



Cowan Bay Road species list: Forest floor



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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.

Adiantum cunninghamii

Common Name(s):

Common maidenhair, Cunninghams maidenhair

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Common throughout in coastal and lowland forest, occasionally extending into upper montane forests. Usually found on banks, cliff faces and amongst boulders - especially on limestone, marble, basalt or andesite rocks.

Features*:

Tufted, terrestrial fern. Rhizomes, short- to long-creeping. Stipes and rachises glabrous. Fronds adaxially dark green or glaucescent, abaxially paler, glaucous green, ovate to elliptic. Lamina 100-350 x 50-240 mm, 2-3-pinnate at base, Ultimate segments stalked to one side, oblong, tending to curve acroscopically at apices, upper margins irregularly toothed, lower margins smooth, glabrous. Indusia kidney-shaped, glabrous.

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 2005).
Description adapted 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

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=1475



Caption: Sori

Photographer: Jeremy Rolfe



Caption: Coromandel

Photographer: John Smith-Dodsworth

Arthropteris tenella

Common Name(s):

Jointed fern

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: Three Kings, North, South and Chatham Islands (Rekohu and Rangiauria). Also Australia, Lord Howe and Norfolk Islands. In New Zealand reaching its southern limits on Banks Peninsula and Rangiauria (Pitt Island).

Habitat:

Coastal and lowland forest. Usually found scrambling over rocks and climbing up tree trunks.

Features*:

Rhizomatous terrestrial and/or epiphytic ferns. Rhizome 1.5-4.0 mm diameter, widely creeping; upper surface densely covered with spreading elongate, red-brown, often marginally toothed scales (these shedding with age). Fronds 120-300 mm long, tapering towards base and partly to apex; uppermost pinna pair and terminal pinna usually enlarged. Stipes 20-120 mm long; abaxial rachis surface bearing scattered scales and sparse to dense short curled hairs; adaxially sparsely invested with scales or not. Pinnae bearing similar hairs abaxially, ± glabrescent, and on proximal portion of adaxial and abaxial midrib (here persistent); base not auriculate; apex usually attenuate but acuminate or rounded in sterile pinnae. Sterile pinnae 5-110 × 10-18 mm; margins entire. Fertile pinnae 18-160 × 5-23 mm; margins entire to crenate (scalloped). Sori round, in one row either side of midrib, set at 2/3 to 3/4 distance from midrib to margin; indusium absent.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by: P.J. de Lange (26 February 2012). Description adapted from Bell (1998) and Brownsey & Smith-Dodsworth (2000)

References and further reading:

Bell, G.H. 1998: Davalliaceae. Pp. 434-450. 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

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=1516



Caption: Rotokare, Taranaki. Jul 2013.

Photographer: Jeremy Rolfe



Caption: Rotokare, Taranaki. Jul 2013.

Photographer: Jeremy Rolfe

Asplenium bulbiferum

Common Name(s):

Hen and chicken fern, pikopiko, mother spleenwort

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Chatham Islands

Habitat:

Coastal to subalpine. Usually in lowland forest where it is a common species of the ground-layer, especially in high rainfall areas. Commonly associated with riparian forest, and as a species of base-rich substrates. Frequently sympatric and so commonly forming hybrids with other asplenia. It is commonly sympatric with *A. gracillimum* Colenso.

Features*:

Rhizome short, stout, erect, bearing ovate scales up to 15×5 mm. Stipes 50-300 mm long, brown on underside, green above, stout, covered in small brown ovate scales. Laminae lanceolate to elliptic, 0.15-1.20 m, 70-300 mm, bi- to tripinnate, sometimes bearing bulbils. Raches pale green to yellow-green, scaly, prominently grooved, usually bulbiferous. Pinnae 15-30 (or more) pairs, ovate to narrowly ovate, acuminate, shortly stalked, $30-200 \times 10-50$ mm, scaly on underside, basal pair pointing downwards when fresh. Secondary pinnae sessile or shortly stalked, very narrowly elliptic to ovate or elliptic, obtuse, deeply serrate or sometimes almost pinnate, decreasing in size from base to apex, basal acroscopic pinnule often enlarged (up to 40×10 mm). Ultimate pinnules narrowly oblong, \pm entire to crenate-serrate, up to 10 mm long. Sori numerous, broad, submarginal, 2-4 mm long.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Description 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=1520



Caption: *Asplenium bulbiferum*

Photographer: Wayne Bennett



Caption: Silverstream, Upper Hutt. Apr 2006.

Photographer: Jeremy Rolfe

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

Asplenium oblongifolium

Common Name(s):

Shining Spleenwort

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: Kermadec, Three Kings, North, South, and Chatham Islands. In the South Island known from the Marlborough sounds south to Hokitika and Banks Peninsula

Habitat:

Coastal to montane (but mostly found within coastal and lowland areas). Occupying a diverse range of habitats from coastal cliffs and rock stacks to deep forest where it may be an epiphyte or grow on the ground.

Features*:

Rhizome stout, often forming a hard woody mass above ground, bearing pale brown, shiny, ovate, acuminate scales up to 30 × 7 mm. Stipes 80-200 mm long, dark brown, stout, densely covered in narrow scales with very long filiform apices. Laminae oblong to elliptic, 0.18-1.00 m long, 100-350 mm wide, dark green and glossy above, pinnate. Rachis brown below, green above, stout, slightly ridged, scaly. Pinnae 4-15 pairs, lanceolate to narrowly oblong or ovate, acuminate, crenate-serrate to ± entire, cuneate at base, 40-150 × 10-30 mm, frequently covered in very small hair-like scales on the underside. Sori up to 20 mm long, not reaching lamina edge.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 29 August 2007. Description 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.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1525



Caption: *Asplenium oblongifolium*
Photographer: Wayne Bennett



Caption: *Asplenium oblongifolium*
Photographer: Wayne Bennett

Asplenium polyodon

Common Name(s):

sickle spleenwort

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: Kermadec, Three Kings, North, South, Stewart and Chatham Islands. Also Madagascar, Indo-Malaysian, Australia, and the Pacific Islands. In the South Island mainly western, in the east found as far south as Bull Creek on the coast south of Dunedin

Habitat:

Coastal to montane. In scrub and dense forest, often as an epiphyte but also on rock outcrops, fallen logs and on the ground.

Features*:

Rhizome stout, short creeping, densely covered in red-brown, narrowly triangular scales up to 10 × 1 mm. Stipes 100-300 mm long, dark brown, stiff, densely covered in scales similar to but smaller than those of the rhizome. Laminae lanceolate, 250-500 (or more) × 100-200 mm, dark green and glossy above, paler and dull below, frequently pendulous, pinnate. Rachis dark chocolate brown, very scaly. Pinnae 25 (or more) pairs, narrowly angular-ovate to ovate, sometimes with a large rounded basal acroscopic lobe, acuminate, doubly serrate, 50-100 × 10-20 mm, scaly and with prominent veins on underside. Sori often slightly curved away from the midrib, up to 2 mm long.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

***Attribution:**

Description 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.

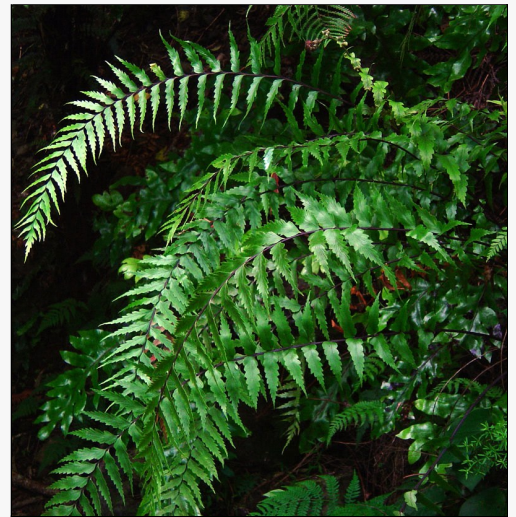
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 2009 Vol. 11 No. 4 pp. 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2059



Caption: *Asplenium polyodon*
Photographer: Wayne Bennett



Caption: *Asplenium polyodon*
Photographer: Wayne Bennett

Astelia trinervia

Common Name(s):

Kauri grass

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. In the North Island common from Te Pahi to near Awakino in the West and Tauranga in the East. In the South Island known only from North West Nelson

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=1539



Caption: *Astelia trinervia*

Photographer: Wayne Bennett



Caption: *Astelia trinervia*

Photographer: Wayne Bennett

Blechnum discolor

Common Name(s):

crown fern, petipeti, piupiu

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

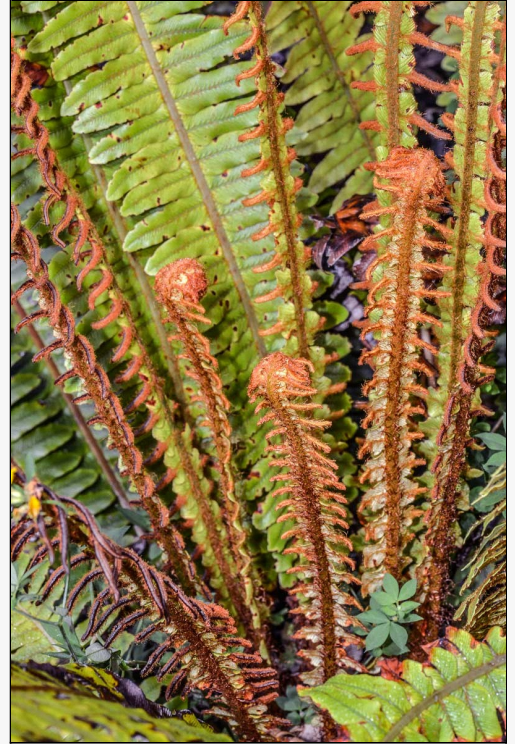
For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1544



Caption: Lake Rotoroa, Nelson Lakes National Park

Photographer: John Sawyer



Caption: Boulder Hill, Lower Hutt. Mar 2013.

Photographer: Jeremy Rolfe

Blechnum fraseri

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: North (from Te Pahi to near Mokau), and South Islands (north-west Nelson), Also Malesia and Taiwan.

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=1548



Caption: *Blechnum fraseri*

Photographer: Wayne Bennett



Caption: *Blechnum fraseri*

Photographer: Wayne Bennett

Blechnum novae-zelandiae

Common Name(s):

kiokio, horokio, palm leaf fern

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: Kermadec Islands (Raoul Island), North, South, Stewart and Chatham Islands

Habitat:

Coastal to montane. One of the most widespread, abundant and easily recognisable ferns in New Zealand. Widely known by the Maori name "kiokio" *Blechnum novae-zelandiae* is most conspicuous in areas of high rainfall along roadsides, cliff faces, ravines and river banks. It also commonly establishes in pine (*Pinus* spp.,) plantations and is a common urban "weedy" fern in some parts of the country.

Features*:

Rhizome short-creeping, very robust in larger specimens, occasionally suberect or erect; scales to 16 × 3 mm, linear or lanceolate, acuminate, light reddish brown, sometimes dark at base, more or less entire. Fronds dimorphic, erect or pendulous, 0.09-0.3 m (in dry exposed places and in swamps) -3.5 m long (on stream banks) × 35-500 mm wide, widest mid frond; sterile and fertile fronds usually similar length. Stipes 0.08-0.75 m (stipes of fertile fronds often shorter than stipes of sterile fronds), stout, to c.10 mm diameter, pale brown or pinkish brown, darkening at base, scaly, especially at the base; scales 2-20 × 1-3 mm wide, but mostly small and appressed, ovate, reddish brown, concolorous or "black-spot", entire or branched at their bases. Lamina ovate or lanceolate, bright mid green at maturity, 1-pinnate, 5-50 pairs of pinnae. Rachis and costae pale pinkish brown, with sparse to moderately dense scales and irregular fine short tangled hairs; scales 3.0-15.0 × 1.0-1.5 mm, variable in shape from linear to ovate or sometimes stellate, pale brown, reddish brown, "black spot" (especially conspicuous for costal scales), or sometimes entirely concolorous (juveniles and plants growing in swamps, and most plants on the Kermadec islands), entire or toothed. Sterile pinnae 20-350 × 6-30 mm, oblong-lanceolate to lanceolate, apices acute, acuminate, or attenuate, or, in juveniles and smaller plants growing in swamps, obtuse; cuneate, truncate, or rounded-cordate at rachis; sub-petiolate at base of lamina, adnate and decurrent at apex; mostly coriaceous but almost membranous in juveniles and plants growing in swamps; margins minutely toothed, more so near apices; veins simple or once-furcate; small-branched or stellate scales often extending on to lower surface of pinnae; basal pinnae rounder and nearly always significantly shorter than middle pinnae, with 2-11 pairs of sterile auricles (small plants from swamps, very harsh conditions, and from low light conditions may lack auricles); terminal pinna longer than subterminal pinnae. Fertile pinnae 20.0-250 × 1.5-6.0 mm, narrow, linear, sessile at base of lamina, becoming basiscopically adnate at apex; basal pinnae often with sterile auriculate segments at their bases, the lowermost sometimes completely sterile and auriculate; sori covering under surface except for auriculate zone and the short sterile apical region; indusium brown, laciniate; spores 40-60 × 32-43 μm.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (7 March 2012). Description adapted Chambers & Farrant (1998).

References and further reading:

Chambers, T.C.; Farrant, P.A. 1998: The *Blechnum procerum* ("capense") (Blechnaceae) complex in New Zealand. *New Zealand Journal of Botany* 36: 1-19.

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=1552



Caption: *Blechnum novae-zelandiae*

Photographer: Wayne Bennett



Caption: *Blechnum novae-zelandiae*

Photographer: Wayne Bennett

Cardiomanes reniforme

Common Name(s):

Kidney fern, Konehu, Kopakopa, Raurenga

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Coastal to montane. usually in dense forest but also found on boulders, rock falls, cliff faces and in some shrub land, and early stage successional forest. rarely in pine plantations.

Features*:

Terrestrial or epiphytic fern forming extensive, interwoven creeping patches, Rhizomes long-creeping, much branched and/or interwoven. Stipes 50-250 mm long, very brittle, margins prominently winged. Fronds bright yellow-green to dark green, glossy. Laminae 30-100(-120) × 40-130 mm, reniform to almost orbicular, entire (not divided), venation conspicuous. Sori crowded along lamina margin, slightly sunken into lamina. Indusia cupular, not widened at mouth, receptacle exerted.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

***Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange (20 April 2011). Description adapted 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=1322



Caption: Ruahine Range

Photographer: John Sawyer



Caption: Ruahine Range

Photographer: John Sawyer

Carex dissita

Common Name(s):

Forest Sedge

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North, South and Stewart Islands.

Habitat:

Lowland to montane. Usually in riparian forest, where it may be abundant along stream sides.

Features*:

Shortly rhizomatous; green leafy tufts, drooping above, 0.15-1.00 m high. Culms 0.5-1.5(-1.7) mm diameter, trigonous, striated, edges smooth; basal sheaths light brown, grey-brown or often dark red-purple. Leaves > or < culms, 1.5-5.0 mm wide, double-folded, bright green or yellow-green, or red-green with red margins and midvein red abaxially, margins finely scabrid. Spikes 4-8; terminal spike male, rarely with a few female flowers at the top or with 1-2 very small male spikes at the base; remaining spikes female, usually with a few male flowers at the base, more rarely male at the top, 5-30 × 4-6 mm, uppermost spikes erect on very short peduncles, ± distant, lowest spike often quite remote and drooping from a slender peduncle. Glumes (excluding awn) slightly < utricles, ovate, emarginate to almost entire, pale reddish green or light brown, to dark red-brown with paler margins, membranous, midrib broad, pale brown, occasionally bright red-purple or straw-coloured, with 3 distinct, almost white, nerves produced to a usually short scabrid mucro. Utricles 2.0-3.0 × c. 1.5 mm, biconvex, turgid, ovoid, yellow-brown or cream at the base, red-purple to almost black above, abaxial face usually lighter coloured and more distinctly nerved than the other, margins occasionally very finely scabrid below the beak; beak c. 0.5 mm long, almost white, deeply bifid with divergent crura, orifice scabrid; stipe c. 0.3 mm. long. Stigmas 3. Nut c. 1.5 mm long, trigonous, ovoid, light brown.

Flowering:

August - November

Fruiting:

October - May

Threats:

Not Threatened

***Attribution:**

Description adapted from Moore and Edgar (1970)

References and further reading:

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1405



Caption: *Carex dissita*

Photographer: Wayne Bennett



Caption: Coromandel, February

Photographer: John Smith-Dodsworth

Cordyline pumilio

Common Name(s):

dwarf cabbage tree, ti koraha, ti rauriki

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island from Te Pahi (North Cape) to Kawhia Harbour in the west and Bay of Plenty in the East.

Habitat:

Coastal to montane. Often in gumland and other shrubland. Common in kauri (*Agathis australis*) forest, especially along ridgelines and around slip scars.

Features*:

Plant forming leafy tufts up to 1 m tall, trunk usually absent, rarely sparingly developed, occasionally reaching up to 2 m tall. Plants often flowering while short stem is leafy to ground; in older plants bare part of stem up to 0.1 × 0.15 m and usually sprawling, rarely stiffly erect. Leaves 0.30–0.60–1.00(–1.30) × 0.01–0.02 m, yellow-green to green (sometimes red-spotted) ± narrowed above base into channelled petiole; midrib prominent abaxially, at least proximally; margin slightly recurved. Inflorescence an openly, sparingly branched panicle up to 0.1 × 0.8 m, axes slender branched to second order; bracts often small and inconspicuous; ultimate racemes 50–300 mm long, axis clearly visible between flowers. Peduncle to 100 × 3–4 mm. Flowers small, widely spaced; pedicels 3–5(–10) mm long, Perianth c.4–5 mm long, whitish, or pink externally; tepals narrow, recurved, 3-nerved. Stigma shortly trifid. Fruit c.4–5 mm diameter, globose, bluish or flecked with blue. Seeds c.2.0–2.5 mm. long, shining, two sides flat and one convex. Description adapted from Moore & Edgar (1970).

Flowering:

October - January

Fruiting:

March - May

Threats:

Not Threatened

*Attribution:

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

References and further reading:

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

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=1747



Caption: *Cordyline pumilio* - cultivated

Photographer: Peter de Lange



Caption: Fruit. North Cape. Feb 2011.

Photographer: Jeremy Rolfe

Corybas cheesemanii

Common Name(s):

Helmet Orchid, Cheesemans Spider Orchid

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Coastal to montane (up to 1000 m a.s.l.). Usually found in tall scrub or forest, in dark shaded sites, partially buried in deep, moist, semi-rotted leaf litter, especially under kanuka (*Kunzea ericoides*, *K. robusta*, *K. serotina* and *K. triregensis*) and Beech (*Fuscospora* and *Lophozonia* spp.). Often associated with *Molloybas cryptanthus*.

Features*:

Diminutive, winter to spring green perennial herb up to 25 mm tall when flowering, up to 220 mm tall when fruiting. Stem, leaves usually, and sometimes also the flowers completely or partially buried within leaf litter. Tubers spheroidal to ovoid, borne on greatly elongated lateral roots up to 200 mm away from current seasons plant. Stem erect buried within leaf mould. Leaf solitary, sessile, 10-20 mm long, pale green to green above, somewhat silvery-green below, orbicular, orbicular-cordate, sometimes leaf reduced to a small green scale. Floral bract smaller than the bright yellow-green ovary, and usually placed well below it. Flower 1(-2), placed directly over leaf. Ovary erect. Perianth 10-14 mm tall. Dorsal sepals helmet-like (galeate), arching completely over labellum, acute, dark pink, purple-grey, maroon, greyish white (mushroom grey) greyish-white flecked with purple, or completely white, fleshy; lateral sepals subulate (needle-like), minute, usually obscured by dorsal sepal, visible only from the front between the spurs. Petals much smaller than sepals, usually not discernible. Labellum cream or white, forming a curved tube, with the anterior margin sharply and abruptly deflexed under the tip of the galea, as a semicircular papillose lobe; the lobe hiding a median pouch; at the base on either side of the labellum a narrow conical spur projects downwards between the petals and sepals. Fruiting capsule up to 20 mm long, cylindrical to ovoid, erect to suberect, borne on a greatly elongated stem.

Flowering:

May - September

Fruiting:

November - January

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.

Jones, D.L.; Clements, M.A.; Sharma, I.K.; Mackenzie, A.M.; Molloy, B.P.J. 2002: Nomenclatural notes arising from studies into the Tribe *Diurideae* (Orchidaceae). *The Orchadian* 13: 437-468.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1761



Caption: *Corybas cheesemanii*
Photographer: Kevin Matthews



Caption: Eastbourne. Apr 2004.
Photographer: Jeremy Rolfe

Cyrtostylis rotundifolia

Common Name(s):

winter orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. In New Zealand known from the lower two thirds of the North Island and in the South Island confined to the upper half of the island (mainly in north-west Nelson).

Habitat:

Coastal to lower montane in open clay pans or lightly shaded scrub. May be found amongst mosses on basalt rock. Most commonly found in shallow leaf litter amongst sparse mosses or hard, exposed clay soils.

Features*:

Winter to spring flowering perennial herb. Plants at flower up to 100 mm tall (usually less), elongating in seed. Stem erect, slender. Leaf sessile, almost basal, 10-40 x 8-17 mm, grey-green with whitish veins above, pale silvery green below, ovate, obtuse to subacute, base cordate to rounded. Inflorescence a raceme up to 30 mm long; floral bracts diminutive, membranous. Flowers 1-4; perianth 8-10 mm long, spreading, pink or pinkish-green. Sepals subequal; dorsal sepal narrow linear-lanceolate, obtuse, erect, concave; lateral sepal narrow-linear, acute, projecting forwards or widely spreading. Petals similar to lateral sepals. Labellum 10 x 4 mm, oblong; apex obtuse, not recurved, projecting horizontally forwards, the adjacent margins toothed; surface more or less plane, lamina bearing two prominent, spheroidal basal calli and two, flat, longitudinal ridges that extend nearly to the apex. Column shorter than the labellum, conspicuous; wings narrow below, widening above so that the stigma is flanked by two lobes. Pollinia two per anther cell, more or less ellipsoid to tabular, some what crescent-shaped, crumbling readily in single grains.

Flowering:

June - October

Fruiting:

October - January

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.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1781



Caption: Stokes Valley. Sep 2001.
Photographer: Jeremy Rolfe



Caption: Stokes Valley. Aug 2002.
Photographer: Jeremy Rolfe

Dianella nigra

Common Name(s):

turutu, New Zealand blueberry, inkberry

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Islands

Habitat:

coastal to montane (rarely subalpine) (1-1100 m a.s.l.). Colonising a wide variety of habitats from open coastal headlands, gumland scrub and less frequently peat bogs through to dense forest and subalpine scrub.

Features:

Loose tussock forming evergreen perennial herb, forming dense to open, diffuse clumps; rhizomes horizontally 150 mm (or more) long, strong and well developed. Leaves 250-800 x 12-18 mm, uniformly green to dark green, with distinct dark marginal bands 2-4 mm wide, discolorous, upright to strongly curved and distinctly drooping, more or less flat, lamina smooth and more or less glossy; margin and midrib of the leaf undersides smooth to scabrid, teeth often prominent; apex acute, leaf sheaths equitant, tightly clasping, surface light green to dark green with a reddish margin; apex acute to subacute. Inflorescence erect to spreading, up to 1 m long, exerted above the leaves; scape slender, arching, base asymmetric and up to 100 x 75 mm diameter; panicle 300-500 mm long, branches spreading, short, regularly spaced; cauline leaves subtending branches, leaf-like at the base but reducing in size and becoming bract-like distally; cymules 3-7-flowered; pedicels 10-17 mm long, slightly recurved, terete; bracteoles 1.0-1.2 x c.0.2 mm, narrow triangular, subtending pedicels caducous. Flowers nodding, 9-11 mm diameter, opening early morning, collapsing late afternoon, perianth segments strongly recurved at anthesis; sepals 4.4-4.5 x 1.6-1.7 mm, oblong, undersides olive-green flushed red-brown, upper surface paler, apex obtuse; petals 3.5-4.0 x 2.3-3.4 mm, obovate, white, midvein olive-green, apex obtuse to retuse; filaments 6, 1.3-1.4 mm long, white; anthers 1.3-1.4 x c.0.4 mm, yellow-brown, struma 1.2-1.4 x c.0.6 mm, obovate, yellow, minutely papillose; ovary 1.4-1.6 x 1.1-1.3 mm, green, more or less globular; style 1.7-2.1 mm long, white. Berry 8-20 x 7-10 mm, ovoid to oblong, grey-white and dull to strongly violet-blue and glossy, pericarp spongy. Seeds 1.8-2.1 x 2.3-3.0 mm, ovoid, black, shiny.

Flowering:

November - December

Fruiting:

December - May

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=1788



Caption: *Dianella nigra*

Photographer: Wayne Bennett



Caption: *Dianella nigra*

Photographer: Wayne Bennett

Drosera auriculata

Common Name(s):

sundew

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. North and South Islands to about south Canterbury, northern Otago and south Westland/ Present in Australia

Habitat:

Coastal to montane, on recently exposed and naturally open ground, clay pans, in low scrub, on lava. Often abundant following fire.

Features*:

Tuberous herb. Plants usually olive-green in exposed locations, rarely richly maroon; tuber ovoid to globose, up to 10 × 8 mm; surface white to red, often in a papery sheath; vertical stolon 20–80 mm long. Stem erect, usually simple, sometimes shortly branched, 90–600 mm long, glabrous. Leaves often in a flat basal rosette and cauline; basal leaves 4–19, the lamina ovate, elliptic, orbicular or reniform, 1.8–3.5 × 2–6 mm wide on a linear petiole 5.0–17.0 × 1.2 mm wide; 9–36 cauline leaves alternate, the lamina crescentic, 1.5–5.5 × 2.0–5.5 mm, with acute angles, on petiole 3–23 mm long. Inflorescence a 1-sided raceme 2–14-flowered; peduncle usually 6–50 mm long, but up to 80 mm; pedicels 1–14 mm long. Sepals 2.0–6.0 × 0.9–2.6 mm, ovate, elliptic and rarely obovate, glabrous with an entire to irregularly serrulate margin. Petals 3.0–10.0 × 1.5–5 mm, white or pink, obovate, cuneate, apex emarginate, sometimes obtuse and rarely truncate. Styles 3, 0.6–1.4 mm long, divided into a total of c.15–30 cylindrical segments. Seeds 0.8–1.6 mm long, cylindrical with a shallowly reticulated surface.

Flowering:

September - February

Fruiting:

October - April

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (22 March 2012). Description adapted from Gibson et al. (2012).

References and further reading:

Gibson, R.; Conn, B.J.; Bruhl, J.J. 2012: Morphological evaluation of the *Drosera peltata* complex (Droseraceae). *Australian Systematic Botany* 25: 49-80.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2113



Caption: Stokes Valley, Lower Hutt. Dec 2011.

Photographer: Jeremy Rolfe



Caption: Parahaki, Whangarei. Oct 2011.

Photographer: Lisa Forester

Gahnia lacera

Common Name(s):

cutty grass

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island from Te Pahi south to about Awakino in the west and East Cape in the East.

Habitat:

Coastal to lowland (rarely extending up to 500 m a.s.l. in mountain ranges close to the sea). Colonising a variety of substrates which may be seasonally waterlogged though otherwise dry. Usually found in scrub or open forest.

Features*:

Stout, bambusiform, perennial sedge forming dense, yellowish-green tufts. Rhizome shortly creeping, 5-8 mm diameter, very hard, lignaceous, long persistent when dead. Culms 0.6-2.0 m, 2-4 but up to 6 mm diameter at the base. Leaves numerous, almost all cauline and = or > culms; lamina up to 380 mm long and 9 mm wide, yellow-green, green or dark green, flat or involute, glabrous, margins scabrid; sheaths all closely appressed to and enclosing base of culm, rugose above, maturing dark brown to almost black, smooth and glossy towards the node. Panicle 20-600 x 30-60 mm, rigid, usually erect, many-flowered, light brown with branchlets 20-160 mm long, usually in dense though more or less distant clusters along the axis of the panicle. Spikelets 1-flowered, 8 mm long, alternate on the branchlets, sessile or shortly stalked. Glumes 4-5; the outer 2-3 light red-brown; inner glumes pale cream, with a red lacerate apex. Stamens 4. Style-branches 3. Nut 3.5-4.5 mm long, slightly < 2 mm diameter, oblong-ellipsoid or oblong-obovoid, lustrous black, with a minute apiculate apex, endocarp obscurely transverse striate within.

Flowering:

July -
November

Fruiting:

Fruits may be present throughout the year

Threats:

Not Threatened

*Attribution:

Description adapted from Moore and Edgar (1970)

References and further reading:

Gardner, R.O. 1996. *Gahnia pauciflora* and *G. procera* and a note on *G. lacera*. Auckland Botanical Society Journal, 51: 7-10.

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=1903



Caption: *Gahnia lacera*

Photographer: Wayne Bennett



Caption: *Gahnia lacera*

Photographer: Wayne Bennett

Gahnia pauciflora

Common Name(s):

cutting sedge

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island, South Island (where confined to Nelson and Marlborough).

Habitat:

Coastal to montane areas (up to 800 m a.s.l. - possibly higher). usually in forest, more rarely in seral shrubland situations.

Features*:

Tufted, bright-green to yellow-green perennial sedge. Rootstock short and stout. Culms 0.6-1.8 m, 2-4 mm diameter (but up to 8 mm diameter at the base), occasionally with a single longitudinal groove. Leaves more or less equal in length to culms; lamina narrow-linear, up to 12 mm wide, bright green to yellow green, undersides harshly scabrid, margins more or less involute, strongly scabrid; sheaths up to 110 mm long, dull brown. Panicle arising well above leaves, 0.45-1.20 m long, drooping, branchlets comparatively few, about 3-5, in more or less distant clusters at each node, up to 200 mm long; secondary branchlets with few spikelets. Spikelets 2-flowered, 6-9 mm long, not clustered, shortly stalked or sessile. Glumes 6-10, dark brown, rather stiff; the lower 3-6 empty, their size increasing up the spikelet; upper 3-4 glumes enclosing fruit. Stamens 4(-5). Style branches 3-4. Nut 5.5-7.0 x 2.0-3.0 mm, brownish orange or sometimes yellow-cream, apex black, fusiform, subtrigonal, often grooved, subacute, narrowed to the width of the more or less persistent style-base, occasionally scaberulous; endocarp transversely grooved within.

Flowering:

September -
January

Fruiting:

Fruits may be present throughout
the year

Threats:

Not Threatened

*Attribution:

Description adapted from Moore and Edgar (1970)

References and further reading:

Gardner, R.O. 1996. *Gahnia pauciflora* and *G. procera* and a note on *G. lacera*. Auckland Botanical Society Journal, 51: 7-10.

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=1904



Caption: *Gahnia pauciflora*

Photographer: Wayne Bennett



Caption: Coromandel

Photographer: John Smith-Dodsworth

Gahnia xanthocarpa

Common Name(s):

Gahnia, mapere

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island (from Te Pahi south to Wellington but uncommon, or absent over some parts of this range), South Island (Nelson, Marlborough, Westland and Canterbury - where it is very uncommon).

Habitat:

Coastal to montane (up to 800 m a.s.l. - possibly more). Occupying a diverse range of habitats and vegetation associations, *Gahnia xanthocarpa* seems to prefer permanently damp situations within alluvial forest, swamp forest and the margins of lowland swamps, bogs and waterways

Features*:

Robust perennial sedge arising from a lignaceous rootstock up to 30 mm diameter and forming densely tufted dark green tussocks up to 3.5 m tall. Culms 10 mm diameter (but up to 15 mm diameter at the base). Leaves = to or slightly < culms, not usually overtopping the panicle; lamina dark glossy green above, paler beneath, surfaces harshly scabrid, margins involute, ciliate just above the transverse line demarcating the sheath from the lamina, becoming more intensely scabrid higher up with a few longitudinal rows of teeth just inside the margin on the lamina undersides; sheaths dull, light pinkish brown, glabrous up to 40 mm wide. Panicles set well above foliage, drooping, 0.6-1.5 m long, heavily branched, primary branchlets up to 450 mm long. Spikelets 2-flowered, c.8 mm long, numerous, densely crowded, stalked, light chestnut-brown. Glumes 6-7; outer 3-4 empty, more or less equal, 7-8 mm long; inner 3 glumes smaller, 5-6 mm long, red-brown, or green-brown below and red brown towards apices. Stamens 4, bright red-brown. Style-branches 3-4. Nut 5-6 x 2-3 mm, fusiform, bright yellow maturing glossy black when fully ripe, sometimes slightly grooved, shortly stipitate, with a light orange-brown, obtuse, pubescent apex; endocarp transversely grooved within.

Flowering:

January -
April

Fruiting:

Fruits may be found throughout the
year

Threats:

Not Threatened

*Attribution:

Description adapted from Moore and Edgar (1970)

References and further reading:

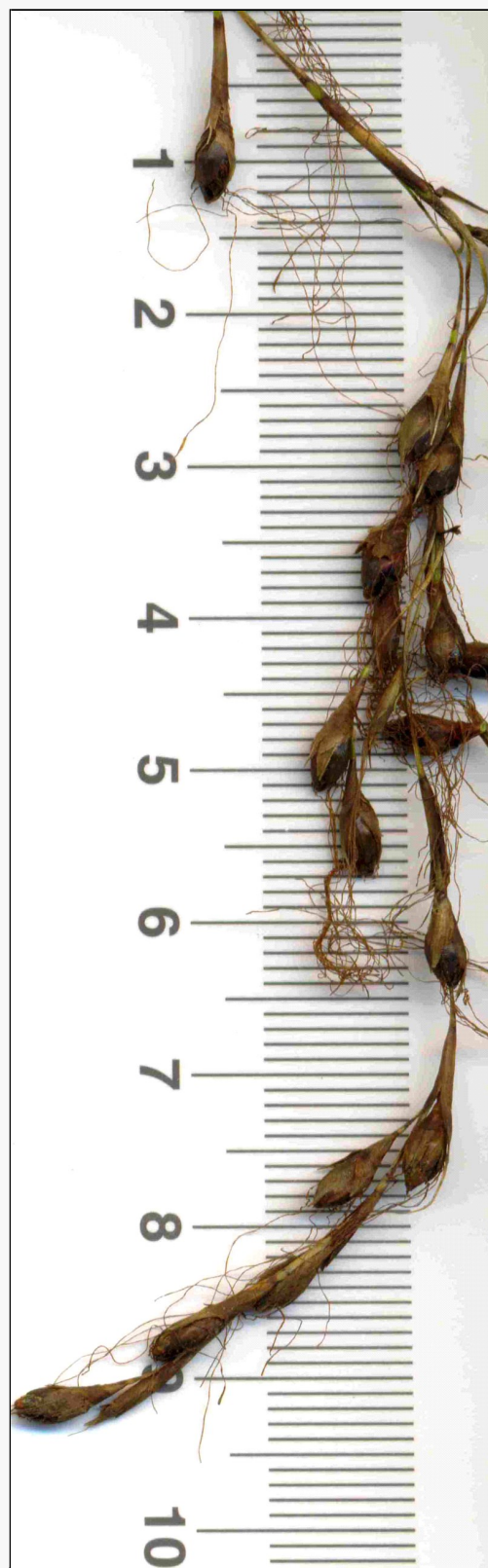
Gardner, R.O. 1995. Identifying *Gahnia setifolia* and *G. xanthocarpa*. *Auckland Botanical Society Journal*, 50: 82-83.

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=1908



Caption: Seeds of *Gahnia xanthocarpa*

Photographer: Wayne Bennett



Caption: Fruit. Gordon Park Scenic Reserve, Wanganui.

Photographer: Colin Ogle

Hydrocotyle dissecta

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=826



Caption: *Hydrocotyle dissecta*

Photographer: John Smith-Dodsworth



Caption: Turoa, April

Photographer: John Smith-Dodsworth

Hymenophyllum demissum

Common Name(s):

Drooping filmy fern, Irirangi, Piripiri

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: Kermadec (Raoul Island), North, South, Stewart, Chatham and Auckland Islands. Widespread except for the drier parts of the eastern South Island

Habitat:

Coastal to montane in forest. Usually terrestrial where it typically forms dense carpets on the ground, on banks or on rotting logs. Also epiphytic, and then found mostly on the basal trunks of forest trees and tree ferns. Sometimes found in forest growing over boulders, rocks and on cliff faces.

Features*:

Terrestrial or epiphytic fern forming large patches made up of numerous densely (more rarely diffuse) packed fronds. Rhizomes long-creeping, slender. Stipes 40-170 mm long, stout, pliant, wiry, glabrous usually not-winged, if winged then wing minute; rachises narrowly winged throughout. Laminae elliptic, ovate or narrowly ovate, 3-4-pinnate, 70-250 × 30-150 mm, pale green to dark green, glabrous. Ultimate segments oblong, margins smooth. Sori numerous on the terminal ends of the ultimate segments of the primary pinna. Indusial flap margins smooth or minutely toothed. Description adapted 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 (17 April 2011). Description adapted 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=837



Caption: Stokes Valley, Lower Hutt. Apr 2011.

Photographer: Jeremy Rolfe



Caption: Stokes Valley, Lower Hutt. Apr 2011.

Photographer: Jeremy Rolfe

Hymenophyllum dilatatum

Common Name(s):

Filmy fern, Matua mauku

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic, New Zealand: North, South, Stewart, Chatham and Auckland Islands. Widespread except for the drier parts of the eastern South Island.

Habitat:

Coastal to montane in forest. Usually epiphytic or on fallen logs and banks, Very rarely on the forest floor or on boulders.

Features*:

Epiphytic (very rarely terrestrial) fern. Rhizomes long-creeping, gracile, wiry when fresh very brittle when dry. Stipes often widely spaced on rhizomes, 20-150(-200) mm long, stout, glabrous, distinctly though narrowly winged for part of length; rachises broadly winged throughout. laminae 80-400(-800) × 40-150(-160) mm, ovate, narrowly ovate to lanceolate, 3-4-pinnate, bright to dark green, glabrous. Ultimate segments rather broad, margins smooth, plane. Sori terminating ultimately segments, slightly sunk in lamina, many on each primary pinna. Indusial flaps smooth. Description adapted 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 (17 April 2011). Description adapted 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=838



Caption: Coromandel, June
Photographer: John Smith-Dodsworth



Caption: Coromandel, June
Photographer: John Smith-Dodsworth

Hymenophyllum revolutum

Common Name(s):

Filmy fern

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Coastal to montane. Found throughout New Zealand usually in closed forest where it most commonly epiphytic but also found on rocks, cliff faces, fallen logs, on moss covered hummocks and sometimes on the ground.

Features*:

Epiphytic and/or terrestrial fern forming in ideal situations an extensive turf-like patches on substrate. Rhizomes long-creeping, very thin, much-branched and interwoven, wiry when fresh, brittle when dry. Fronds light green. Stipes 5-30 mm long, thin, brittle, glabrescent, not winged; rachis narrowly winged in upper portion. Laminae 10-90 × 5-20 mm, narrowly elliptic to ovate, 2-3-pinnate. Ultimate segments linear to oblong, often forked, margins deeply toothed. Sori on short winged branches near rachis, 1 on acroscopic margin of each primary pinnae. Indusial flaps deeply toothed, teeth irregular. Description adapted 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 (20 April 2011).
Description adapted 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=848



Caption: Stokes Valley, Lower Hutt. Apr 2011.

Photographer: Jeremy Rolfe



Caption: *Hymenophyllum revolutum*

Photographer: Jeremy Rolfe

Leptopteris hymenophylloides

Common Name(s):

Crape fern, Single crape fern, Heruheru

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North, South, Stewart and Chatham Islands from North Cape (Whiriwhiri Stream) south. Common throughout, though more abundant in the northern part of its range

Habitat:

Lowland to montane forest. Rarely in gumland scrub and coastal forest. Usually found along stream sides, and on damp banks, occasional on forested ridge lines. Once established this species is remarkably tolerant of drought and high light conditions and so it can be found growing as a persistent relict in disturbed forest or in areas cleared by wind throw.

Features*:

Trunks up to 0.1 m tall. Stipes 0.15-0.5 m long, pale brown, sparsely hairy, with ear like lobes at base. Frond delicate, membranous, translucent, laminae ± deltoid, 3-pinnate, 0.2-1.0m long, 150-350 mm wide, dark green to light emerald green, sparsely hairy, veins free. Primary pinnae in 20-30 pairs, widely spaced, basal ones 60-120 mm long. Ultimate segments linear, flattened in plane of frond. Sporangia scattered on underside of pinnae (not in discrete sori), though tending to be more abundant toward frond centre. 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=921



Caption: *Leptopteris hymenophylloides*

Photographer: Wayne Bennett



Caption: *Leptopteris hymenophylloides*

Photographer: Wayne Bennett

Lycopodium deuterodensum

Common Name(s):

clubmoss

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: North and Chatham Islands (from North Cape to Lake Taupo and nearby river catchments). Also Australia and New Caledonia.

Habitat:

Coastal and lowland forests in gumland scrub, on forest margins and ridgelines (especially in kauri forest), or in open clay pans within tall forest.

Features*:

Rhizome creeping, to 3 m long, clothed in slightly spreading scale leaves. Branchlet systems erect, 0.1-1.0 m tall. Leaves spiral to subwhorled, imbricate, appressed or spreading, adnate, dimorphic, green, yellow-green to yellow. Leaves of sterile branchlets linear-lanceolate, attenuate, 2.0-4.5 mm long, spreading. Leaves of sporogenous branchlets ovate-lanceolate, attenuate, 1.0-2.5 mm long; margins membranous, translucent, ciliate around the base. Leaves of central axis (sporogenous and sterile) similar to those of sterile branchlets, but appressed, 4.5-6.0 mm long. Strobili terminal on ultimate branchlets, 10-35 mm long, solitary. Sporophylls imbricate, acute; margins membranous, fimbriate. Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000).

Flowering:

Not applicable (spore producing)

Fruiting:

Not applicable (spore producing)

Threats:

Not Threatened

***Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange 17 March 2011. Description adapted from Chinnock (1998) and 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

Chinnock, R.J. 1998: Lycopodiaceae. Flora of Australia 48: 66-85.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2193



Caption: Tongariro River. Sep 1985.

Photographer: Jeremy Rolfe

Microlaena avenacea

Common Name(s):

bush rice grass, oat grass

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2198



Caption: *Microlaena avenacea*

Photographer: Wayne Bennett



Caption: Coromandel, January

Photographer: John Smith-Dodsworth

Nematoceras acuminatum

Common Name(s):

Spider Orchid

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Lowland to subalpine in damp, usually shaded sites. Preferring tall indigenous forest but also found under dense scrub and around tarns and mires

Features*:

Mainly solitary, terrestrial, tuberous, glabrous, winter to summer-green herb. Plant at flowering up to 60 mm tall. Leaf sessile, up to 40 x 20 mm, ovate-acuminate to deltoid, repand, cordate at the base, margins usually undulating; light green above with conspicuous reddish veining, silvery beneath. Leaves of young plants reniform or broadly cordate, rarely pandurate, apiculate, without reddish veining. Floral bract shortly caudate, secondary bract subulate. Flower usually solitary, sessile, more or less translucent, with dull red stripes. Dorsal sepal up to 40 mm long, extending as horizontal, filiform caudae. Lateral sepals filiform, erect and very long, tapering, exceeding the flower by as much as 60 mm. Petals similar, smaller, horizontal or deflexed. Labellum bearing two rounded auricles near base; lamina expanded, abruptly deflexed, mucronate, the margins irregularly fimbriate to entire. Column very short with large basal callus; column-wings minutely denticulate and exceeding the anther; stigma orbicular, pollinia 4, massulate. Seeding peduncle up to 180 tall.

Flowering:

August - December

Fruiting:

October - April

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007. Description based on: Clements (1985). This was the species treated as *C. rivularis* (*Nematoceras rivulare* (A.Cunn.) Hook.f.) by Moore in Moore & Edgar (1970).

References and further reading:

Clements, M.A.; Hatch, E.D. 1985: *Corybas acuminatus* (Orchidaceae) - a new name for the species previously considered to be *Corybas rivularis*. *New Zealand Journal of Botany* 23: 491-494.

Jones, D.L.; Clements, M.A.; Sharma, I.K.; Mackenzie, A.M.; Molloy, B.P.J. 2002: Nomenclatural notes arising from studies into the Tribe *Diurideae* (Orchidaceae). *The Orchadian* 13: 437-468.

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=1013



Caption: Ulva Island, Southland

Photographer: Jesse Bythell



Caption: Ulva Island, Southland

Photographer: Jesse Bythell

Nematoceras trilobum

Common Name(s):

Spider Orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart Islands

Habitat:

Coastal to subalpine (up to 1200 m a.s.l.). Probably the most widely ranging of all the New Zealand species, occupying a diverse array of habitats from coastal dune forest and scrub to subalpine shrublands and mires. More than one species is involved (see under similar species), and any clear habitat distinction at this stage is impractical.

Features*:

Terrestrial, tuberous, glabrous, extremely variable winter to summer-green herb forming dense colonies of many plants through vegetative extension. Plant at flowering 20-50 mm tall, flower usually set above leaf but sometimes beneath. Leaf distinctly petiolate; petiole 10-24 mm long; lamina membranous 10-30 mm diameter, dark green to green, reniform to orbicular, usually wider than long, and mostly bearing a distinct median apiculate lobe, base broadly cordate. Floral bract rarely as long as ovary, linear-lanceolate to lanceolate. Peduncle short to long. Ovary erect, creamy yellow to yellow-green, ribbed. Dorsal sepal short, spatulate, obtuse and concave, rounded to cucullate at broad tip, arched over top of labellum, mostly green with purple flecks, sometimes translucent yellow-green with purple flecks or completely white; lateral sepals long, filiform, greatly exceeding labellum, usually basally red fading through pink to translucent white or completely white. Petals similar to lateral sepals in colour and shape, but usually much shorter. Labellum colour variable, sometimes deep crimson or maroon, otherwise reddish grading through to translucent with purple or even greenish flecks or stripes, occasionally completely white, auriculate at base, lamina very abruptly deflexed, broad and rounded, margin entire, usually incurled except at the lower edge, inner surface retrorsely papillose. Seedling peduncle up to 200 mm tall.

Flowering:

July - December

Fruiting:

August - 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.

Jones, D.L.; Clements, M.A.; Sharma, I.K.; Mackenzie, A.M.; Molloy, B.P.J. 2002: Nomenclatural notes arising from studies into the Tribe *Diurideae* (Orchidaceae). *The Orchadian* 13: 437-468.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1022



Caption: Spent seed capsule, Eastbourne.

Photographer: Jeremy Rolfe



Caption: Mt Te Moehau, September

Photographer: John Smith-Dodsworth

Nertera villosa

Common Name(s):

Hairy Forest Nertera

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North (scarce north of 37°S (Waipoua, Little and Great Barrier Islands), otherwise common), South, Stewart and Chatham Islands.

Habitat:

Lowland to montane. Usually in forest. Occasionally along river banks in frost flats. Uncommon in the drier parts of the eastern North and South Islands.

Features*:

Prostrate hairy herb, openly branched, rooting at nodes. Stems 0.6-1.0 mm diameter with internodes 20-40 mm long, densely hairy when young. Hairs subappressed at first, becoming patent to erect, straight, becoming bent, 3-5-celled, the distal cell tapered to a fine point. Leaves opposite, stipulate, petiolate. Stipule interpetiolar, adnate to base of petiole, broadly triangular, 1.0 × 1.5 mm, undersides hairy when young, becoming membranous. Petiole 4-10mm long, hairy. Lamina broadly ovate-deltoid, 7-15 × 5-13 mm, apex subacute, base truncate, entire, with scattered erect hairs on both surfaces, margins glabrous, rich green above, pale green or purplish below, veins obscure above, clear below, raphides obscure. Flowers bisexual, protogynous, solitary and terminal on short branchlets, sessile, closely subtended by 2 pairs of leaves. Calyx a shallow rim, irregularly lobed, lobes c.0.2 mm long. Corolla funnelform, c. 3 mm long, 4-lobed, lobes ovate, spreading, undersides translucent green with purple flecks, 1 mm long, acute, upper surface hairy, margins papillose. Stamens 4, filaments glabrous, attached to receptacle and adnate to base of corolla tube, anthers yellow, dorsifixed, exserted from corolla. Style bifid, pale green, branches diverging, exserted from corolla. Ovary inferior, 2-celled, with 1 ovule in each cell. Fruit a globose, orange to red, shining, drupe, c. 6 mm diameter, often hairy, pyrenes 2, plano-convex, c.3.5 × 2.5 mm.

Flowering:

September – January

Fruiting:

October – June

Threats:

Not Threatened

*Attribution:

Description adapted from MacMillan (1995).

References and further reading:

MacMillan, B.H. 1995: *Nertera villosa* B.H.Macmill. et R.Mason (Rubiaceae), a new species from New Zealand. *New Zealand Journal of Botany* 33: 435-438.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1030



Caption: Whirinaki, Urewera, May

Photographer: John Smith-Dodsworth



Caption: Whirinaki, Urewera, May

Photographer: John Smith-Dodsworth

Oplismenus hirtellus subsp. *imbecillis*

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2208



Caption: Adventitious root.
Specimen from Raglan. Jun 2012.
Photographer: Colin Ogle



Caption: Adventitious root.
Specimen from Raglan. Jun 2012.
Photographer: Colin Ogle

Pneumatopteris pennigera

Common Name(s):

gully fern, feather fern, piupiu

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: Three Kings, North, South, Chatham Islands. Also Australia.

Habitat:

Coastal to montane, usually in dense forest in riparian habitats or in gullies, or on frequently flooded ground. A common fern under willows (*Salix* spp.). Often found along waterways in urban wasteland, Although usually found in shaded situations *Pneumatopteris* will tolerate considerable exposure provided its roots are in a permanently damp situation.

Features*:

Delicate, terrestrial fern. Rhizome slender, erect, 0.3–1.0 m tall, scaly; scales broad, brown, glabrous. Fronds 0.4–1.2 m long, pale yellow-green to bright green. Stipe 0.15–0.3(–0.45) m long, pale brown or green-brown. Lamina narrowly elliptic to elliptic, to 0.3–1.1(–1.5) m long; pinnae to 36 pairs; basal 4–5 pairs gradually reduced; lowest pinnae 10–30 mm long, 15–30 mm wide; largest pinnae c.100 mm long, 30 mm wide at auriculate base, lobed more than ½-way to costae; lobes oblique, tapering, minutely dentate; costules 5–7 mm apart; veins usually 6 pairs, 1 pair anastomosing, with next acroscopic vein sometimes passing to the sinus membrane. Lamina ± glabrous, aside from pale brown ovate scales on abaxial surface of costae of emergent and young fronds, and sparse brown acicular hairs and colourless capitate hairs on adaxial surface of rachis, costae and margins. Sori inframedial, exindusiate; sporangia without capitate hairs near annulus.

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 November 2012). Description adapted from Bostock (1998) and Brownsey & Smith-Dodsworth (2000).

References and further reading:

Bostock, P.D. 1998: Thelypteridaceae. *Flora of Australia* 48: 327–358.

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=2220



Caption: *Pneumatopteris pennigera*

Photographer: Wayne Bennett



Caption: *Pneumatopteris pennigera*

Photographer: Wayne Bennett

Pteridium esculentum

Common Name(s):

bracken, rarauhe, bracken fern

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous: New Zealand: Kermadec (Raoul Island only), North, South, Stewart, Chatham and Antipodes Islands. Also South East Asia, Australia, Lord Howe, Norfolk Islands extending into western Oceania.

Habitat:

Common in mainly seral habitats from the coast to the low alpine zone.

Features*:

Fern with deeply rooted, subterranean rhizomes. Stipes and rachis chestnut brown at base, yellow-brown to russet at apex, woody, grooved, smooth, bearing sparse non-glandular hairs or ± glabrous stipe 0.2-1.3(-2.0) m or more long, 3-8(-15) mm diameter, woody. Lamina broadly elliptic or broadly ovate, 0.25-1.5-1.8 × 0.2-1.0-1.4 m wide, 3-4-pinnate at base, dark green (often glaucescent) above, paler beneath, adaxially glabrous, abaxially with sparse red-brown hairs on midribs and dense colourless appressed non-glandular hairs along veins. Longest pinnae arising at narrow angles; longest 150-650 × 80-400 mm. Secondary pinnae arising at narrow angles; longest 50-260 × 15-130 mm; basal one often much-reduced; midribs of primary and secondary pinnae narrowly winged. Tertiary pinnae decreasing markedly in length along secondary pinnae; longest 7-70 × 2-20 mm, with winged midribs. Quaternary pinnae to 12 × 4 mm; ultimate pinnules linear, straight, acute, entire, adnate and decurrent on 1 side. Sori continuous along pinna margin. Indusium > 0.2 mm wide, membranous, entire, glabrous. Spores dark yellow to orange yellow., granulose.

Flowering:

None (spore bearing)

Fruiting:

None (spore bearing)

Threats:

Not Threatened.

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 11 January 2011. Description adapted from Brownsey (1998) and Brownsey & Smith-Dodsworth (2000).

References and further reading:

Brownsey, P.J. 1998: Dennstaedtiaceae: Flora of Australia 48: 214-228.

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=2230



Caption: Awhitu Regional Park, Auckland region

Photographer: John Sawyer



Caption: Mt Karioi, south of Raglan

Photographer: John Sawyer

Pterostylis alobula

Common Name(s):

greenhood

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: Three Kings, Poor Knights, North, South and Chatham Islands. In the South Island found in the east as far south as South Canterbury and the lower Waitaki Valley, and in the west as far south as Cape Foulwind.

Habitat:

Coastal to montane (up to 1100 m a.s.l.). Usually on the forest floor in sparse leaf litter, open clay pans under scrub or amongst mosses in semi-shaded successional forest. Occasional invades rough pasture and lawns bordering forest remnants. Often growing with *Diplodium trullifolium* (Hook.f.) D.L.Jones, Molloy et M.A.Clem.

Features*:

Terrestrial, colony forming, perennial herb. Plants at flowering up to 150 mm tall. Stem green or reddish-green, slender, terete, smooth; internodes rarely > leaves. Petiolate leaves in separate loose rosette or more or less loosely spaced up the lower part of flowering stem; petiole up to 10 mm long, initially distinct soon merging into leaf lamina on lower cauline leaves; leaf lamina 5-15 x 4-15 mm, dark green or green, broad-ovate, orbicular-cordate to trowel-shaped, apex acute to subacute, upper leaf surface smooth. Cauline leaves 2-6, mostly all sessile, 5-25 x 3-6 mm, dark green to green, linear to narrow-lanceolate or narrow-elliptic, uppermost slightly overtopping ovary. Flower 1(-2) erect, pale green and white striped. Dorsal sepal 20-25 mm tall, apex acuminate, usually horizontal; lateral sepals diverging at a wide angle to form a V shape when viewed from the front, sinus smoothly rounded and not jugate in side view, tips long-caudate and much overtopping galea. Petals almost as long as dorsal sepal, with the exposed marginal strip of medium width, and often nearly horizontal. Labellum arched and protruding, basal portion lanceolate, gradually tapering to mid-length, then abruptly contracted; margins recurved such that distal third is linear in outline and deeply channelled beneath, apex bluntly truncate. Column shorter than labellum; stigma elliptic, slightly prominent.

Flowering:

March to November

Fruiting:

May - January

Threats:

Not Threatened

*Attribution:

Description adapted from Moore and Edgar (1970)

References and further reading:

Janes, J.K.; Dorothy A. S.; Vaillancourt, R.E.; Duretto, M.F. 2010: A new classification for subtribe Pterostylidinae (Orchidaceae), reaffirming *Pterostylis* in the broad sense. *Australian Systematic Botany* 23: 260-269

Jones, D.L.; Clements, M.A.; Molloy, B.P.J 2002: A Synopsis of the Subtribe *Pterostylidinae*. *Australian Orchid Research* 4: 129-146.

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

Szlachekto, D.L. 2001: Genera et Species Orchidalium 1. *Polish Botanical Journal* 46: 11-26.

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=1792



Caption: Stokes Valley. Jul 2001.

Photographer: Jeremy Rolfe



Caption: Ecclesfield Reserve, Upper Hutt. Jul 2005.

Photographer: Jeremy Rolfe

Pterostylis banksii

Common Name(s):

Tutukiwi, Greenhood

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Chatham Islands

Habitat:

Coastal to montane (up to 800 m a.s.l.). In indigenous or exotic forests and shrubland.

Features*:

Terrestrial, tuberous, glabrous, spring to summer-green perennial herb, forming dense colonies of numerous plants through vegetative extension. Plant at flowering 100-680 mm tall. Stem stiffly erect, smooth, dark green to reddish green, internodes shorter than leaves throughout. Leaves 4-6, sessile, stiffly erect to curved and more or less drooping, dark green to yellow green with entire margins; in sterile plants lamina of similar size, oblong-elliptic to broadly lanceolate; in flowering plants lamina changing in size from base to top of stem; lamina of largest leaves 50-250 x 10-20 mm, lanceolate to linear-lanceolate, keeled, often with 2 laterals on either side of midrib, apex acuminate to long acuminate, base wider than rest of lamina broadening into a long sheathing base; mostly overtopping flower. Flower 1(-2), erect, front mostly green finely striped with white, stripes of white widening toward back of galea with green narrowing, back of galea sometimes completely white. Ovary erect. Dorsal sepal distinctly broadly ovoid to subglobose, 25-50 mm tall, erect, distal portion usually more or less horizontal in fully open flowers, apex tapering to a long caudate, upturned tip up to 25 mm long and usually exceeding the lateral sepals; lateral sepals diverging at a narrow angle, caudae of lobes up to 20 mm long, tapered, erect or strongly deflexed backwards, not or scarcely decurved. Petals much shorter than dorsal sepal with acuminate apices. Labellum elliptic-oblong, scarcely arched, flat in cross-section, narrowing slightly towards tip, bending forwarding smoothly and symmetrical, protruding from lateral sepals sinus, midrib initially prominent soon evanescent toward the obtuse, often cucullate apex. Column as tall as or slightly taller than labellum; stigma ellipsoid, scarcely distinguished from column and rather flat.

Flowering:

September - November

Fruiting:

November - February

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.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1210



Caption: Progress Valley, Catlins (flower detail)

Photographer: Jesse Bythell



Caption: Progress Valley, Catlins (flower detail)

Photographer: Jesse Bythell

Pterostylis patens

Common Name(s):

Tutukiwi, Greenhood

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island from about Mt Pirongia south.

Habitat:

Mostly montane to subalpine (up to 1200 m a.s.l.) but extending to lower altitudes in the southern Wairarapa and Rimutaka Ranges. Frequenting beech (*Nothofagus Blume*) forest but also found in montane cloud forest, and under subalpine scrub, usually in damp, semi-shaded sites. Often found in thick patches of moss or deep, drifts of leaf litter.

Features*:

Terrestrial, tuberous, glabrous, spring to summer-green perennial herb, forming dense colonies of numerous plants through vegetative extension. Plant at flowering 100-480 mm tall. Stem stiffly erect, smooth, green, dark green to reddish green, internodes very short near base, otherwise shorter than leaves throughout. Leaves 4-6, sessile, stiffly erect, dark green to reddish green with entire margins; in sterile plants lamina of similar size, oblong-elliptic to broadly lanceolate; in flowering plants lamina scarcely changing from base to top of stem; lamina of largest leaves 50-180 x 10-20 mm, broadly lanceolate, lanceolate to linear-lanceolate, prominently and deeply keeled, often with 2-3 laterals on either side of midrib, apex acute, acuminate, base wider than rest of lamina broadening into a long sheathing base; more or less even within base of flower, rarely slightly overtopping flower. Flower solitary, erect, front mostly green finely striped with white, stripes of white widening toward back of galea with green narrowing, with the back often completely. Ovary erect. Dorsal sepal distinctly globose, 40-50 mm tall, erect, distal portion initially horizontal, soon steeply inclined, apex steeply keeled, tapering to a strongly deflexed caudate tip up to 30 mm long; lateral sepals diverging at a narrow angle, caudae of lobes up to 40 mm long, tapered, strongly deflexed down and sometimes meeting behind ovary. Petals much shorter than dorsal sepal with acuminate apices. Labellum elliptic-oblong, scarcely arched, flat in cross-section, narrowing slightly towards tip, bending forward smoothly and symmetrical, protruding from lateral sepals sinus, midrib initially prominent soon evanescent toward the obtuse, emarginate, often cucullate apex. Column as tall as or slightly taller than labellum; stigma ellipsoid, scarcely distinguished from column and rather flat.

Flowering:

November - January

Fruiting:

December - 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) and Hatch (2005).

References and further reading:

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

Hatch, D. 2005: *Field guide to the New Zealand orchids*. New Zealand Native Orchid Group, Wellington.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1218



Caption: Tongariro, December

Photographer: John Smith-Dodsworth



Caption: Tongariro National Park. Dec 2008.

Photographer: Jeremy Rolfe

Pterostylis trullifolia

Common Name(s):

trowel-leaved orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Three Kings, North and South Islands to about Canterbury and north Westland

Habitat:

Coastal to montane (up to 1100 m a.s.l.). Usually on the forest floor in sparse leaf litter, open clay pans under scrub or amongst mosses in semi-shaded successional forest. Occasional invades rough pasture and lawns bordering forest remnants. Often found growing with *D. alobulum* (Hatch) D.L.Jones, Molloy et M.A.Clem.

Features*:

Terrestrial, colony forming, perennial herb. Plants at flowering up to 320 mm tall. Stem green or reddish-green, slender, terete, mostly smooth, sometimes with the upper internodes minutely rugose; internodes usually > leaves. Petiolate leaves in a compact rosette at base of flowering stem; petiole distinct up to 10 mm long (usually less) not winged; leaf lamina 5-10 x 5-10 mm, dark green to green or reddish-green, broad-ovate to orbicular-cordate, apex acute to subacute, veins raised on upper leaf surface imparting a distinctly rugose, bullate-alveolate (embossed) texture. Cauline leaves 2-8, 5-20 x 2-5 mm, dark green, green to reddish-green, lowermost shortly petiolate and more or less trowel-shaped, grading into sessile, linear-lanceolate leaves, uppermost rarely overtopping ovary. Flower 1(-2) erect, green and white striped rarely tinged with red. Dorsal sepal 10-15 mm tall, apex acuminate, more or less horizontal; lateral sepals diverging at a wide angle forming a U or wide W shape when viewed from the front, sinus abruptly and prominently jugate in side view, tips long-caudate and much overtopping galea. Petals almost as long as dorsal sepal, with only a narrow marginal strip exposed. Labellum narrow-triangular, arched and protruding, apex subacute. Column shorter than labellum; stigma elliptic, slightly prominent.

Flowering:

May - September

Fruiting:

July - January

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:

Janes, J.K.; Dorothy A. S.; Vaillancourt, R.E.; Duretto, M.F. 2010: A new classification for subtribe Pterostylidinae (Orchidaceae), reaffirming *Pterostylis* in the broad sense. *Australian Systematic Botany* 23: 260-269

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

Szlachekto, D.L. 2001: Genera et Species Orchidialium 1. *Polish Botanical Journal* 46: 11-26.

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=1794



Caption: Upper Hutt. Aug 2002.

Photographer: Jeremy Rolfe



Caption: Maidstone Park, Upper Hutt. Jul 2005.

Photographer: Jeremy Rolfe

Schizaea dichotoma

Common Name(s):

Fan fern

Current Threat Status (2012):

Naturally Uncommon

Distribution:

Indigenous. In New Zealand confined to the Kermadec Islands (Raoul Island) and North Island from Te Pahi south to Kawhia and Mt Maunganui, and locally around geothermally active sites around Rotorua and Taupo. Widespread from Madagascar east to Australia and across the Pacific.

Habitat:

Usually associated with lowland kauri (*Agathis australis* (D. Don.) Lindl.) forest but also found in coastal areas and offshore island under pohutukawa (*Metrosideros excelsa* Sol. ex Gaertn.) dominated forest (e.g., Mayor (Tuhua) Island). In geothermal areas it is often found under shrubs of *Kunzea ericoides* var. *microflora* (G. Simpson) W. Harris.

Features*:

Tufted, widely creeping fern forming diffuse patches in open, often semi-shaded sparsely vegetated ground; usually arising from within thick leaf litter. Stipes 100-350 x 1.-1.5 mm, brown at base, green to dark green, erect, flattened, flabellate in upper portion with stipe forked 3-6(-8) times, smooth. Laminae at apices of stipe ends, pinnate (fertile), 2-7 mm long, bright green to yellow-green. Pinnae in 5-8 pairs, infolded, 2-4 mm long. Description modified from Brownsey & Smith-Dodsworth 2000.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened. A naturally uncommon, biologically sparse species. It can at times be very common but it is usually found as widely scattered populations. There is little doubt that some populations have declined due to land development and other changes in the surrounding vegetation (e.g., Mt Maunganui)

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange July 2005. 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=315



Caption: *Schizaea dichotoma*
Photographer: Dean Baigent-Mercer



Caption: *Schizaea dichotoma*
Photographer: Dean Baigent-Mercer

Schizaea fistulosa

Common Name(s):

comb fern

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: Three Kings, North, South and Chatham Islands. In the North Island widespread from North Cape south to about the Waikato thence scarce. In the South Island confined to North-West Nelson. Also present in Australia, Malaysia, Indonesia, New Guinea, New Caledonia, Fiji and Samoa.

Habitat:

Coastal to lowland on clay pans, podzols, in gumland scrub, open scrub or forest, kauri forest (and then especially along ridged lines) and also in restiad peat bogs in the Waikato and the Chatham Islands.

Features*:

Rhizomatous, tufted fern. Rhizome short creeping, densely clothed with dark brown hairs. frond clustered, erect, undivided, 10-500 mm long, c.0.5-1.0 mm wide, wiry, terete or subterete, furrowed on 1 side, green or pale brown with scattered hairs, smooth; sterile fronds similar to sporogenous fronds but much shorter; sporogenous heads 7-30 mm long, usually 5-12× longer than wide, narrowly triangular to linear-oblong, broadest at or near the base, tapering distally, straight or slightly curved; segments 2-5 mm long, smooth, glabrous or with sparse hairs. Sporangia not mixed with hairs. Description adapted from Chinnock (1998) and Brownsey & Smith-Dodsworth (2000).

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

***Attribution:**

Fact sheet prepared for NZPCN by P.J. de Lange 14 March 2011. Description adapted from Chinnock (1998) and 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

Chinnock, R.J. 1998: Schizaeaceae. Flora of Australia 48: 177-187.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2250



Caption: Waikawau bay
Photographer: John Smith-Dodsworth



Caption: Waikawau bay
Photographer: John Smith-Dodsworth

Thelymitra longifolia

Common Name(s):

White Sun Orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. Three Kings, North, South, Stewart, Chatham and Auckland Islands. Also on Norfolk Island.

Habitat:

Coastal to subalpine (up to 1200 m a.s.l.). Occupying a wide range of habitats from open ultramafic talus to dense forest. However, it is most common in shrublands. This species is extremely variable and it is likely that following taxonomic revision, a number of forms, some with distinct ecologies, may be formally segregated.

Features*:

Terrestrial, tuberous, glabrous, spring to summer-green perennial herb, either solitary or in dense colonies of 4-20 plants arising through vegetative extension. Plant at flower up to 1 m tall (usually much less). Leaf solitary, erect, suberect or trailing the ground, very fleshy to subcoriaceous, deeply to weakly channelled and prominently ribbed longitudinally, 50-380 x 10-40 mm, green, dark green, reddish-green, reddish brown or yellow-green, lanceolate to linear-lanceolate, base closely sheathing, margins, surface and apex often disfigured by black spots and sometimes by prominent dark orange-brown rust pustules. Flowering stem stiffly erect, rather wiry, green, reddish green to brownish green. Bracts 1-2(-3), foliaceous, closely-sheathing, fleshy, of similar colour to stem and leaf. Raceme bearing (1-)5(-20) scented or unscented flowers. Flowers 8-18 mm diameter, externally red-green to dark green, internally white or very pale pink, segments spreading, widely spreading or scarcely opening, dorsal sepal slightly broader than laterals. Petals and labellum alike, narrowly ovate, subacute. Column up to 8 mm long, erect, basally brown or white grading to dark brown to almost black toward apex; column arms terete, mostly bent inwards such that they are lying more or less under post-anther lobe; cilia abundant, floccose (like cotton) or coarsely ciliate, white or cream, short and crowded in globose masses; post anther lobe overtopping anther, dark and smooth above middle, and usually yellowish on the semi-circular cucullate apex.

Flowering:

September - February

Fruiting:

October - April

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007. Description subsequently published in de Lange et al. (2007) and Rolfe & de Lange (2010).

References and further reading:

de Lange, P.; Rolfe, J. St George, I. Sawyer J. 2007: Wild orchids of the lower North Island. Department of Conservation, Wellington. 194pp.

Rolfe, J.R.; de Lange, P.J. 2010: Illustrated guide to New Zealand sun orchids, *Thelymitra* (Orchidaceae). Jeremy Rolfe, Wellington.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1316



Caption: *Thelymitra longifolia*
Photographer: DoC



Caption: *Thelymitra longifolia*
Photographer: DoC

Thelymitra pauciflora

Common Name(s):

sun orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. North, South, Stewart and Chatham Islands. Present in Australia where it occurs in Queensland, New South Wales, Australian Capital Territory, Victoria, South Australia and Tasmania.

Habitat:

Mostly coastal to lowland, rarely lower montane. Usually in very open shrubland, on clay pans, gumland scrub, forest margins, in ultramafic scree and in open grassland. This species is also commonly found in urban areas along street verges in bark gardens and wasteland.

Features*:

Glabrous, terrestrial orchid. Tubers 10-20 x 5-10 mm, ovoid, fleshy pinkish white to pinkish grey. Leaf 80-300 x 3-6(-12) mm, erect, fleshy, canaliculated, dark or light green with purplish to maroon base, often spotted with rust, abaxially prominently ribbed, ribs often maroon, sheathing at base, apex acute to acuminate. Inflorescence 0.15-0.6 m tall, 1-1.5(-3) mm diameter, stout but slender, straight, dark green to purple-green to reddish. Sterile bracts 1-2(-3), 15-50 x 3-5 mm, linear to linear-lanceolate, closely sheathing, acute to acuminate, green or maroon, sometimes purplish. Fertile bracts 4-15 x 2-5 mm, ovate-acuminate to obovate-acuminate, sheathing at pedicels, green to purple-green. Pedicels 1-10 mm long, slender. Ovary 5-12 x 2-4 mm, purple-green to red-green, narrow-obovoid. Flowers 1-8, 15-20 mm diameter, dark blue to mauve, sometimes white; opening only on very hot, still, sunny days, mostly entomophilous, tending to autogamous. Perianth segments 6-10 x 3-5 mm, concave, shortly apiculate; dorsal sepal lanceolate to ovate, obtuse to subacute; lateral sepals lanceolate to ovate, often asymmetric, acute; petals ovate to obovate, obtuse to subacute; labellum elliptic to lanceolate, acute, often smaller than other segments. Column 4.0-5.0 x 2.0-2.5 mm, erect from end of ovary, pale blue to dark pink; post anther lobe 1.8-2.5 x 1.0-1.5 mm, cucullate, tubular, gently curved, usually blackish-purple to reddish-brown, apex entire to emarginate, bright yellow; post anther lobe extension 0.4-0.7 mm; auxiliary lobes absent or sometimes present as 2 tiny incurved spurs on the lower apical margin of the post-anther lobe; lateral lobes converging, 0.5-1.0 mm long, digitiform, porrect at base, bent sharply upwards near the middle at 90 degrees, each with a subterminal tuft of white (or mauve) cilia that touch the ventral side of the apex of the post-anther lobe; cilia 1-1.5 mm long. Anther inserted above central column, 2.0-2.5 x 1.0-1.5 mm. Stigma situated at base of column, 1.5-2 x 1.5-2 mm, ovate-quadrate, margins irregular. Capsules 8-15 x 3-6 mm, obovoid, erect, deeply ribbed.

Flowering:

September - December

Fruiting:

November - March

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007. Description subsequently published in Rolfe & de Lange (2010). See also Jeanes (2004).

References and further reading:

Jeanes, J. 2004: A revision of the *Thelymitra pauciflora* R.Br. (Orchidaceae) complex in Australia. *Muelleria* 19: 19-79.

Rolfe, J.R.; de Lange, P.J. 2010: Illustrated guide to New Zealand sun orchids, *Thelymitra* (Orchidaceae). Jeremy Rolfe, Wellington.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2273



Caption: *Thelymitra pauciflora* at Coopers Beach

Photographer: Bill Campbell



Caption: *Thelymitra pauciflora* on Spicer Road, Coopers Beach

Photographer: Bill Campbell

Thelymitra tholiformis

Common Name(s):

Domed Sun Orchid

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North Island only from Te Pahi south to the northern Waikato.

Habitat:

A species favouring open clay pans, gumland scrub, or sparsely vegetated slopes in site where there once was, or still is kauri (*Agathis australis* (D. Don) Lindl.) forest. It may also colonise grassy verges along roadsides traversing kauri forest remnants and gumland scrub. This species responds well to periodic burning provided of course the former habitat had few or no fire-adapted weed species.

Features*:

Stout plants either solitary or forming colonies, up to 0.6 m tall at flowering. Leaf up to 360 x 15 mm, green, often reddish-green near margins and base, linear-lanceolate, sub-erect, shallowly concave with exterior ridges on mature plants. Basal sheath up to 30 mm long, pale, truncate, mucronate; stem bracts 2, 20-90 x 3-6 mm, lanceolate, sheathing in basal half to two thirds. Floral bracts 10-20 x 3-6 mm, lanceolate. Inflorescence 1-15-flowered, flowers 10-15 mm diameter, pale to strong mauve, on short pedicels. Perianth cupped, parts ovate, apiculate, up to 12 x 5 mm; sepals narrower than petals; petals minutely papillate externally. Column 5 mm tall, erect, concave in side view, pale purple with yellow striae and a narrow purple band near top. Post anther lobe as high as or exceeding anther, tholiform (dome-shaped) not hooded (cucullate), bright yellow, margin irregularly denticulate. Column arms more or less terete, horizontal or upturned, with short, dense, globose tufts of white cilia. Anther erect, apex pointed, sometimes curving forward. Stigma short, broad, more or less concave, bilobed; rostellum orbicular, very prominent. Capsule 10-15 x 5-7 mm, elliptic, green.

Flowering:

(October-) November (-December)

Fruiting:

October - February

Threats:

Habitat loss and plant collectors. This species is usually associated with kauri forest remnants and gumland. In gumland it is very vulnerable to habitat modification and from competition by weed species. Fires seem to temporarily benefit this orchid which increases in abundance soon after a fire. Some populations near to Auckland have been seriously damaged by plant collectors. Despite these losses, over all the species appears to be much common than was once thought, having an apparently naturally sparse distribution.

***Attribution:**

Fact Sheet prepared for NZPCN by P.J. de Lange 14 April 2007. Description subsequently published in Rolfe & de Lange (2010).

References and further reading:

Rolfe, J.R.; de Lange, P.J. 2010: Illustrated guide to New Zealand sun orchids, *Thelymitra* (Orchidaceae). Jeremy Rolfe, Wellington.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=327



Caption: *Thelymitra tholiformis*
Photographer: Ian St George



Caption: Close up - frontal image
Photographer: Eric Scanlen

Uncinia uncinata

Common Name(s):

bastard grass, hook sedge, kamu, matau-a-maui

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous: New Zealand. North, South, Stewart, Chatham and Auckland Islands. Also in the Hawaiian Islands.

Habitat:

Coastal to montane (up to 1000 m a.s.l.). Widespread and common in most indigenous habitats from dense forest to open shrubland. Rarely colonising the margins of wetlands. Sometimes found as an urban weed in hedgerows, along river banks or in parks.

Features*:

Caespitose, yellow-green to dark green sedge. Culms 100–900 x 1.0–1.5 mm, glabrous, or occasionally scabrid just below inflorescence; basal sheaths dull brown. Leaves 5–10 per culm, ± = culms, or > flowering culms, 2–5 mm wide, dark green or occasionally reddish green, strongly scabrid on the margins and on the adaxial surface towards the tip. Spikes 55–200 x 2.0–3.5 mm, usually bracteate, female flowers numerous, usually c.60–120, very closely crowded throughout almost the whole spike, internodes 0.5–1.5 mm long. Glumes usually < but occasionally slightly > utricles, deciduous, ovate, obtuse or subacute, coriaceous, yellowish with a green midrib or often entirely dark brown, occasionally greenish pink. Utricles 4–5 mm long, slightly > 1 mm. diameter, plano-convex or concavo-convex, lustrous, with usually one prominent lateral nerve on the abaxial face and 3–4 faint nerves on the adaxial face, yellowish to dull brown, stipe 1.0–1.5 mm. long, beak slightly > 1 mm. long; scarcely spreading when ripe.

Flowering:

August - December

Fruiting:

Throughout the year

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared by P.J. de Lange (18 August 2006). Description adapted from Moore and Edgar (1970) - see also de Lange et al. (2013).

References and further reading:

de Lange, P.J.; Heenan, P.B.; Rolfe, J.R. 2013: *Uncinia auceps* (Cyperaceae): a new endemic hooked sedge for the Chatham Islands. *Phytotaxa* 104 (1): 12–20. doi: [10.11646/phytotaxa.104.12](https://doi.org/10.11646/phytotaxa.104.12)

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=2281



Caption: *Uncinia uncinata*

Photographer: Wayne Bennett



Caption: Leaf of *Uncinia uncinata*

Photographer: Wayne Bennett

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. |
| Froned | 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 swamper 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. |
| Trigonous | 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. |