



Cowan Bay Road species list: Epiphytes and vines



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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.

Asplenium flaccidum

Common Name(s):

Drooping spleenwort, hanging spleenwort

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. Kermadec, Three Kings, North, South, Stewart, Chatham and Snares Islands. Also present in Australia and the wider Pacific

Habitat:

Coastal to montane (at the tree limit). In tall forest, scrub or rough boulder strewn ground. Mostly epiphytic on various native trees but also found on the ground.

Features*:

Mostly epiphytic. Rhizome short, stout, erect, bearing dark brown subulate scales up to 20×2 mm. Stipes 50-200 mm (or more) long, brown on underside, green above, flaccid, sparingly covered in small subulate scales with long filiform apices. Laminae lanceolate to elliptic, 150-900 (or more) \times 50-250 mm, dull green, thick, leathery, limp and pendulous, pinnate to bipinnate. Raches green, sparingly scaly. Pinnae in 5-20 (or more) pairs, linear, acuminate, long stalked, 50-150 \times 5-20 mm; degree of dissection very variable, sometimes only divided into very short obtuse segments, sometimes pinnate. Pinnules very variable in length, from oblong and obtuse to linear and acute, up to 15 \times 2 mm. Basal acroscopic pinnule occasionally much longer than that next to it. Sori submarginal, linear, 2-10 mm long. Spores (31-)36-44(-50) micrometre long, (19-)23-27(-33) micrometre wide

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Description modified from Brownsey (1977)

References and further reading:

Brownsey, P.J. 1977: A taxonomic revision of the New Zealand species of *Asplenium*. *New Zealand Journal of Botany* 15: 39-86.

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=1521



Caption: *Asplenium flaccidum*
Photographer: Wayne Bennett



Caption: Sori, Dunedin
Photographer: John Barkla

Astelia solandri

Common Name(s):

Perching lily, kaiwharawhara

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South and Stewart Islands

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=1537



Caption: Mangaroa Hill Reserve, Upper Hutt. Nov 2012.

Photographer: Jeremy Rolfe



Caption: in cultivation

Photographer: Jesse Bythell

Blechnum filiforme

Common Name(s):

thread fern, climbing hard fern

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1546



Caption: *Blechnum filiforme*

Photographer: Wayne Bennett



Caption: *Blechnum filiforme*

Photographer: Wayne Bennett

Bulbophyllum pygmaeum

Common Name(s):

Pygmy tree orchid, Bulbophyllum

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Coastal to montane. Mostly epiphytic on forest tree trunks and branches, sometimes on fallen logs, and found as a also rupestral on rocks, cliff faces or banks.

Features*:

Epiphytic or rupestral, rhizomatous, perennial forming widely spreading or diffuse mats up to 200 mm or more in diameter. Rhizomes heavily branched and intertwined, vermiform, pale pink to white, more or less fleshy, spongy; roots numerous slightly finer than rhizomes otherwise every similar. Pseudobulbs 3-5 mm diameter, green, bright green to pale green, globose, rugose, becoming deeply furrowed and wrinkled with age; each bearing a single leaf arising from the top within a somewhat prominent circular rim. Leaf subsessile to shortly petiolate up to 1.5 mm long; lamina 4-10 x 2-4 mm, dark green to green (rarely reddish green), oblong-ovate to almost orbicular, apex obtuse, upper surface minutely scabrid; undersides prominently keeled. Flower solitary, located on the terminus of a greenish valvate capsule comprising the ovary; peduncle arising from base of pseudobulb, up to 2.5-3.5 mm long at flowering, usually elongating in fruit. Floral bract 1(-2), campanulate-tubular to funneliform, membranous, hyaline or pale white. Pedicel very short (0.5-0.7 mm long), coarsely hirsute; ovary ovoid-ellipsoid, coarsely hirsute, splitting lengthwise at dehiscence. Perianth 1.5-2.0 mm long, white. Sepals minutely hairy, dorsal sepal shorter than lateral sepals. Petals broad, almost meeting behind column. Labellum ovate-oblong, obtuse, more or less thickened, roofing over pouch formed by lateral sepals and column foot. Column barely as long as its foot; wing not exceeding anther.

Flowering:

December - January

Fruiting:

January - May

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared by P.J. de Lange 14 April 2007. Description adapted from Moore & Edgar (1970).

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1381



Caption: *Bulbophyllum pygmaeum* growing in New Plymouth, Taranaki

Photographer: John Sawyer



Caption: *Bulbophyllum pygmaeum* growing in New Plymouth, Taranaki

Photographer: John Sawyer

Clematis paniculata

Common Name(s):

white clematis, puawananga

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South and Stewart Islands. Naturalised on Chatham Island.

Habitat:

Coastal to montane in shrubland or tall forest (up to 1000 m a.s.l.).

Features*:

Robust high-climbing evergreen woody vine. Main stems woody up to 200 mm diameter at base, branching in upper ½ or less, bark grey-brown, furrowed, branchlets stout, pliant, glabrescent. Leaves dark and glabrous above, pale green and sparsely covered in white hairs beneath, 3-foliolate, (50-)-70-130-(10) × 60-120(-190) mm; leaflets coriaceous, broadly ovate to broad-oblong, cordate to truncate at base; margin entire to crenately toothed or lobed near apex, rarely deeply lobed to almost dissected; petiole (20-)-30-60(-70) mm long. Flowers unisexual, in compound axillary dichasial cymes. Bracts paired; lower pair often leaf-like, united, usually inserted below middle of pedicel. Male flowers: sepals 6, imbricate, white, glabrous above, hairy beneath, spatulate to obovate or oblong, 25-35(-60) × 8-15-(24) mm; stamens numerous; anthers 1.5-2.0(-2.5) mm long; filaments sparsely hairy or glabrous. Female flowers: sepals 6, similar to male, (16)-20-25-(40) × 7-10(-13) mm; staminodes few. Achenes hairy, 2-4 mm long. Style (2.5)-3.5-6.5 cm long at fruiting, plumose. Fruits not persistent.

Flowering:

July - November

Fruiting:

October - January

Threats:

Not Threatened

*Attribution:

Description adapted from Webb et al. (1988)

References and further reading:

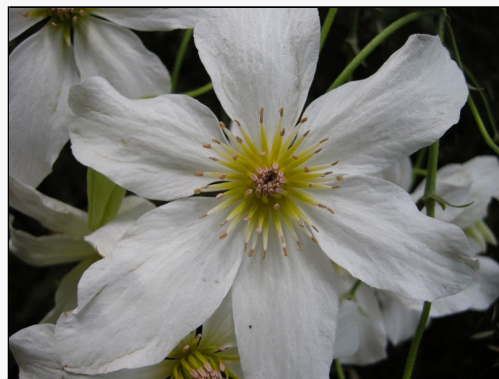
Esler, A.E. 1969. Leaves of *Clematis paniculata*. Wellington Botanical Society Bulletin, 36: 40

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 et al. (1988), Flora of New Zealand Vol. IV. DSIR Botany Division, Lincoln.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1683



Caption: Ruahine Range, near Sunrise Hut

Photographer: John Sawyer



Caption: Dunedin Town belt

Photographer: John Barkla

Collospermum hastatum

Current Threat Status (2012):

Not Threatened

Threats:

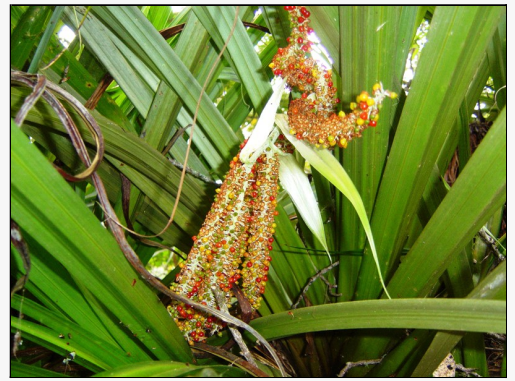
Not Threatened

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=1686



Caption: *Collospermum hastatum*
Photographer: Wayne Bennett



Caption: *Collospermum hastatum*
Photographer: Wayne Bennett

Dendrobium cunninghamii

Common Name(s):

Winika, pekapeka, Christmas orchid, bamboo orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Chatham Islands

Habitat:

Coastal to montane. Mostly epiphytic on forest tree trunks and branches, sometimes on fallen logs, and found as a also rupestral on rocks, cliff faces or banks. Occasionally colonising brick or concrete walls within urban areas.

Features*:

Epiphytic or rupestral, rhizomatous, perennial forming discrete tufted patches up to 1.5 x 2.0 m. Rhizome suberect to ascending, similar to stems, producing numerous more or less branched roots. Stems cane-like, long persistent, firm, wiry, and mostly slender, thickening towards base, up to 7 mm diameter, yellow-green, bright yellow to orange, glossy with obvious internodes and thickened nodes; unbranched in lower third, otherwise bearing numerous lateral, widely spreading, somewhat drooping branches. Leaf-sheaths tubular, minutely papillose, imbricating, covering younger stems; leaf lamina 30-50 x 3 mm, dark green, green to yellow-green darkened at junction with leaf-sheath, narrow-linear. Inflorescences 1-6-8-flowered, produced several nodes back from the active vegetative apex, usually as short, slender laterals; floral bracts inconspicuous, short, tubular; pedicel very slender, longer than ovary. Perianth 20-25(-30) mm diameter, glabrous, white (rarely cream), lip and column usually rose-pink, purplish to green. Sepals elliptic, spreading, apices more or less reflexed; lateral sepals fused under labellum and attached to column-base. Petals slightly broader. Labellum shorter, distinctly trilobed; lateral lobes small, often highly coloured, inclined to stand parallel to one another; mid-lobe white, broad, subacute, minutely crenulate; disc with 4-5 pale-coloured, low, longitudinal ridges terminating just above short claw and near to a colourful knob-like nectary situated at the end of the column-foot. Column about as long as its foot, cylindric, very narrowly winged. Capsules initially green, ovoid, maturing greyish-white, often striped with maroon or purple.

Flowering:

December - June

Fruiting:

January - August

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007. Description adapted from Moore and Edgar (1997).

References and further reading:

Adams, P.B. 2011: Systematics of Dendrobiinae (Orchidaceae), with special reference to Australian taxa. *Botanical Journal of the Linnean Society* 166: 105-126.

Burke, J.M.; Bayley M.J.; Adams, P.B.; Ladiges, P.Y. 2008: Molecular phylogenetic analysis of *Dendrobium* (Orchidaceae), with emphasis on the Australian section *Dendrocoryne*, and implications for generic classification. *Australian Systematic Botany* 21: 1-14.

Clements, M.A.; Jones, D.L.; Molloy, B. 1997: *Winika*, a new monotypic genus for the New Zealand orchid previously known as *Dendrobium cunninghamii* Lindl.. *The Orchadian* 12: 214-215.

Garnock-Jones, P.J. 2014: Evidence-based review of the taxonomic status of New Zealand's endemic seed plant genera. *New Zealand Journal of Botany* 52: 163-212.

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



Caption: Pinehaven, Upper Hutt.
Photographer: Jeremy Rolfe



Caption: Pinehaven, Upper Hutt.
Photographer: Jeremy Rolfe

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=798

Earina mucronata

Common Name(s):

bamboo orchid, peka-a-waka, spring earina

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Chatham Islands

Habitat:

Coastal to montane. Mostly epiphytic on forest tree trunks and branches, sometimes on fallen logs, and found as a also rupestral on rocks, cliff faces or banks. Occasionally colonising brick or concrete walls within urban areas.

Features*:

Epiphytic or rupestral, rhizomatous, perennial, producing numerous leafy, unbranched, long persistent, wiry, cane-like stems up to 1 m long. Rhizomes extensive, much intertwined and firmly attached to substrate, fleshy, more or less spongy, initially creamy white maturing buff-yellow. Leaf-sheaths imbricating, persistent, distichously arranged, 5-15 mm long, 2-3 mm diameter, not split, tubular, flattened, each overlapping with and covering the lower third to one half of the leaf-sheath above, exposed surface ivory to pale whitish-yellow, maculate with small orbicular to ovate dark purple-black spots. Leaf-sheath junction with leaf lamina not flared. Leaves usually flexuose or slightly curled in upper third; lamina short-lived, disarticulating at leaf-sheath junction, 1-3-nerved, 60-200 x 3-5 mm, green to dark green, linear-lanceolate, widest near base and tapering gradually to an acute, minutely acicular tip; midrib of upper lamina surface mostly weakly depressed, hardly prominent, lateral veins mostly inconspicuous. Inflorescence a racemose panicle. Panicle up to 100 mm long, mostly pendulous; racemes 2-12, usually well spaced on fine, slender, wiry axis, each 30-40 mm long; floral bracts c. 3.5-4.2 mm long, scarcely overlapping, prominently longitudinally ridged, completely covering the very short pedicels. Perianth 10-12 mm diameter, opening widely (flaring), pale, slightly greenish-cream to greenish yellow, or completely white. Sepals elliptic, subacute. Petals slightly broader and more obtuse. Labellum broader and very conspicuous, yellowish, yellow-orange, deep apricot or completely white, flaring widely at flowering, broadly oblong with broader proximal portion connect by a narrow waist-like neck to the almost equally broad distal lobe; base with two inconspicuous ridges leading down to a small pit-like nectary. Column shorter than labellum, narrow to base, wings absent or minute, pollinia long-oval. Capsules elliptic-ovoid, ovoid, deeply, longitudinally grooved, yellow green to green maturing grey.

Flowering:

August - January

Fruiting:

September - April

Threats:

Not Threatened

***Attribution:**

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007. Description adapted from Moore and Edgar (1970).

References and further reading:

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1827



Caption: *Earina mucronata* inflower

Photographer: Wayne Bennett



Caption: *Earina mucronata* on Kaiikanui Road, Opuawhanga

Photographer: Bill Campbell

Freycinetia banksii

Common Name(s):

kieke

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North and South Islands to about the Clarence river in the east and Fiordland in the west. More common in the wetter parts of the South Island.

Habitat:

Coastal to montane forest, usually in wet sites although once established it can tolerate very dry conditions. Often coastal in karst country where it may form huge tangles that make access extremely difficult.

Features*:

Densely branched, somewhat brittle, woody, climber producing numerous, weakly ascending to ascending dense cane-like stems from which roots freely emerge. Stems up to 40 mm diameter, deeply marked with scars of old leaves, usually branched in upper third, often somewhat interlacing such that the stems form dense tangles. Leaves densely tufted toward stem ends, spirally arranged; lamina 1.5-2 x 0.15-0.25 m; sheathing bases pale, otherwise dark green to green, usually yellow spotted, blemished or striped, strongly pleated, long attenuate, triangular in transverse section, margins and midrib distinctly though finely scabrid to spinulose. Inflorescences of 1-8 spadices, each simple and solitary in axil of 2-4 foliaceous bracts at stem apex; bracts thick, succulent towards base, white to purplish, edible (sweet tasting). Peduncle 10-40 mm, whitish, stout, glabrous; spadix 70-80 x 15-20 mm, pale yellow, cream, off white, cylindrical to slightly flattened, the axis hidden by tightly packed flowers such that individual flowers not easily determined. Male of several stamens each with a long filament, ovate anther and producing copious, confluent pollen, ovary rudimentary. Female with 6-12 purplish staminodes at base of flattened, vertically elongated ovary, 2-4 x 1 mm x 2 mm tall, long sides grooved between staminodes; stigmas 6-12, sessile, arranged around a long groove; locule narrow, placentae forming ridged around it. Fruits to 150 x 30 mm, brownish when ripe, sweet tasting (like caramel), borne on stiff woody peduncles. Individual fruits (phalanges) 8 x 2 x 10 mm, compressed laterally, thin-walled proximally, broadest 1/3 from base and almost woody towards apex. Seed 1 mm long, narrow, on a long, slender funicle.

Flowering:

August - November

Fruiting:

January - May

Threats:

Not Threatened - however, over large parts of its range it is experiencing reproductive failure due to rats which eat the flowers and fruits. Possums also eat the flowers and fruits but it has been shown that they help disperse the seeds. *Freycinetia* is one of the few New Zealand species with flowers said to be suited to bat pollination

*Attribution:

Fact Sheet Prepared for NZPCN by: P.J. de Lange 4 April 2004. Description based on Moore & Edgar (1970).

References and further reading:

de Lange, P.J.; Gardner, R.O.; Sykes, W.R.; Crowcroft, G.M.; Cameron, E. K. Stalker, F.; Christian, M.L.; Braggins, J.E. 2005: Vascular flora of Norfolk Island: some additions and taxonomic notes. *New Zealand Journal of Botany* 43: 563-596.

Huyhn K-L 1993. Some new distinctive features between *Freycinetia banksii* Cunn. (Pandanaceae) of New Zealand and *F. baueriana* Endl. of Norfolk Is. *Candollea* 48: 501-510.

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

Stone, B.C. 1973: Materials for a Monograph of *Freycinetia* Gaudich. XIV. On the Relation between *F. banksii* A. Cunn. of New Zealand and *F. baueriana* Endl. of Norfolk Island, with Notes on the Structure of the Seeds. *New Zealand Journal of Botany* 11: 241-246.

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=1900



Caption: *Freycinetia banksii* (Kieke)

Photographer: Wayne Bennett



Caption: *Freycinetia banksii* (Kieke)

Photographer: Wayne Bennett

Griselinia lucida

Common Name(s):

puka

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

***Attribution:**

Large shrub epiphytes from Forest Vines to Snow Tussocks: The story of NZ plants by John Dawson

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=1958



Caption: Lake Rotoroa, Nelson Lakes National Park

Photographer: John Sawyer



Caption: Colonial Knob Scenic Reserve, Porirua.

Photographer: Jeremy Rolfe

Lygodium articulatum

Common Name(s):

mangemange, bushman's mattress, makamaka

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North Island from North Cape (Whiriwhiri Stream) south to Marokopa and the Bay of Plenty

Habitat:

Coastal and lowland to lower montan forest. Sometimes in gumland scrub

Features*:

Climbing fern. Rhizomes creeping, hairy, Frond glabrous, high climbing. Stipe and rachises of indeterminate length, twisting and climbing to tops of surrounding vegetation, tough, wiry, pliant. Sterile and fertile pinnae markedly dimorphic, veins free. Midribs of sterile pinnae forked 2-3× ending in oblong secondary pinnae 40-100 × 5-20 mm, with rounded apices and smooth margins, adaxially bright green, abaxially glaucescent. Midribs of fertile pinnae forked many times, ending in fan-shaped lobule segments 5-10 mm long. Sporangia borne in spikes on the margins of lobule segments, each protected by an outgrowth of the lamina margin. Description modified from Brownsey & Smith-Dodsworth 2000.

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

*Attribution:

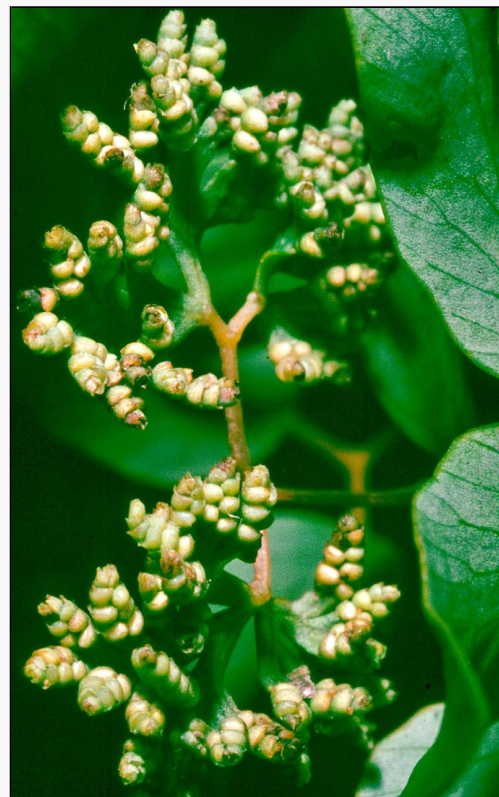
Fact sheet prepared for NZPCN by P.J. de Lange 10 March 2011.
Description modified from Brownsey & Smith-Dodsworth 2000.

References and further reading:

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2196



Caption: Sporangia. Anawhata Road.

Photographer: John Braggins



Caption: *Lygodium articulatum* (Mangemange)

Photographer: Wayne Bennett

Metrosideros diffusa

Common Name(s):

white rata

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Found throughout the North, South and Stewart Islands

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=982



Caption: Blue duck S.R

Photographer: Gillian Crowcroft



Caption: Blue duck S.R

Photographer: Gillian Crowcroft

Metrosideros fulgens

Common Name(s):

rata

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=983



Caption: *Metrosideros fulgens*
Photographer: Wayne Bennett



Caption: *Metrosideros fulgens*
Photographer: Wayne Bennett

Metrosideros perforata

Common Name(s):

white rata, akatea

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: Three Kings, North and South Islands to about northern Otago and northern Fiordland

Habitat:

Coastal to montane. An abundant plant of open scrub, dense forest or rock-land. In forest and scrub situations climbing on other trees but also climbing up cliff faces, on rock outcrops, and forming a "shrubland" in loose talus

Features*:

Vine up to 20 m (rarely more long). Bark furrowed, dark grey to brown-black, ± tessellated, and flaking in tabular shards. Growth dimorphic, juvenile and climbing vines sparingly branched, mature (adult - reproductive state) heavily branched. Branchlets terete, ± invested in short dark brown setose hairs. Leaves close-set, coriaceous, glandular punctate (this especially evident on abaxial surface) subsessile; petioles 1.0-3.2 mm long, lamina 6-12 × 5-9 mm, broad-ovate, broad-oblong to suborbicular, obtuse, adaxially dark green, ± glabrous, abaxially very pale green; finely setose; margins recurved. Inflorescences in axillary few-flowered cymose botryia, these crowded towards apex of branchlets; peduncles and pedicels pubescent to setose; peduncles 10-40 mm long, pedicels 5-10 mm. Hypanthium broad-turbinate, initially fleshy, finely tomentose ± glabrescent; calyx lobes broadly deltoid, obtuse; petals caducous, 1.5-3.0 × 1.5-2.8 mm, suborbicular, white or pink; stamens numerous, 8-10 mm long, white (rarely pink). Capsule 4-5 mm diameter, 3-valved, subglobose, exserted, ± woody.

Flowering:

November - March

Fruiting:

February - May

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (5 January 2013). Description based on fresh material.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=984



Caption: Waipoua Forest, Northland

Photographer: John Sawyer



Caption: Waipoua Forest, Northland

Photographer: John Sawyer

Microsorium pustulatum subsp. *pustulatum*

Common Name(s):

hounds tongue, kowaowao, paraharaha

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: Kermadec Islands (Raoul, Meyers only), Three Kings, North, South, Stewart, Chatham, Auckland and Antipodes Islands. Also Australia. Abundant throughout main islands of New Zealand except for Central Otago.

Habitat:

A common fern of coastal to montane area, growing either on the ground, over rocks or on tree trunks and branches. Although widespread and often found growing admixed with *Microsorium scandens*, *M. pustulatum* is more drought tolerant and seems to prefer more open, drier habitats.

Features*:

Epiphytic or rupestral scrambling or climbing fern. Rhizomes long-creeping, 4-10(-12) mm diameter, fleshy-succulent, yellow-green to golden brown, sometimes glaucescent maturing greyish-brown to grey-black, growing tips densely invested in brown-black appressed ± ovate scales, these entire or minutely toothed near apex, scales shedding over time as rhizome matures leaving small scars. Fronds joined to rhizomes, very coriaceous; stipes 20-250(-340) mm long, pale brown to almost black, ± pliant when young becoming brittle with age; laminae adaxially glabrous (except for a few scales on midrib and costae), bright glossy green (yellow green in exposed sites), abaxially paler, in outline variable ranging from undivided (especially in young plants) narrowly elliptic, 70-250 × 10-30 mm to mostly pinnate, ovate, 60-450 × 40-300 mm; midrib and veins prominent, main lateral veins mostly prominent, usually with 2 or 3 series of major areoles between costa (midrib in simply fronds); hydathodes present on blind vein endings, visible mainly on upper surface; pinnae in 1-12 pairs, 30-170 × 5-40 mm, bluntly acute, margins smooth, weakly undulose to extremely so, bases adnate. Sori prominent, round (rarely elliptic), sunk into abaxial lamina causing a prominent bulge on the adaxial laminal surface, aligned in one row either side of costa, set back from pinna margins. Spores pale, bearing wart-like protuberances.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (13 January 2012). Description adapted from Brownsey & Smith-Dodsworth (2000) and Bostock & Spokes (1998).

References and further reading:

Bostock, P.D.; Spokes, T.M. 1998: Polypodiaceae. Pp. 468-495. Flora of Australia 48. Australian Biological Resources Study, CSIRO Canberra

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2201



Caption: *Microsorium pustulatum* subsp. *pustulatum* (Kowaowao)

Photographer: Wayne Bennett



Caption: *Microsorium pustulatum* subsp. *pustulatum* (Kowaowao)

Photographer: Wayne Bennett

Microsorium scandens

Common Name(s):

fragrant fern, mokimoki

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: North, South and Chatham Islands - widespread from North Cape to Franz Josef (Westland). Also Australia (Eastern Australia (Queensland, New South Wales and Victoria), also Lord Howe Island.

Habitat:

Coastal to lowland, in forest. *Microsorium scandens* is a common creeping fern covering rock piles, tree and tree fern trunks and bare ground. Unlike *M. pustulatum*, *M. scandens* is much less drought tolerant and so prefers less open, shaded and damper situations.

Features*:

Epiphytic or rupestral scrambling or climbing fern. Rhizomes long-creeping, 2-4 mm diameter, rather slender, flexuose (wiry), densely invested in persistent scales. Scales 2.0-8.0 × 1.0-2.2 mm, dark brown to purple-brown, ovate to narrowly ovate, squarrose, acuminate, minutely dentate near base. Fronds 75-580 × 10-30 mm (simple fronds 45-39 × 6-31 mm), dull green. Stipes 6-160 mm long, slender, pale, glossy, sparsely scaly. Lamina membranous, deeply pinnatifid or simple, strongly, pleasantly scented when fresh or recently dried. Pinnae in 1-20 pairs, 8-100 × 2.5-18 mm, falcate, strongly ascending, tapering toward apices, base adnate, tapering into stipe; margins often undulose; veins reticulate, usually forming only 1 series of areoles between costa (midrib in simple fronds) and lobe margin, glabrous part from a few scattered scales on midrib and costae. Sori in 1 row close to margin on each side of costa of laminal lobe or midrib in simple fronds, rounded or sometimes elongated or oval, impressed into abaxial lamina, forming low protuberances on the adaxial lamina surface. Spores orange-brown.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (13 January 2012). Description adapted from Brownsey & Smith-Dodsworth (2000) and Bostock & Spokes (1998).

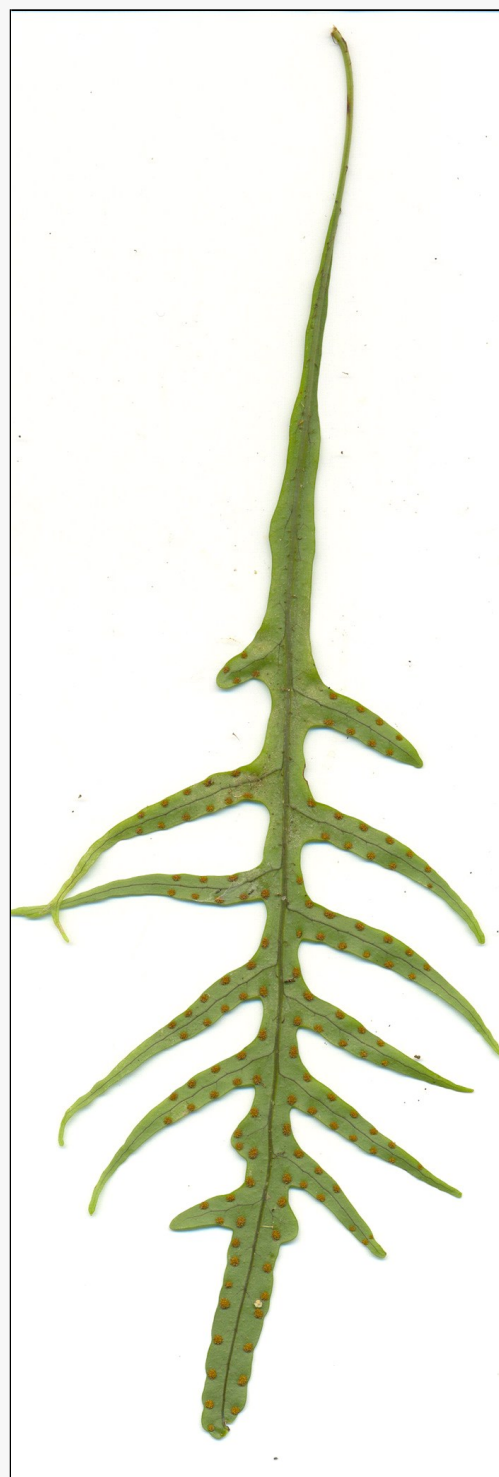
References and further reading:

Bostock, P.D.; Spokes, T.M. 1998: Polypodiaceae. Pp. 468-495. Flora of Australia 48. Australian Biological Resources Study, CSIRO Canberra

Brownsey, P.J.; Smith-Dodsworth, J.C. 2000: New Zealand Ferns and Allied Plants. Auckland, David Bateman

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2202



Caption: Under the leaf of *Microsorium scandens*

Photographer: Wayne Bennett



Caption: *Microsorium scandens* (Mokimoki)

Photographer: Wayne Bennett

Parsonsia capsularis var. *capsularis*

Common Name(s):

New Zealand jasmine, small flowered jasmine

Current Threat Status (2012):

Non Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1100



Caption: Fruit. Boulder Hill, Lower Hutt. Mar 2013.

Photographer: Jeremy Rolfe



Caption: Wairere falls, November

Photographer: John Smith-Dodsworth

Parsonsia heterophylla

Common Name(s):

New Zealand jasmine

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1101



Caption: Juvenile leaves.

Rimutaka Forest Park.

Photographer: Jeremy Rolfe



Caption: Garden plant

Photographer: Melissa
Hutchison

Passiflora tetrandra

Common Name(s):

Kohia, NZ passionflower, NZ passionfruit

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1102



Caption: *Passiflora tetrandra*

Photographer: Wayne Bennett



Caption: *Passiflora tetrandra*

Photographer: Wayne Bennett

Pyrrosia eleagnifolia

Common Name(s):

leather-leaf fern, *Pyrrosia*

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Kermadec, Three Kings, North, South, Stewart and Chatham Islands.

Habitat:

Coastal to montane. Common as an epiphyte on both indigenous and exotic trees and shrubs, also on rocks, cliffs faces and in urban areas on buildings, walls, bridges and fence posts.

Features*:

Epiphytic or rupestral rhizomatous fern. Rhizomes long-creeping, often densely interwoven, young portions densely invested in red-brown to fawn coloured scales. Stipes reduced to phyllopodia borne in intervals along rhizome. Fronds coriaceous, fleshy to almost succulent, undivided, 30-200 × 5-20(-30) mm; adaxially yellow-green to dark green (rarely glaucescent), glabrescent, initially sparsely covered in long straight to somewhat flexuous pale-yellow to translucent caducous hairs; abaxially densely covered in fawn or white-coloured stellate hairs, aside from midrib, veins not evident on either surface; lamina variable; sterile examples broadly ovate, rhomboidal, suborbicular, to elliptic (very rarely linear); fertile linear, linear-lanceolate to suborbicular. Sori without indusia, ovoid, ellipsoid to rounded, in 2-3(-4) irregular rows (rarely more) either side of midrib and set away from frond margins. Spores yellow.

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

***Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange 9 April 2011.
Description by P.J. de Lange.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2235



Photographer: Rebecca Stanley



Caption: Rangaika, Chatham Island. June 2013.

Photographer: Jeremy Rolfe

Ripogonum scandens

Common Name(s):

Supplejack, kareao

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Chatham Islands

Habitat:

Coastal to montane. Usually in forest but occasionally in swamps (where it sprawls through flax and fern), and common in karst country where it often grows in doline, tomo and cave entrances

Features*:

Woody, evergreen, twining forest liane. Rhizome horizontal, stout, lignaceous, usually swollen into a woody tuber 30-60 mm diameter at base of erect stem. Stems of two kinds: (a) twining stems growing upward from mature rhizome on forest floor, without green lvs, succulent at tip; these are several metres long, c.15-20 mm diameter, little branched, almost black, finely pubescent; nodes c.100-200 mm apart, thickened; sheathing scale leaves alternate, subopposite or opposite, membranous, 10-30 mm long, charcoal black, narrowly deltoid, finely brown-scabrid, caducous. (b) non-twining stems arising from the long stems in full light; these are to 1 m long, c.5 mm diameter, more branched and widely spreading, light brown, glabrous; internodes shorter, the distal ones bearing green leaves and inflorescences. Leaves mostly opposite, 55-160(-230) × 20-60(-80) mm, green, dark green or yellow-green, ± coriaceous, narrow-ovate to oblong, narrowed rather abruptly to tip, margins entire and ± undulate; petiole c.10-15 mm long, ± channelled. Inflorescence axillary or terminal, simple or compound, 100-150(-280) mm long; bracts usually all small and membranous, rarely foliaceous. Pedicels c.5-9 mm long, without bracteole at base but with one or more adjacent to and resembling perianth-segs. Flowers not crowded. Tepals green often hyaline green, minute, free, spreading. Stamens much > tepals; filaments c.2 mm long; anthers greenish, yellow or cream, linear-oblong, c.3.0-5.0 × 1.0-1.5 mm, dehiscing laterally by long slits. Ovary globose, c.1.5 mm diameter; ovules 2 per locule, attached about mid-level; style 2 mm long, including stigma of 3 verrucose lobes. Fruit globose, bright red, c.10-15 mm diameter, pericarp thin, fleshy, tightly stretched over 1-2(-3) hard, spotted seeds, seed when single almost spherical. Fruit falling, 12-15 months after flowering, by abscission layer just above perianth.

Flowering:

October - May

Fruiting:

Throughout the year

Threats:

Not Threatened

*Attribution:

Description adapted from Moore & Edgar (1970). Fact sheet prepared for NZPCN by P.J. de Lange 14 February 2011.

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1260



Caption: Rangaika, Chatham Island. Jun 2013.

Photographer: Jeremy Rolfe



Caption: Nikau Bush, Chatham Island. Jun 2013.

Photographer: Jeremy Rolfe

Rubus australis

Common Name(s):

Tataramoa, bush lawyer, swamp lawyer

Current Threat Status (2012):

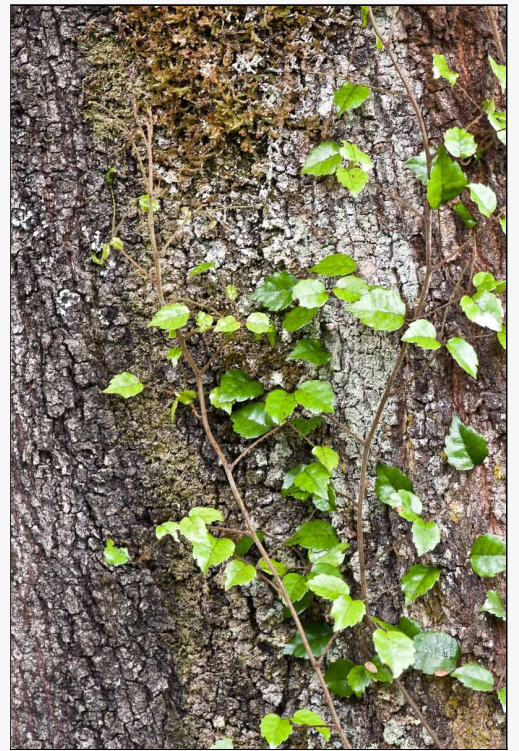
Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1262



Caption: Upper Hutt, growing up trunk of *Nothofagus truncata*. Jan 2012.

Photographer: Jeremy Rolfe



Caption: Rimutaka Forest Park. January 2004.

Photographer: Jeremy Rolfe

Rubus cissoides

Common Name(s):

Tataramoa, bush lawyer

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1263



Caption: Rubus cissoides

Photographer: Wayne Bennett



Caption: Rubus cissoides

Photographer: Wayne Bennett

Tmesipteris elongata

Common Name(s):

Fork fern

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: North, South, Stewart and Chatham Islands (most common in the North Island). Also Australia

Habitat:

Coastal to montane (but more common in lowland areas). Mostly epiphytic on a range of tree ferns (especially *Dicksonia*), trees and also emerging from the base of tank lilies (*Astelia* and *Collospermum* spp.). Less commonly found growing on cliff faces, amongst cracks and crevices in boulders and rock falls, or amongst mosses on the ground.

Features*:

Rhizome: brittle, dichotomously branched, 0.8-3.5 mm diameter, densely clad in dark brown rhizoids 1.0-1.5 mm long. Aerial Shoot: developing over one or many years and terminating in a small appendage 0.1-0.5× the size of the largest leaves or in small forms with predominantly distichously arranged leaves terminating in an appendage similar to the largest leaves developed; simple or dichotomously branched 1-2(-3) or more times, pendulous, 80-1180 mm long, ± quadrangular in cross-section; leaves spirally or distichously arranged, sporophylls spirally arranged. Leaves: 1-5 per 10 mm of stem, sub-coriaceous, flexible, almost isobilateral with stomata distributed over one or both surfaces, surfaces dull mid-green; oblong, lanceolate, falcate to aristate, variable on the same plant; 10-42 mm long, (excluding mucro), 3-9 mm broad; mucro blunt 1-2 mm long. Sporophylls: developed in regular or irregular zones or throughout most of the length except in the lowermost part, occasionally scattered amongst the leaves; slightly shorter than the leaves, 3-5 per 10 mm of shoot. Synangium: 2-6 mm long, 1.0-2.5 mm high at point of attachment, greenish yellow to light brown at maturity, testiculate; lobes ± equal, ends obtuse; lying along the sporophyll axis; immature synangia when dried reflex at the ends and then ± lunate; deciduous at maturity. Spores: pale yellow, often released in a mass.

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (21 April 2011). Description adapted from Chinnock (1975).

References and further reading:

Chinnock, R.J. 1975: The New Zealand species of *Tmesipteris* (Psilotaceae). *New Zealand Journal of Botany* 13: 743-768

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1319



Caption: Stokes Valley, Lower Hutt. Dec. 2012.

Photographer: Jeremy Rolfe



Caption: Stokes Valley, Lower Hutt. Dec. 2012.

Photographer: Jeremy Rolfe

Tmesipteris tannensis

Common Name(s):

Fork Fern

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand, North, South, Stewart, Chatham and Auckland Islands.

Habitat:

Coastal to subalpine. Terrestrial or epiphytic on a wide range of hosts and often sympatric with *Tmesipteris elongata* (less frequently with *T. lanceolata* and *T. sigmatifolia*). Less common in coastal and lowland areas in the far north where it is mostly known from higher altitude forest. However, steadily becoming more common from about Whangarei south.

Features*:

Rhizome: dichotomously branched, brittle, 2.0-3.5 mm diameter.

Aerial shoot: developing over one to many years, but eventually terminating in a small appendage 0.1-0.5× the length of the largest leaves, simple, erect, suberect, or pendulous, 50-1200 mm long,

triangular in cross-section, leaves and sporophylls spirally arranged. Leaves coriaceous, brittle, one surface deep glossy green, occasionally

with a few stomata towards the far end, other surface dull green covered with stomata; shape variable often on same shoot, oblong,

lanceolate, falcate, or ovate, 6-30 mm long × 2.5-9.0 mm broad; apex of leaf very variable often on the same plant, acute, obtuse to truncate, mucronate; mucro 1-2 mm long. Sporophylls: developed in regular or irregular zones or

throughout most of the shoot except for the lowermost part, equal to or slightly shorter than the leaves; 5-7 per 10 mm of shoot. Synangium: 4.0-8.0 × 1.5-2.5 mm at point of attachment, biconic, persistent. Spores: yellow, released

in a mass, anisopolar, bilateral, monolete, foveolate, concavo-convex, 67-92 × 27-45 microns broad (longitudinal plane).

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (June 2009). Description adapted from Chinnock (1975).

References and further reading:

Chinnock, R.J. 1975: The New Zealand Species of *Tmesipteris* (Psilotaceae). *New Zealand Journal of Botany* 1: 743-768.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1321



Caption: Auckland Island
Photographer: Jane Gosden



Caption: Auckland Island
Photographer: Jane Gosden

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.
Fronnd	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.
Gynoecium	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.
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
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).
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.

Term	Definition
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
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.

Term	Definition
Quadrat	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.
Repand	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 oioi (<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.
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".
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.

Term	Definition
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 of 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.
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.

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