like, with the stalk attached well inside the margin
Pendent	Hanging down from its support
Pendulous	Hanging or drooping.
Penicillate	With a tuft of hairs at the end, like a brush.
Perennial	A plant lasting for three seasons or more
Perianth	A collective term for the calyx (sepals or tepals) and corolla (petals) of the flower, especially when these are indistinguishable
Petal	Part of flower inside the sepals; usually coloured.
Petiolate	Having a petiole.
Petiole	Leaf stalk.
phloem	The vascular tissue in land plants that is primarily responsible for the distribution of sugars and nutrients manufactured in a shoot.
Photopoint	A monitoring technique where repeat photos are taken of the same scene from the same point over a period of time in order to quantify changes.
Pilose	Bearing long, soft hairs.
Pinna	A segment of a divided lamina that is classified as primary, secondary or tertiary according to the degree of dissection of the lamina.
Pinnae	Divisions of a pinnate leaf
Pinnate	With leaflets arranged regularly in two rows on either side of a stalk as in a feather; the lamina on a fern is divided into separate pinnae
Pinnatifid	Pinnately lobed, cleft more than halfway to the midrib. Not cleft all the way to the rachis.
Pinnatisect	Pinnately divided almost to midrib but segments still confluent.
Pioneer	Plant species are hardy species that should be planted first to establish a good canopy cover that restricts weed growth and promotes natural regeneration. In natural ecosystems these are the first plants to arrive and grow on a site.
Pistil	The female reproductive organ of a flower, consisting of an ovary, style, and stigma.
Pistillate	A flower with one or more pistils, but no stamens.
Plano-convex	Flat on one side, convex on the other.
Plumose	Feathery.
Podzol	Infertile, acidic soil, strongly leached to form a whitish-grey subsoil underlain by a layer enriched in iron, aluminium and organic matter; usually under forest in a wet temperate climate.
Pole	A subcanopy size individual with a long thin trunk and foliage tuft of a potential canopy tree.
Pollinia	Compact masses of orchid pollen.
Population enhancement	Increasing a population for a specific biological purpose, e.g., when a species is already present in an area but extra individuals are added to address a sex imbalance.
Porrect	Extending forward.
Procumbent	Lying and flat along the ground but not rooting
Propagate	To reproduce a plant by sexual (i.e., from seed) or asexual (e.g., from cuttings) means.
Prostrate	A general term for lying flat along the ground. This includes procumbent (that is lying and flat along the ground but not rooting) and decumbent (with a prostrate or curved base and an erect or ascending tip).
Provenance	The place of origin (of a plant that is in cultivation).
Proximal	Toward the base or point of attachment (cf. distal).
Pseudobulb	Thickened surface stem; usually looking like a bulb.
Pseudoterminal	Falsely terminal – as in a bud which appears to occupy a terminal position but does not

Term	Definition
Puberulent	Minutely clad in short, soft hairs
Pubescence	Covering of soft, fine hairs
Pubescent	Covered in short, soft hairs.
Pungent	Ending in a stiff sharp point
Pustule	Small blister-like elevation.
Quadrante	Square, rectangular.
Raceme	An unbranched, elongated inflorescence with pedicellate flowers maturing from the bottom upward i.e., flowers attached to the main stem by short stalks.
Rachis	the axis of an inflorescence or of a compound leaf
Ray	An outer ring of strap-like florets in the head of Asteraceae (daisy) flowers.
Re-introduction	Translocating wild or cultivated individuals to sites where the taxon has been known to occur in the past, but from which it has disappeared.
Recurved	Curved backward.
Reflexed	Bent back on itself
Reniform	Kidney shaped.
Repend	With a slightly wavy margin.
Replum	The outer structure of a pod in which the valves have dehisced (persists after the opening of the fruit)
Restiad	Area dominated by rush-like plants (collectively known as restiads) of the family Restionaceae. Includes Chatham Island and North Island Sporodanthus and oiioi (<i>Apodasmia similis</i>)
Retorse	Pointing backward.
Retuse	A shallow notch at the rounded or blunt apex of a leaf.
Rhizoid	Any of various slender filaments that function as roots in mosses and ferns and fungi.
Rhizomatous	With underground creeping stems.
Rhizome	An underground stem (usually spreading horizontally or creeping) or short and erect.
Rhombic	Diamond-shaped.
Rhomboid	Diamond shaped, nearly rhombic.
Riparian	Relating to or living or located on the bank of a natural watercourse (as a river) or sometimes of a lake or a tidewater.
Riparian margin	Refers to the edges of streams, rivers, lakes or other waterways.
Riparian plants	Refers to plants found growing near the edges of streams, rivers or other waterways.
Riparian zone	A strip of land next to streams, rivers, and lakes where there is a transition from terrestrial (land vegetation) to aquatic (water) vegetation. Also known as "berm".
Riverine	Pertaining to rivers, streams and such like flowing water systems.
Rootstock	A short, erect, underground stem.
Rosette	A radiating cluster of leaves.
Rostellum	In orchids, a modified stigma that prevents self-fertilisation.
Rosulate	A dense radiating cluster of leaves.
Rugose	Wrinkled.
Rugulose	Having small wrinkles.
Runcinate	Sharply pinnatifid or cleft, the segments directed downward.
Runner	A trailing stem that roots at the nodes.
Rupestral	Growing on rocks.
Rushes	A group of distinctive wetland plants. They have solid stems (grasses have hollow stems), true rushes <i>Juncus</i> sp. have rounded leaves.
Sagittate	Shaped like the head of an arrow; narrow and pointed but gradually enlarged at base into two straight lobes directed downwards; may refer only to the base of a leaf with such lobes; cf. hastate.
Salt marsh	A coastal wetland, with specialized salt tolerant plants (halophytes).
Sapling	A juvenile tree that has reached the stage of 1 or 2 main stems but is still in the shrub layer.
Saprophyte	A plant lacking chlorophyll and living on dead organic matter.
Saprophytic	Lacking chlorophyll and living on dead organic matter.
Sarcotesta	The fleshy, often highly coloured outer layer of the seed coat in some species, e.g., titoki (<i>Alectryon excelsus</i>).
Scabrid	Roughened or rough with delicate and irregular projections.
Scale	Any thin, flat, membranous structure.
Scape	A leafless flower stem.
schizocarp	A fruit which splits when dry, from the Greek <i>skhizein</i> 'split' and <i>karpos</i> 'fruit'
schizocarps	Plural of schizocarp, a fruit which splits when dry, from the Greek <i>skhizein</i> 'split' and <i>karpos</i> 'fruit'
Scutiform	Shield-shaped.
Sedges	A group of grass-like or rush-like herbaceous plants belonging to the family Cyperaceae. Many species are found in wetlands some are forest floor plants. Leaves are usually angular. Hence the saying "rushes are round and sedges have edges".

Term	Definition
Seedling	A newly germinated plant.
Self sustaining	Able to sustain itself, or replace itself, independently of management i.e. regenerate naturally
Self thinning	Natural tree death in a crowded, even-aged forest or shrubland.
Semi-deciduous	Partial leaflessness in winter, and greater than 50% leaves lost by the beginning of spring flush.
Sepal	Outer part of flower; usually green.
Serrate	Sharply toothed with teeth pointing forwards towards apex.
Serrulate	Finely serrate, i.e., finely toothed with asymmetrical teeth pointing forward; like the cutting edge of a saw.
Sessile	Attached by the base without a stalk or stem.
Seta	The stalk of a fruiting moss capsule
Sheath	A portion of an organ that surrounds (at least partly) another organ (e.g., the tubular envelope enclosing the stem in grasses and sedges).
Silicles	The flattened usually circular capsule – compared with the narrow, elongated fruit (silique) – containing the seed/seeds. A term used almost exclusively for plants within the cabbage family (Brassicaceae)
Silique	A capsule, usually 2-celled, with 2 valves falling away from a frame (replum) bearing
Simple	Of one part; undivided (cf compound).
Sinuate	With a wavy margin.
Sinus	The space or recess between lobes; in hebes a gap between the margins of two leaves of an opposite pair that may be present in the bud before the pair of leaves separate.
Sorus	A cluster of two or more sporangia on the margin or underside of the lamina of a fern, sometimes protected by an indusium.
Spathulate	Spatula or spoon-shaped, a rounded blade tapering gradually to the base.
Spheroidal	Almost spherical but elliptic in cross section.
Spicate	Arranged in a spike.
Spike	Flowers attached to main stem without stalks.
Spikelet	Collection of individual grass florets borne at the end of the smallest branch of the inflorescence.
Sporangia	Plural of sporangium. Structures in which spores are produced.
Sporangium	Structure in which spores are produced.
Spore	A single-celled reproductive unit similar in function to that of the seed in a flowering plant.
sporophyte	The spore producing plant in ferns that is usually the visible part.
Stamen	The male reproductive organ of a flower where pollen is produced. Consists of an anther and its stalk.
Stamens	The male, pollen bearing organ of a flower.
Standing water	Where water lies above the soil surface for much of the year.
Stellate	Irregularly branched or star shaped.
Stigma	Female part of the flower that is receptive to pollen, usually found at or near the tip (apical end) of the style where deposited pollen enters the pistil.
Stipe	The stalk of a frond.
Stipitate	Borne on a stipe or stalk.
Stipulate	A leaf with stipules.
Stipule	A scale-like or leaf-like appendage at the base of a petiole, usually paired.
Stolon	A stem which creeps along the ground, or even underground.
Stoloniferous	Producing stolons
Stramineous	Chaffy, like straw or straw-colored.
Stria	A fine line or groove.
Striae	Fine lines or grooves.
Striate	Fine longitudinal lines or minute ridges
Style	The elongated part of the flower between the ovary and the stigma.
Sub-	A prefix meaning under, somewhat or almost.
Subglabrous	Very slightly, but persistently, hairy.
Suborbicular	Slightly rounded in outline
Substrate	The surface upon which an orchid grows.
Subtended	Immediately beneath, occupying a position immediately beneath a structure, i.e., flower subtended by bract
Subulate	Slender and tapering to a point.
Succession	Progressive replacement of one species or plant community type by another in an ecosystem.
Successional	Referring to species, plant communities or habitats that tend to be progressively replaced by another.
Succulent	Fleshy and juicy.
Summer-green	Used in New Zealand to indicate herbs or sub-shrubs that die down to a root stock or rhizomatous network.
Supplementary planting	Returning to a revegetation site and creating gaps, or filling existing gaps, with different plants of plants, usually later successional plants which may not have survived being planted in the first phases of the project.

Term	Definition
Surface water	Water present above the substrate or soil surface.
Surveillance	Regular survey for pests inside operational and managed areas e.g. nurseries, standout areas on parks.
Survey	Collection of observations on the spatial distribution or presence or absence of species using standardised procedures.
Sustainable Land Management	The use of farming practices which are sustainable both financially and environmentally including management of nutrient runoff, waste disposal or stock effluent, reducing impacts of nutrients on waterways, preventing erosion and soil loss, and protecting native forest and wetland habitats from stock damage.
Swamp	Low land that is seasonally flooded; has more woody plants than a marsh and better drainage than a bog. They are more fertile and less acidic than bogs because inflowing water brings silt, clay and organic matter. Typical swamp plants include raupo, purei and harakeke (flax). Zonation and succession often leads through manuka to kahikatea swamp forest as soil builds up and drainage improves.
Symbiote	An organism that has an association with organisms of another species whereby the metabolic dependence of the two associates is mutual.
Symbiotic	The relation between two different species of organisms that are interdependent; each gains benefits from the other (see also symbiosis).
Sympatric	Occupying the same geographical region.
Synangia	Structures made up of fused sporangia
Synonym	A botanical name that also applies to the same taxon.
Systematics	The study of taxonomy, phylogenetics, and taxagenetics.
Tabular	Shaped like a rectangular tablet.
Taxa	Taxonomic groups. Used to refer to a group at any level e.g., genus, species or subspecies.
Taxon	A taxonomic group. Used to refer to a group at any level e.g., genus, species or subspecies.
Taxonomy	The process or science of classifying, naming, and describing organisms
Tepal	An individual member of the perianth.
Terete	Cylindrical and tapering.
Terminal	At the tip or apex.
Ternatifid	Leaflets In threes,
Tetrad	A group of four.
Tomentum	A hairy covering of short closely matted hairs.
Translocation	The movement of living organisms from one area to another.
Trifid	Divided into three.
Trifoliate	Having three leaflets.
Trigonus	Three-angled
Tripinnate	With each secondary pinna divided to the midrib into tertiary pinnae
Triquetrous	Triangular in cross section and acutely angled.
Truncate	With the apex or base squared at the end as if cut off.
Tuberculate	Bearing small swellings.
Tubular	Tube-shaped.
turbinate	Top-shaped.
Turgid	Distended through internal pressure
Type locality	The place or source where a holotype or type specimen was found for a species.
Ultramafic	A type of dark, usually igneous, rock that is chemically dominated by magnesium and iron-rich minerals, the partially metamorphosed form of which is serpentinite.
Umbel	Umbrella like; the flower stalks arise from one point at the stem.
Undulate	Wavy edged.
Undulose	Wavy edged.
Unitubular	A tube partitioned once – literally one tube (compare – multitubular – many tubes)
Utricle	A thin loose cover enveloping some fruits (eg., Carex, Uncinia)
Valvate	Opening by valves.
Vascular plant	A plant that possesses specialised conducting tissue (xylem and phloem). This includes flowering plants, conifers and ferns but excludes mosses, algae, lichens and liverworts.
Velutinous	Thickly covered with delicate hairs; velvety.
Ventral	Of the front or inner (adaxial) surface relative to the axis. (cf. dorsal)
Vermiform	Worm-shaped.
Vernicose	Glossy, literally as if varnished, e.g., Hebe vernicosa has leaves that appear as if varnished
Verrucose	Having small rounded warts.
Verticillium	A fungus disease that will cause wilting and death.
Villous	Covered with long, soft, fine hairs.
Water table	The level at which water stays in a soil profile. The zone of saturation at the highest average depth during the wettest season.
Wetland	A site that regularly has areas of open water for part or all of the year, or has a water table within 10 cm of the surface for at least 3 months of the year. Wetland ecosystems support a range of plant and animal species adapted to an aquatic or semi-aquatic environment.

Term	Definition
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Whipcord	A shrub in which the leaves are reduced to scales that are close-set and pressed against the stem.
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Whorl	A ring of branches or leaves arising at the same level around the stem of a plant.
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