



Native plants of the Tangirau wetland.



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A non-complete list of native plants present, to be planted, or potentially present in the Tangirau wetland.

Agathis australis

Common Name(s):

kauri, kauri pine

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Occurring from Te Paki south to Pukenui (near Kawhia) in the West and near Te Puke in the East. Over much of its former range it has been heavily logged, such that the best stands now only occur in the Coromandel and Waitakere Ranges, on Great and little Barrier Islands, and in Northland at Waipoua, Trounson, Omahuta, Puketi, Herekino, Warawara and Radar Bush forests. Despite its northerly limit this species has been successfully grown as far south as Oban, Stewart Island, and seedlings have been observed near planted adults in Wellington, Nelson and Christchurch.

Habitat:

The species forms its own forest type - Kauri forest - which is typified by dense canopies of kauri. Common associates in the northern half of its range may include taraire (*Beilschmiedia tarairi*), northern rata (*Metrosideros robusta*), rimu (*Dacrydium cupressinum*), towai (*Weinmannia silvicola*), and makamaka (*Ackama rosifolia*). Historically kauri forest seems to have been best developed on river terraces, coastal plains and the generally flat flood basalts of the Tangihua complex, which make the dominant geology of Waipoua, Omahuta, Puketi, Trounson. Some people believe that the hill and range occurrences, which is where most stands can now be seen, are relictual stands not truly favoured by the species, but merely examples of where it can grow, and of course locations where it was usually left because log extraction was less feasible.

Features*:

Stout, monoecious forest tree 30-60 m tall, with trunk 3-4(-7) m diam. Trunk typically devoid of branches for majority of its height. Trees at ricker development stage have a columnar growth form with trunk scarcely free of branches. As tree matures the basal branches are progressively abscised, eventually leaving bare trunk typical of mature specimens. Bark blue-grey, falling in large thick flakes with scalloped margins, undersides of discarded bark and freshly exposed underbark rust brown. Leaves (needles) alternate to subopposite, sessile, thick and leathery; juvenile leaves 50-100 mm x 5-12 mm, lanceolate, pinkish green, often black-spotted (a fungus specific to kauri causes this); adult leaves 20-35 mm, oblong, apex obtuse. Male cones 20-50 mm long, stout, cylindrical, female cones globose 50-75 mm diam., cone-scales (carpidia) deciduous, at first broad but then gradually narrowing toward base, bearing one ovule per scale. Seeds ovoid, compressed, margins winged.

Flowering:

Female cones produced from September - December. Male cones throughout the year but most common from September to January

Fruiting:

Mature cones occur anytime from December through to May, with rare persistent examples found on trees right up to about August

Threats:

Not strictly regarded as threatened but some stands of kauri on private land remain vulnerable to illegal logging, while trees are still periodically removed (although only by permit or with approval) for cultural purposes, such as for making waka (canoes) or other Maori buildings and structures. Some small southerly populations are rather vulnerable to goat browse destroying regenerating seedlings and saplings.

More recently kauri dieback (also known as *Phytophthora taxon Agathis* or PTA) has caused the death of kauri trees and has become a serious issue (see the information and links provided below and see images above of lesions and thinning caused by the disease).

*Attribution:

Fact Sheet Prepared for NZPCN by P.J. de Lange May 2004. Description adapted from Allan (1961).

References and further reading:

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

Ogden, J. 1988. Kauri: Key to Auckland's past. *Auckland Botanical Society Journal*, 43: 17-19.

Enright, N., Cameron, E.K. 1988. The soil seed bank of a kauri (*Agathis australis*) forest remnant near Auckland, New Zealand. *NZ Journal of Botany*, Vol. 26, 223-236

Sem, G. and Enright, N.J. 1995. *The soil seed bank in Agathis australis* (D. Don) Lindl. (kauri) forests of northern New Zealand. *New Zealand Journal of Botany*, 33 (2). pp. 221-235. <http://dx.doi.org/10.1080/0028825X.1995.10410485>

Mirams, R.V. 1957. Aspects of the natural regeneration of the kauri (*Agathis australis* Salisb.). *Transactions of the Royal Society of New Zealand*, Vol. 84, Part 4, 661-680

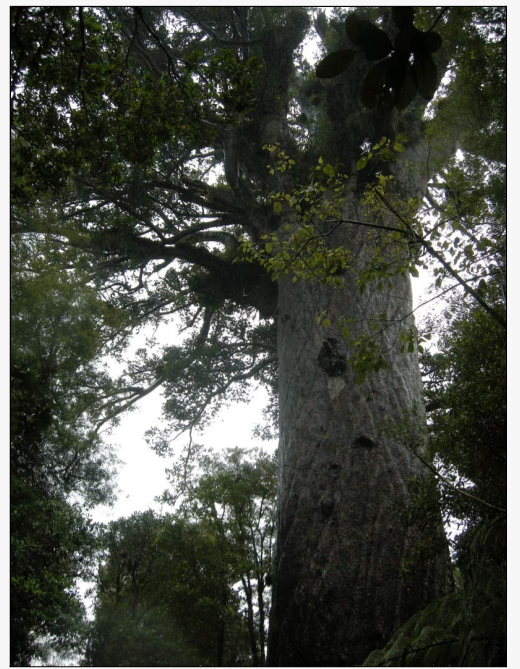
Sando, C.T. Notes on *Agathis australis*. *NZ Journal of Forestry*.

J. B. Dickie and R. D. Smith (1995). Observations on the survival of seeds of *Agathis* spp. stored at low moisture contents and temperatures. *Seed Science Research*, 5, pp 5-14. doi:10.1017/S0960258500002531.

Wyse, S.V., Burns, B.R. 2013. Effects of *Agathis australis* (New Zealand kauri) leaf litter on germination and seedling growth differs among plant species. *NZ Journal of Ecology*, 37(2), 178-183

For more information, visit:

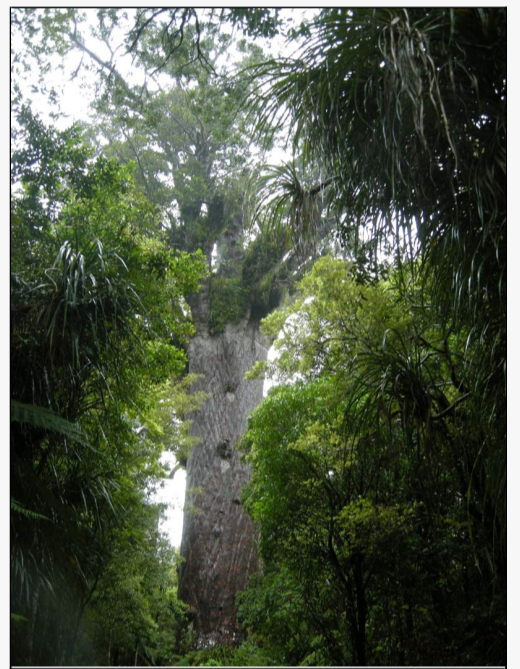
http://nzpcn.org.nz/flora_details.asp?ID=2047



Caption: Waipoua Forest,

Northland - Tane Mahuta

Photographer: John Sawyer



Caption: Waipoua Forest,

Northland - Tane Mahuta

Photographer: John Sawyer

Alectryon excelsus subsp. *excelsus*

Common Name(s):

New Zealand ash, titoki

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Islands from Te Pahi to Banks Peninsula

Habitat:

A widespread coastal to lowland forest tree. Often favouring well drained, fertile, alluvial soils along river banks and associated terraces. It is also a major component of coastal forests, particularly those developed within exposed situations or on basaltic or andesite volcanics. It is a common offshore island tree within the Hauraki Gulf. The large fruits are bird dispersed and so titoki trees often occur as a sparse components of most lowland forest types, throughout the North Island.

Features*:

Tree between 10m and 20m tall. Branches stout, erect, all parts invested with fine, velutinous, ferruginous hairs. Bark brown. Adult leaves dark green, matt when mature, imparipinnate, alternate 80-260 mm long. Leaflets 3-7 pairs; lamina 45-105 x 19-40 mm, subcoriaceous, lanceolate, oblong or narrowly-ovate, apex, subacute often acuminate, rarely obtuse; base cuneate, truncate to oblique, upper leaf surface matt; lamina margin entire or deeply serrated 1-4 times near apex. Inflorescences axillary 90-120 mm long, sparingly branched panicles. Flowers bisexual or staminate. Petals absent. Stamens 5-8 in bisexual and 6-10 in staminate flowers, crimson. Stigma ovoid, in staminate flowers ovary tholiform, style absent, in perfect flowers broadly urceolate, style 1.5-2 mm, erect. Fruits sessile, 1-2-lobed, 14-20 x 9-14 mm, pubescent, globular, carina 3-5 mm long on one side. Seed 7-10 x 4-8 mm, subglobose, black, lustrous, sarcotesta fleshy, scarlet, papillose.

Flowering:

October - December (-June)

Fruiting:

November - August

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared by P.J. de Lange (1 August 2005). Description by P.J. de Lange based in part on de Lange et al. (1999).

References and further reading:

Cameron, E.K. 1998. Frost resistance in titoki *Alectryon*. *Auckland Botanical Society Journal* 53: 15.

de Lange, P.J.; Cameron, E.K.; Murray, B.G. 1999: *Alectryon excelsus* subsp. *grandis* (Sapindaceae): a new combination for an uncommon small tree endemic to the Three Kings Islands, New Zealand. *New Zealand Journal of Botany* 37: 7-16.

Duguid, F. 1961. Flowering in titoki. *Wellington Botanical Society Bulletin* 32: 16

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=1486



Caption: Algies Bay, Auckland
Photographer: John Sawyer



Caption: Carter Scenic Reserve
Photographer: John Sawyer

Aristotelia serrata

Common Name(s):

Makomako, wineberry

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features*:

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

Flowering:

September-December

Fruiting:

November-January

*Attribution:

Description adapted from Allan (1961), Heenan and de Lange (2006), Eagle (2000) and Webb and Simpson (2001).

References and further reading:

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

Heenan, P.B, de Lange, P.J. 2006. *Pseudowintera insperata* (Winteraceae), an overlooked and rare new species from northern New Zealand. NZ J. Botany 44: 89-98

Eagle, A. 2000. Eagle's complete trees and shrubs of NZ. Te Papa Press, Wellington

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1512



Caption: Flowering wineberry

Photographer: Jane Gosden



Caption: Waikuku, Aorangi

Photographer: John Sawyer

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 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

Brachyglottis repanda

Common Name(s):

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

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features:

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

Flowering:

(July-) August-October
(-November)

Fruiting:

(October-) November-
December (-January)

Threats:

Not Threatened

References and further reading:

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

For more information, visit:

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



Caption: *Brachyglottis repanda*
Photographer: Wayne Bennett



Caption: *Brachyglottis repanda*
Photographer: Wayne Bennett

Carex geminata

Common Name(s):

Cutty grass, Rautahi

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Found throughout the North, South and Stewart Islands.

Habitat:

Coastal to lower montane in freshwater wetlands, along river and stream banks, lake margins, and in damp seepages, pond margins and clearings within forest. Preferring fertile to mid-fertile wetlands.

Features*:

Rhizomatous, robust bright-green to yellow-green sedge, 0.5-1.2 m tall. Culms 1-5-3.5(-5) mm diam., triangular in cross-section, very sharply scabrid. Basal sheaths dull grey-brown or purple-brown. Leaves numerous, > culms (2-)5-9(-11), wide, double-folded, margins very scabrid. Spikes (10-)15-24, yellow-green, grass-green, or dark-green mottled red or purple, all pedunculate, pendulous, rather narrow, often twisted and "worm-like". Glumes dark red-purple, (excluding awns) more less same length as utricles, narrow-oblong, truncate or emarginate with a hispid awn of variable length. Utricles (2-)2.3-2.9(-3.5) x 1.2-1.7(-2) mm, biconvex, compressed at base, tapering evenly above, green-, red- or yellow-brown, 3-5-nerved, margins glabrous, beak minute or 0.2 mm long.

Flowering:

(September-) October-November (-
December)

Fruiting:

October -
March

Threats:

Not Threatened

***Attribution:**

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

References and further reading:

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1409



Caption: Seeds of *Carex geminata*
Photographer: Wayne Bennett



Caption: Coromandel, March - an unnamed carex allied to *C. geminata* s.s.
Photographer: John Smith-Dodsworth

Carex secta

Common Name(s):

Purei, Pukio, Niggerhead

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Widespread in suitable wetlands from coastal to montane wetlands.

Features*:

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

Flowering:

(September-) October-November (-December)

Fruiting:

October - March

Threats:

Not Threatened.

***Attribution:**

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

References and further reading:

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1418



Caption: Carex secta

Photographer: Wayne Bennett



Caption: Carex secta (Purei)

Photographer: Wayne Bennett

Carex virgata

Common Name(s):

swamp sedge, pukio, toitoi, toetoe

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Widespread from sea level to about 1000 m a.s.l. in open, swampy conditions and also in damp sites within lowland forest. In parts of the country this sedge is often the dominant carice of lowland alluvial forest.

Features*:

Rhizomatous, densely clumped to tussock-forming sedge. Rhizome 5 mm. diameter. Culms 150–900 mm. x c.1.5 mm, trigonous, grooved, harshly scabrid; basal sheaths shining, grey-brown to dark brown, sometimes black. Lvs much > culms, 0.5–1.2 m tall, 1.5–4.5 mm wide, channelled, light green, harsh and rigid, keel and margins strongly scabrid. Inflorescence a narrow 100–260 mm long panicle with stiff erect branchlets, the lower-most quite distant. Spikes, androgynous, 4–6 mm. long, sessile, grey- or yellow-brown, male flowers terminal, lower spikes on each branchlet subtended by a pale membranous bract with a long scabrid awn often > spike. Glume ± = or slightly < utricles, membranous, ovate, acute, dull brown, with a prominent pale midrib, this often scabrid in lowermost glumes. Utricles 2.0–2.5 x c.1.0 mm, plano-convex, ovoid, light grey with distinct brown nerves; tapering to a brown beak c.0.5 mm long with a bifid orifice and conspicuously denticulate margins; abruptly contracted to a narrow stipe c.0.2 mm. long. Stigmas 2. Nut slightly > 1 mm. long, biconvex, ovoid, dark brown.

Flowering:

October - December

Fruiting:

December - May

Threats:

Not Threatened

*Attribution:

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

References and further reading:

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1426



Caption: Flower of *Carex virgata*
Photographer: Wayne Bennett



Caption: Flower of *Carex virgata*
Photographer: Wayne Bennett

Carpodetus serratus

Common Name(s):

putaputaweta, marbleleaf

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Widespread. North, South and Stewart Islands.

Habitat:

Coastal to montane (10-1000 m a.s.l.). Moist broadleaf forest, locally common in beech forest. A frequent component of secondary forest. Streamsides and forest margins.

Features*:

Monoecious small tree up to 10 m tall. Trunk slender, bark rough, corky, mottled grey-white, often knobbed due to insect boring. Juvenile plants with distinctive zig-zag branching which is retained to a lesser degree in branchlets of adult. Leaves broad-elliptic to broad-ovate or suborbicular; dark green, marbled; membranous becoming thinly coriaceous; margin serrately toothed; tip acute to obtuse. Juvenile leaves 10-30 mm x 10-20 mm. Adult leaves 40-60 mm x 20-30mm. Petioles c. 10 mm; petioles, peduncles and pedicels pubescent; lenticels prominent. Flowers in panicles at branchlet tips; panicles to 50 x 50 mm; flowers 5-6 mm diam.; calyx lobes c. 1 mm long, triangular-attenuate; petals white, ovate, acute, 3-4 mm long. Stamens 5-6, alternating with petals; filaments short. Stigma capitate, tip dark; ovules many. Fruit an indehiscent subfleshy-fleshy capsule, 4-6 mm diam., black when mature; cupped in remains of calyx. Seeds many per capsule, in 3-5 locules, small, 1-2 mm long; testa reticulate.

Flowering:

November-March

Fruiting:

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

Threats:

Not Threatened.

*Attribution:

Description adapted from Allan (1961), puriri moth information modified from Martin (2010).

References and further reading:

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

Martin, N. A. (2010). Puriri moth - *Aenetus virescens* fact sheet, retrieved from the website Interesting Insects and other Invertebrates. http://nzacfactsheets.landcareresearch.co.nz/factsheet/OrganismProfile/Puriri_moth_-_Aenetus_virescens.html

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1605



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



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

Coprosma grandifolia

Common Name(s):

kanono, manono, large-leaved coprosma, raurekau

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Flowering:

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

Fruiting:

(September-) October-January (-April)

Threats:

Not Threatened

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1717



Caption: Leaf of *Coprosma grandifolia*

Photographer: Wayne Bennett



Caption: *Coprosma grandifolia*

Photographer: Wayne Bennett

Coprosma lucida

Common Name(s):

karamu, shining karamu

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1719



Caption: Coprosma lucida

Photographer: Wayne Bennett



Caption: Leaf of Coprosma lucida

Photographer: Wayne Bennett

Coprosma propinqua var. *propinqua*

Common Name(s):

mingimingi

Current Threat Status (2012):

Not Threatened

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1728



Caption: Waikanae Estuary.
Photographer: Jeremy Rolfe



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

Coprosma robusta

Common Name(s):

karamu, glossy karamu

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features:

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

Flowering:

(July-) August-September (-November)

Fruiting:

(March-) April-May (-July)

Threats:

Not Threatened

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1733



Caption: Fruit of *Coprosma robusta*

Photographer: Wayne Bennett



Caption: *Coprosma robusta* (Karamu)

Photographer: Wayne Bennett

Coprosma tenuicaulis

Common Name(s):

swamp Coprosma, hukihuki

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Islands from Kaitaia to about Okarito

Habitat:

Lowland (rarely montane) in swamps and boggy ground, poorly drained shrubland and riparian forest.

Features*:

Shrub up to c.3 m tall; branches slender, filiramate, subdivaricate, usually interlacing; branchlets slender, pubescent. Leaves on more or less winged, slender, pubescent petioles 3-5 mm long. Stipules small, triangular, subacute, more or less pubescent, ciliate, terminal tuft conspicuous. Lamina subcoriaceous, glabrous, orbicular-ovate, spatulate, obtuse, minutely apiculate, more or less 8-13 × 8-10 mm. Reticulations of veins evident on both surfaces. Male flowers in fascicles of 3-6; calyx 0; corolla funnelform, lobes more or less = tube, ovate, acute. Female flower solitary or in axillary clusters of 2-4 along short branchlets; calyx-teeth minute; corolla funnelform, lobes ovate, acute, = or > tube. Drupe black, globose, 3-4 mm diameter.

Flowering:

July - October

Fruiting:

March - May

Threats:

Not Threatened

*Attribution:

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

References and further reading:

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

Cheeseman, T.F. 1885. Description of three new species of *Coprosma*. *Transactions of the Royal Society*, 18: 315-317

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=1739



Caption: *Coprosma tenuicaulis*
Photographer: Wayne Bennett



Caption: *Coprosma tenuicaulis*
Photographer: Wayne Bennett

Cordyline australis

Common Name(s):

cabbage tree, ti, ti kouka, palm lily

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features:

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

Flowering:

(September-) October-
December (-January)

Fruiting:

(December-)
January-March

Threats:

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

References and further reading:

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

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1744



Caption: Awhitu Regional Park, Auckland region

Photographer: John Sawyer



Caption: *Cordyline australis*

Photographer: Wayne Bennett

Cyathea dealbata

Common Name(s):

silver fern, ponga

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. From the Three Kings Islands south to Mahers Swamp in the west and Dunedin in the east of the South Island.

Habitat:

Common, primarily coastal and lowland habitats but extending to lower montane. Preferring dry forest and shrubland, often under pines.

Features*:

Tree fern up to 10 m tall (very rarely without trunk). Trunk covered in long-persistent, peg-like, stipe bases. Stipes slender, silvery-white when young, maturing pale brown. Harsh to the touch, covered in pale-brown scales. Scales without marginal spines. Fronds up to 4 m long, horizontal, somewhat arching, 3-pinnate. Dead fronds falling. Longest primary pinnae 300-550 mm, pale green above, white below (very rarely pale green) below. Under surfaces sparingly clad in curly hairs. Indusia covering sori at maturity, opening at maturity to form a deep cup with a smooth rim.

Flowering:

None (spore bearing)

Fruiting:

None (spore bearing)

Threats:

Not Threatened.

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange March 2004.
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=1776



Caption: *Cyathea dealbata*

Photographer: Wayne Bennett



Caption: *Cyathea dealbata*

Photographer: Wayne Bennett

Cyathea medullaris

Common Name(s):

black tree fern, mamaku, black mamaku

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. Occurring from the Three Kings Islands south to Stewart and the main Chatham Islands. Uncommon in the drier eastern portion of the South Island, and apparently absent from Canterbury and Otago.

Habitat:

Common in lowland forest throughout the North Island. Primarily in wetter coastal areas of the South Island.

Features*:

Tree fern up to 20 m tall. Trunk black covered with hexagonal stipe bases. Stipes thick, black, harsh to touch, covered in black scales. Scales with marginal spines. Fronds up to 5 m long, arching upwards from crown, 3-pinnate, leathery, dead fronds falling (except in very young plants). Longest primary pinnae 0.4-1 m long, undersurfaces bearing scales with marginal spines. Indusia completely covering sori at maturity, splitting irregularly.

Flowering:

None (spore bearing)

Fruiting:

None (spore bearing)

Threats:

Not Threatened.

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange March 2004.
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

Esler, W.R. 1976. Succession of fronds of mamaku (*Cyathea medullaris*). *Wellington Botanical Society Bulletin* 39: 41-43

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2097



Caption: *Cyathea medullaris*
Photographer: Wayne Bennett



Caption: *Cyathea medullaris*
Photographer: Wayne Bennett

Cyperus ustulatus

Common Name(s):

Coastal cutty grass, Giant umbrella sedge, cyperus

Current Threat Status (2012):

Not Threatened

Distribution:

Abundant in the North Island and northern South Island, west to Fiordland, and not threatened. Naturally uncommon at its eastern South Island limit, where it is known only from Tai Tapu, Motukarara, Banks Peninsula and the Rakaia River mouth. Also on the Chatham Islands, where it is not very common.

Habitat:

Coastal to lowland sites in open ground. Tolerant of a wide range of habitats and conditions but evidently preferring wetland margins, seepages, streamsides, lagoon and estuary margins.

Features*:

Robust, 0.6–2.0 m tall, with leaves crowded at base of culms. Culms triquetrous, glabrous, striated. Leaves 0.6–1.2 m long, 8–15 mm wide, lamina coriaceous, strongly keeled, multitubular with numerous septa prominent on the abaxial side, margins and keel very sharply and minutely serrulate; sheath brown. Inflorescence a terminal umbel 40–140 mm long, of 6–12 unequal rays; rays usually unbranched, rarely with secondary branches at base; involucre of numerous leaf-like bracts very much > inflorescence Spikelets 8–13 mm long, numerous, dark brown or yellow-brown, crowded on each ray into a dense spike 35–70 mm. long. Glumes 5–20 in each spikelet, ovate-oblong, obtuse or mucronate, hard, smooth and shining, keeled, red-brown with white nerves, 2(-3) lowermost and 1–2 uppermost glumes smaller, empty, the remainder fertile. Stamens with persistent filaments. Nut 1.5–2 × c.0.5 mm., c.1/2 length of glume, linear-oblong, trigonous, brown.

Flowering:

July - December

Fruiting:

July - April

Threats:

Not Threatened

*Attribution:

Description adapted from Moore and Edgar (1970)

References and further reading:

Heenan and de Lange (2005). *N.Z.J.Bot.* 43: 351-359: *Cyperus insularis* (Cyperaceae), a new species of sedge from northern New Zealand.

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=1430



Caption: *Cyperus ustulatus* f. *ustulatus*

Photographer: Wayne Bennett



Caption: *Cyperus ustulatus* f. *ustulatus*

Photographer: Wayne Bennett

Dacrycarpus dacrydioides

Common Name(s):

kahikatea, white pine

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South and Stewart Islands

Habitat:

Lowland forest, formerly dominant on frequently flooded, and/or poorly drained alluvial soils. Occasionally extends into lower montane forest. Once the dominant tree of a distinct swamp forest type all but extinct in the North Island - the best examples remain on the West Coast of the South Island.

Features*:

Stout, dioecious, cohort-forming conifer, 50 (-65) m. tall. Trunk 1(-2) m diam., often fluted and buttressed. Bark grey to dark-grey, falling in thick, sinuous flakes. Wood white, odourless. Trunks bare for 3/4 of length, subadults with a distinctive columnar growth habit, branches arising from 1/3 to 1/2 of trunk length. Branchlets slender, drooping. Leaves of juveniles subdistichous, subpatent, narrow-linear, subfalcate, acuminate, decurrent, 3-7 x 0.5-1mm red, wine-red, dark-green to green.; of subadults less than or equal to 4 mm., dark green or red; those of adults 1-2 mm., imbricating, appressed, keel, subtrigonus, lanceolate-subulate to acuminate with broader base, brown-green or glaucous. Male cones terminal, oblong, 10 mm. Pollen pale yellow. Ovule, terminal, solitary glaucous. Receptacle fleshy, oblong, compressed, warty, 2.5-6.5 mm., yellow to orange-red. Seed broadly obovate to circular (4-)4.5-6 mm diam., purple-black, thickly covered in glaucous bloom.

Flowering:

October - January

Fruiting:

February - April

Threats:

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

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange 12 January 2004: Description adapted from Allan (1961).

References and further reading:

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

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2099



Caption: Fruit.

Photographer: © John Braggins



Caption: *Dacrycarpus dacrydioides*

Photographer: Wayne Bennett

Dacrydium cupressinum

Common Name(s):

rimu, red pine

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South and Stewart Islands from North Cape south. Uncommon in large parts of the eastern South Island. Facultatively extinct on Banks Peninsula, where one natural tree is all that remains. Rimu is the type of the genus *Dacrydium*.

Habitat:

Lowland to montane forest - occasionally ascending to subalpine scrub.

Features*:

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

Fruiting:

Flowering:

December -
March

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

Threats:

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

*Attribution:

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

References and further reading:

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

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

Kirk, T. 1889: The Forest Flora of New Zealand. 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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2100



Caption: Pihanga, Tongariro National Park

Photographer: John Sawyer



Caption: Pihanga, Tongariro National Park

Photographer: John Sawyer

Dicksonia fibrosa

Common Name(s):

wheki-ponga, wheki-kohoonga, golden tree fern, kuripaka

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart, and Chatham islands. Uncommon north of the Waikato River and Coromandel Peninsula

Habitat:

Coastal to montane, Usually in forested situations, often in riparian sites or at gully heads.

Features*:

Stout, non-rhizomatous tree ferns, up to 10 m tall. Trunk up to 1 m diameter, very dense, composed of tightly interwoven, red-brown rootlets, entirely without aerial buds. Fronds numerous, persistent in death, and forming a dense, pendent skirt; in life erect and arching, forming a dense, tight crown 1.2–2.8–3.6 m long, 300–480(–600) mm wide. Stipes 100(–300) mm long, pale brown to red-brown (sometimes golden-brown), smooth, base densely clad with persistent, soft, light red-brown hairs; immature rachises initially clad in soft, pale brown hairs, otherwise glabrate. Lamina (0.9–)2.5–3.3 m long, lanceolate, (2–)3–4-pinnate, abaxially glossy dark green, adaxially paler, harshly coriaceous, primary pinnae 150–280(–300) mm long, lanceolate, long tapering, ± acuminate; secondary pinnae 40–50 mm long, lanceolate, close-set to ± overlapping. Barren pinnules 5 mm long, subfalcate, acute, toothed or entire, widened and confluent at base, shallowly concavo-convex; fertile pinnules rounded, concavo-convex lobes. Sorus ± ovoid to rounded, terminating veins at fertile pinnae margins; sporangia on raised receptacle, partially obscured by in rolled pinnae margin, and submembranous inner indusium. Spores golden brown to red-brown.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (10 October 2010).
Description by P.J. de Lange

References and further reading:

Duguid, F. 1978. Annual growth of new fronds on *Dicksonia fibrosa*.
Wellington Botanical Society Bulletin, 40: 48-49

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1789



Caption: Eastern Wairarapa. Oct 2010.

Photographer: Jeremy Rolfe



Caption: Rangaika, Chatham Island. June 2013.

Photographer: Jeremy Rolfe

Dicksonia squarrosa

Common Name(s):

rough tree fern, harsh tree fern, wheki

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Chatham Islands.

Features*:

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

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

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

References and further reading:

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1791



Caption: *Dicksonia squarrosa*

Photographer: Wayne Bennett



Caption: *Dicksonia squarrosa*

Photographer: Wayne Bennett

Doodia australis

Common Name(s):

rasp fern

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. Kermadec Islands (Raoul and Macauley Islands). New Zealand: Three Kings, North and South Islands from Te Pahi south to Wellington, the Marlborough Sounds, north-west Nelson and Banks Peninsula. Abundant north of the Waikato, otherwise scarce. Present in Australia, Norfolk and Lord Howe Islands.

Habitat:

Coastal to lowland in open or forested sites, within light scrub, in rough pasture, and even known as a weedy fern of urban gardens and environments.

Features*:

Vegetative reproduction by stolons or shortly branching rhizome. Rhizome rarely prostrate and creeping; clad in dense black scales. Fertile and sterile fronds mostly similar sometimes moderately dimorphic. Fronds more or less erect or sterile fronds sometimes inclined to prostrate; harsh; lamina 110-600 mm long. Stipes and rachis bearing brown scales, these more persistent at the stipe base though mostly shed at frond maturation; pubescent. Lower pinnae attached by costae, sometimes with auricles developed, or very rarely adnate to the rachis, lowest pair rarely longer than the pairs immediately above them; middle pinnae usually completely, but often partly, adnate, occasionally decurrent, rarely auriculate; upper pinnae adnate to decurrent. Pinnae c. 20-50 pairs or subopposite; middle pinnae rounded, acute or acuminate at apex. Terminal pinna 3-55 mm long ($1/3 - 1/9 - 1/43$ of frond length). Longest pinnae $5.0-100.0 \times 2.5-10$ mm. Distance between middle pinnae 1-8 mm ($1/2-2X$ pinna width). Sori in one row, a second row often partly to nearly completely developed; discrete to more or less confluent, sometimes covering pinna midrib. Indusium c.2 mm long rarely less. more or less linear.

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (4 March 2012). Description adapted from Parris (1973) where this species was treated as *Doodia media* subsp. *australis*.

References and further reading:

Gasper, A.L.; de Oliveira Dittrich, V.A.; Smith A.R.; Salino, A. 2016: A classification for Blechnaceae (Polypodiales: Polypodiopsida): New genera, resurrected names, and combinations. *Phytotaxa* 275: 191-227

Parris, B.S. 1973: The genus *Doodia* (Blechnaceae: Filicales) in New Zealand. *New Zealand Journal of Botany* 10: 585-610.

Perrie, L.R.; Wilson, R.K.; Shepherd, L.D.; Ohlsen, D.J.; Batty, E.L.; Brownsey, P.J.; Bayly, M.J. 2014: Molecular phylogenetics and generic taxonomy of Blechnaceae ferns. *Taxon* 63: 745-758.

PPG 1: The Pteridophyte Phylogeny Group 2016: A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563-603.

Wilcox, M.; Warden, J. 2017: Botany of Hillsborough coast bush reserves, Manukau Harbour, Auckland. *Auckland Botanical Society Journal* 72: 32-46.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2110



Caption: Kerikeri

Photographer: John Barkla



Caption: Westmere, Whanganui.

Photographer: Colin Ogle

Dysoxylum spectabile

Common Name(s):

kohekohe, New Zealand mahogany

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Islands. In the South Island not extending much beyond the Marlborough Sounds, reaching a southern limit near the Hurunui River (Napenape).

Habitat:

Common and sometimes dominant or co-dominant tree of coastal to lowland forest.

Features:

Tree up to 15 m tall usually with abroad, spreading canopy. Trunk up to 1 m diam., branches stout, erect then spreading. Bark pale brown, under bark green. Leaves compound, imparipinnate, alternate on pulvinate petioles up to 40 mm long, leaflet pairs 4-6, (50-)-150(-200) x (20-)30(-80) mm, opposite to subopposite, bright green, yellow-green to dark green, ovate to obovate-oblong, leathery, margins somewhat undulate. Plants gynodioecious, with fixed female and inconstant males on different trees. Inflorescence a cymose, drooping, panicle arising from trunk and branches (cauliflorous). Flowers c. 30 mm diam., fleshy. Pedicels short. Calyx divided to base, lobes broad-oblong, abruptly pointed, ciliate, petals linear, 10 mm, spreading, waxy white or greenish. Capsules, woody, broad-obovoid to subglobose, 3-4-celled, c. 25 mm long, green. Seeds 2 per cell, orange or scarlet.

Flowering:

March - June

Fruiting:

April - August

Threats:

Not Threatened. However, where possum and rat numbers are high this species is not actively regenerating. Possums defoliate trees, and will heavily browse inflorescences such that few succeed in flowering and setting fruit. Rats are major seed predators. Only where control of these animals is undertaken, or on possum and rodent-free offshore islands can one see kohekohe flowering, fruiting and regenerating freely. If numbers of these introduced animals remain unchecked, it is clear that kohekohe will decline and vanish from large parts of its natural range.

References and further reading:

Duguid, F. 1985. Kohekohe *Dysoxylum spectabile* as an accidental epiphyte. Wellington Botanical Society Bulletin, 42: 11

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=1825



Caption: Colonial Knob Scenic Reserve, Porirua.

Photographer: Jeremy Rolfe



Caption: Colonial Knob Scenic Reserve, Porirua.

Photographer: Jeremy Rolfe

Earina mucronata

Common Name(s):

bamboo orchid, peka-a-waka, spring earina

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North, South, Stewart and Chatham Islands

Habitat:

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

Features*:

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

Flowering:

August - January

Fruiting:

September - April

Threats:

Not Threatened

***Attribution:**

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

References and further reading:

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

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

For more information, visit:

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



Caption: *Earina mucronata* inflorescence

Photographer: Wayne Bennett



Caption: *Earina mucronata* on Kaiikanui Road, Opuawhanga

Photographer: Bill Campbell

Eleocharis sphacelata

Common Name(s):

kutakuta, spikes of doom, bamboo spike sedge, tall spike sedge

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous

Habitat:

Coastal to lower montane (but mainly in lowland areas). Preferring sunny situations where it usually grows in still deep water such as along lake and pond margins often amongst Raupo (*Typha orientalis* C.B.Presl), *Baumea articulata* (R.Br.) Blake. Rarely bordering slowly flowing streams and rivers, or in burn pools and damp depressions within peat bogs.

Features*:

Rhizome 10-15 mm diameter, stout and lignaceous, creeping. Culms 0.3-1.2 m long, 4-12 mm diameter, usually close-packed, linear with obvious internal transverse septa set at regular intervals of 10-100 mm, apices blunted-ended unless fertile. Basal sheaths grey, chartaceous with an oblique orifice; roots 2 mm diameter, red-brown, in a group of up to 5 from the base of each culm. Spikelet 20-70 x 5-10 mm, cylindrical with an acute apex. Lowest glume sterile, almost completely surrounding base of spikelet, very short; upper glumes numerous, imbricate, 6-8 mm long, obovate-oblong, obtuse, not keeled but with a strong median nerve and numerous fine lateral nerves. Hypogynous bristles 6-10, usually greater than nut, with rather large, sparse, retrorse teeth. Stamens 3, Style 3-fid, occasionally stigmas 2, or all connate to the apex. Nut 2.0-2.5 mm long (excluding persistent style-base), orbicular, biconvex, the surface covered with hexagonal reticulations, pale brown, surmounted by the persistent, dark brown, conic, swollen base of the style.

Flowering:

August - December

Fruiting:

November - 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. I. Government Printer, Wellington.

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2123



Caption: *Eleocharis sphacelata*
Photographer: Wayne Bennett



Caption: *Eleocharis sphacelata*
Photographer: Wayne Bennett

Fuchsia excorticata

Common Name(s):

kotukutuku, tree Fuchsia

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1901



Caption: Rotoiti Mainland Island,
Nelson Lakes National Park

Photographer: John Sawyer



Caption: Rotoiti Mainland Island,
Nelson Lakes National Park

Photographer: John Sawyer

Hedycarya arborea

Common Name(s):

Porokaiwhiri, Pigeonwood

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features*:

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

Flowering:

December - February

Fruiting:

March - June

Threats:

Not Threatened

*Attribution:

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

References and further reading:

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

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

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

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

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

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



Caption: Hedycarya arborea (Porokaiwhiri)

Photographer: Wayne Bennett



Caption: Fruit of Hedycarya arborea

Photographer: Wayne Bennett

For more information, visit:

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

Hoheria sexstylosa

Common Name(s):

Houhere, lacebark

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Coastal, lowland to montane riparian forest.

Features*:

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

Flowering:

February - May

Fruiting:

April - August

Threats:

Not Threatened

*Attribution:

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

References and further reading:

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

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=825



Caption: *Hoheria sexstylosa* (Houhere)

Photographer: Wayne Bennett



Caption: Flowers of *Hoheria sexstylosa*

Photographer: Wayne Bennett

Icarus filiformis

Common Name(s):

thread fern, climbing hard fern

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

Gasper, A.L.; de Oliveira Dittrich, V.A.; Smith A.R.; Salino, A. 2016: A classification for Blechnaceae (Polypodiales: Polypodiopsida): New genera, resurrected names, and combinations. *Phytotaxa* 275: 191–227.

Perrie, L.R.; Wilson, R.K.; Shepherd, L.D.; Ohlsen, D.J.; Batty, E.L.; Brownsey, P.J.; Bayly, M.J. 2014: Molecular phylogenetics and generic taxonomy of Blechnaceae ferns. *Taxon* 63(4): 745-758.

PPG 1: The Pteridophyte Phylogeny Group 2016: A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563-603.

Wilcox, M.; Warden, J. 2017: Botany of Hillsborough coast bush reserves, Manukau Harbour, Auckland. *Auckland Botanical Society Journal* 72: 32-46.

For more information, visit:

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



Caption: *Icarus filiformis*

Photographer: Wayne Bennett



Caption: *Icarus filiformis*

Photographer: Wayne Bennett

Juncus edgariae

Common Name(s):

Wiwi, Edgars rush

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Kermadec, North, South, Stewart and Chatham Islands.
Naturalised in Britain

Habitat:

Easily the most common indigenous species. Coastal to alpine (1600 m a.s.l.) but mainly coastal to montane. Usually in open shrubland, fringing wetlands, and in seasonally damp sites. Often found invading pasture and in urban areas.

Features*:

Bright to dark green, orange-green to red-green (drying glossy yellow-green) rather variable perennial forming compact to diffuse tussocks 0.6-2.5 m tall. Rhizome at or just below ground, 5 mm diameter, horizontal, difficult to pull from the soil. Flowering culms 1-3 mm diameter, erect, rather wiry (very hard when dry), smooth, shining; striations 22-60; internal culm pith interrupted irregularly or occasionally continuous; leaves absent; basal bracts dark red-brown below, straw-coloured above, tightly sheathing the stem or the uppermost loosely sheathing. Inflorescence apparently lateral, variable, either many or few-flowered, open with few to many branches bearing flowers in small clusters at the tips of branchlets, or condensed to a compact, central cluster with a few pedunculate side clusters, or a single spherical compact head wider than 10 mm. Flowers 1.5-2.0 mm long; tepals 6, brownish green, later becoming brown, acute to acuminate or mucronate; outer tepals 1.7-2.6 mm long, with fine hyaline margins, inner tepals slightly shorter with broad hyaline margins. Stamens 3, shorter than tepals; anthers 0.4-0.6 mm long < or equal in length to filaments. Capsule 1.5-2.3 mm long, equal to or < tepals, ellipsoid, obovoid, dark golden brown, with a dark brown, obtuse, almost retuse, apiculate tip. Seeds 0.4-0.6 mm long.

Flowering:

October - December

Fruiting:

November - April

Threats:

Not Threatened

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange (1 September 2006).
Description based on Moore & Edgar (1970) (as *J. gregiflorus*)
supplemented by notes taken from Johnson & Wilson (2000).

References and further reading:

Johnson, L.A.S.; Wilson, K.L. 2000: *Juncus edgariae* (Juncaceae) - a new species from New Zealand. *Telopea* 9: 399-402,

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

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=869



Caption: *Juncus edgariae*
Photographer: John Smith-Dodsworth



Caption: Close up of *Juncus edgariae*
Photographer: John Smith-Dodsworth

Knightia excelsa

Common Name(s):

Rewarewa, NZ honeysuckle

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic monotypic genus. North and South Islands. Common in the North Island, but confined to the Marlborough Sounds in the South Island.

Habitat:

A common tree of coastal, lowland and lower montane shrubland, secondary regrowth, and on occasion mature forest. Frost-tender when young so generally scarce from cooler, frost-prone habitats - nevertheless it can be very common in suitable sites on the Central Volcanic Plateau of the North Island.

Features:

Tall tree with columnar (fastigate) growth-form up to 30 m tall. Trunk up to 1 m diam. Bark dark brown. Branches erect, fastigate, at first angled, clad in red-brown (rust-coloured), velutinous, tomentum. Juvenile leaves yellow-green, 150-300(-400) x 10-15 mm, narrowly linear-lanceolate, sometimes forked 2,3 or 4 times, margins acutely serrated. Adult leaves dark green, 100-150(-200) x 25-40 mm, broad lanceolate to narrow-oblong or oblong, sometimes obovate, occasionally forked, rigid, bluntly and coarsely serrated, covered in deciduous velutinous red-brown pubescence. Inflorescence a stout raceme up to 100(-180) mm x 60 mm, densely flowered. Pedicels and perianth clad in red-brown, velutinous tomentum. Flowers sexually perfect. Perianth 4, exterior covered in red-brown tomentum, interior dark crimson, segments at first cylindric and fused, soon separating and curling spirally. Stamens 4, filaments crimson, short, anthers long, linear, rich golden-yellow. Ovar sessile. Style long, crimson, long persistent. Fruits, follicles 30-40 mm long, 2-valved, woody, pubescent; valves tapering to persistent style. Seeds 10 mm, apex terminated by 15 mm long wing.

Flowering:

(September-)
October-December

Fruiting:

October-January (fruit takes a year to mature, so fruit and flowers may co-occur)

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=1383



Caption: Rangitoto Island
Photographer: John Barkla



Caption: Manurewa
Photographer: Gillian Crowcroft

Kunzea robusta

Common Name(s):

manuka, kanuka, kopuka, rawirinui, maru, manuka rauriki

Current Threat Status (2013):

Not Threatened

Distribution:

Endemic. New Zealand: North and South Islands.

Habitat:

Coastal to lowland shrubland, regenerating forest and forest margins, also present in montane forest, ultramafic shrubland and very occasionally present in subalpine shrubland (up to 900 m a.s.l.).

Features*:

Trees 8–30 m tall. Trunk 1–6, 0.10–1.0 m d.b.h. Bark stringy, or coarsely tessellated, coriaceous, firmly attached above, detaching basally, often hanging semidetached; peeling upwards along trunk in narrow to broad, tabular strips up to 4 m long. Branches initially erect, soon arching outwards and spreading; branchlets numerous, slender; sericeous, indumentum copious, hairs either long or short antrorse-appressed; if long, then weakly flexuose 0.15–0.38 mm long; if short, not flexuose, 0.09–0.15 mm long. In eastern Coromandel Peninsula and coastal East Cape to Mahia Peninsula, branchlet indumentum in mixtures of divergent 0.03–0.08 mm long hairs, and sparse, 0.1–0.2 mm long, antrorse-appressed hairs. In the Rangitikei region, branchlet hairs of seedling and juveniles divergent, short 0.04–0.10 mm long. Leaves sessile to shortly petiolate, light green or dark green above, paler beneath; oblanceolate, broadly oblanceolate, broadly lanceolate, lanceolate to linear-lanceolate, rarely elliptic to obovate; apex subacute to acute, rarely obtuse, rostrate or shortly apiculate, base attenuate to narrowly attenuate; lamina margin initially finely covered with a thin, interrupted band of spreading to antrorse-appressed hairs not or rarely meeting at apex; hairs shedding with age. Lamina of juvenile plants from coastal areas and northern North Island 14.6–28.4 × 1.6–2.5 mm; from inland areas, 3.2–6.3 × 0.7–1.5 mm; adult lamina of plants from coastal areas and northern North Island 4.9–20.1 × 0.9–3.0 mm; from inland areas, 5.8–12.3 × 1.2–2.2. Inflorescence mostly a compact corymbiform to shortly elongate 1–30-flowered botryum up to 60 mm long; extending near end of flowering season as an 4–12-flowered, elongate botryum up to 80 mm long;. Pherophylls deciduous or persistent; squamiform grading into foliose; squamiform pherophylls 0.4–1.2 × 0.3–0.6 mm, broadly to narrowly deltoid or lanceolate, apex acute, subacute to obtuse, margins finely ciliate; foliose pherophylls 6.0–17.9 × 1.1–1.8 mm, elliptic, oblanceolate, broadly lanceolate to lanceolate, apex obtuse, base attenuate; margin densely covered by antrorse-appressed hairs. Pedicels 1.2–5.2 mm long at anthesis. Flower buds pyriform to obconic, apex flat or weakly domed prior to bud burst; calyx valves not meeting. Flowers 4.3–12.0 mm diameter. Hypanthium 2.1–4.1 × 3.0–5.2 mm, broadly obconic to turbinate, sometimes cupular, rim bearing five persistent calyx lobes. Hypanthium surface when fresh faintly ribbed and sparingly dotted with pink or colourless oil glands, these drying dull yellow-brown or brown; either finely pubescent with the ribs and veins conspicuously covered in longer silky, antrorse-appressed hairs, or glabrous; hypanthium similar when dry though with the ribs more strongly defined and clearly leading up to calyx lobes. Calyx lobes 5, coriaceous, 0.52–1.1 × 0.60–1.4 mm, broadly ovate, ovate-truncate to broadly obtuse, glabrate. Receptacle green or pink at anthesis, darkening to crimson after fertilisation. Petals 5–6, 1.5–3.8 × 1.3–3.6 mm, white, rarely pink, orbicular, suborbicular to ovate, apex rounded to obtuse, oil glands colourless. Stamens 15–58 in 2 weakly defined whorls, filaments white. Anthers 0.38–0.63 × 0.18–0.32 mm, ellipsoid to ovoid-ellipsoid or deltoid. Pollen white. Anther connective gland prominent, light pink, salmon pink, yellow to orange when fresh, drying dark orange, orange-brown or dark brown, spheroidal, finely rugulose or papillate. Ovary 5–6 locular. Style 2.0–3.5 mm long at anthesis, white or pinkish-white; stigma broadly capitate, flat, greenish-white or pale pink, flushing red after anthesis. Fruits 2.2–4.6 × 3.2–5.3 mm, maturing greyish white, obconic, broadly obconic to ± turbinate, rarely cupular; hairy, (rarely glabrous). Seeds 0.9–1.1 × 0.35–0.48 mm, oblong, oblong-obovate, oblong-elliptic; testa semi-glossy, orange-brown to dark brown, surface coarsely reticulate.

Flowering:

August–June

Fruiting:

Jul–May

Threats:

Not Threatened.

*Attribution:

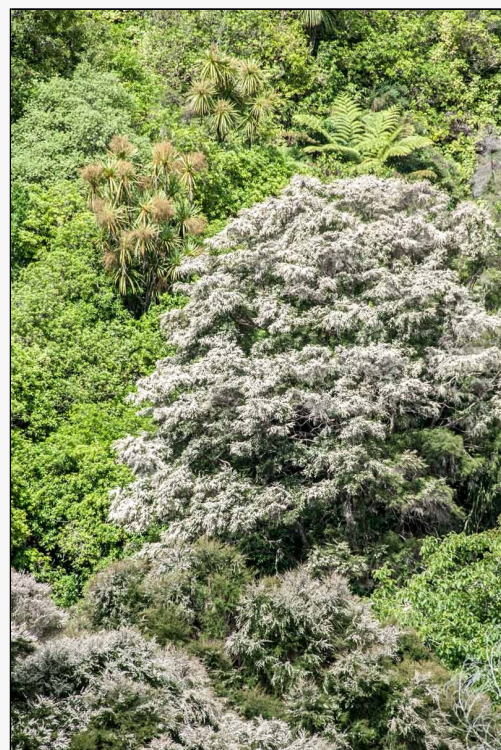
Fact Sheet prepared for NZPCN by P.J. de Lange 10 September 2014. Description modified from de Lange (2014).

References and further reading:

de Lange, P.J. 2014: *A revision of the New Zealand Kunzea ericoides* (Myrtaceae) complex. *Phytokeys* 40: 185p doi: 10.3897/phytokeys.40.7973.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=7644



Caption: Mohaka River viaduct.
Photographer: Jeremy Rolfe

Laurelia novae-zelandiae

Common Name(s):

Pukatea

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=901



Caption: *Laurelia novae-zelandiae*

Photographer: John Smith-Dodsworth



Caption: Lake Rotokare,
Taranaki. Jun 2012.

Photographer: Colin Ogle

Leptospermum scoparium var. *scoparium*

Common Name(s):

manuka, tea tree, kahikatoa

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous to New Zealand and Australia. Most Australian forms of *L. scoparium* do not match the range seen in New Zealand. However, plants from Tasmania are very similar to, if not identical with some South Island forms, differing mainly by their wider leaf base, and longer, more pungent leaf apex. Manuka was also collected once from Rarotonga by Thomas Cheeseman in the 1800s. It has not been found there since, and is assumed to have been a failed introduction. Further study using DNA sequencing is underway to resolve the status of *L. scoparium* forms both here and in Australia.

Habitat:

Abundant from coastal situations to low alpine habitats.

Features*:

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

Flowering:

Throughout the year

Fruiting:

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

Threats:

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

*Attribution:

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

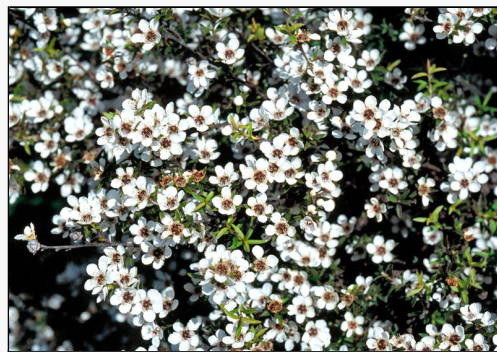
References and further reading:

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2302



Photographer: © John Braggins



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

Photographer: Wayne Bennett

Leucopogon fasciculatus

Common Name(s):

Mingimingi, tall mingimingi

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

References and further reading:

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

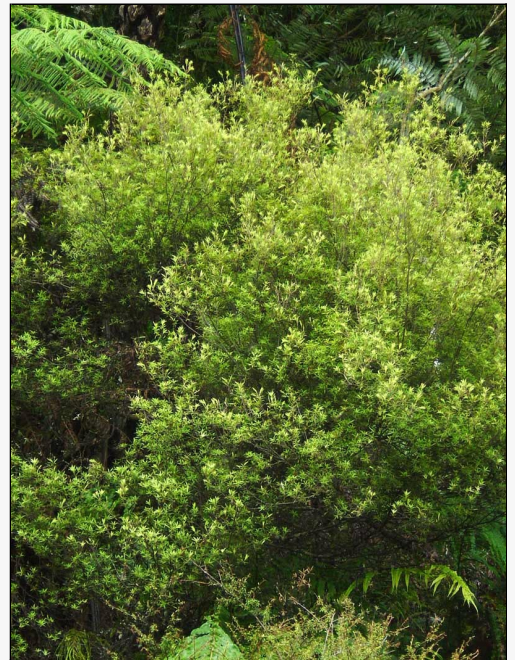
For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=925



Caption: Flowers of *Leucopogon fasciculatus*

Photographer: Wayne Bennett



Caption: *Leucopogon fasciculatus* (Mingimingi)

Photographer: Wayne Bennett

Machaerina rubiginosa

Common Name(s):

Baumea

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: North, South, Stewart and Chatham Islands. Also New Guinea, New Caledonia and Australia

Habitat:

Coastal to montane (up to 900 m a.s.l.) in most freshwater wetlands; especially favouring low moor peat bogs, the margins of restiad bogs and their burn pools, more rarely on the margins of lakes, tarns and slow-flowing streams where it may grow with *Machaerina arthropylla*.

Features*:

Glaucous to bright-green, rhizomatous sedge. Rhizome 2–4 mm diameter, horizontal, shortly creeping, wiry, fibrous, covered with a loose coat of closely imbricating papery scales. Culms 0.3–1.2 m tall, 1.0–2.5 mm, terete, soft, light blue-green, darkly glaucous or bright-green. Lower leaves reduced to grey-brown, membranous, mucronate sheaths; upper leaves 1–3, terete like the culms, < or ± = culms, internally septate, tips subulate, acute. Inflorescence a panicle, 60–350 mm long, rounded at the tip, interrupted, with branchlets in distant fascicles, stoutest lateral branchlet arising from lowest spathaceous bract c.1 mm diameter; bracts subtending upper fascicles acuminate, membranous, red-brown. Spikelets 4.5–6.0 mm long, clustered, red-brown, 2–4-flowered, 1 or occasionally 2 flowers fertile. Glumes 4–5, ovate, acuminate, membranous, streaked with red, margins ciliate, scabrid towards the tip and on the keel. Nut 3.0–4.0 x c.1.5 mm, elliptic-oblong, pale- or orange-yellow, smooth, trigonous while immature; beak small, grey or black, acute, trigonous, puberulous.

Flowering:

October - December

Fruiting:

Throughout the year

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (8 September 2006). Description adapted from Moore & Edgar (1970)

References and further reading:

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

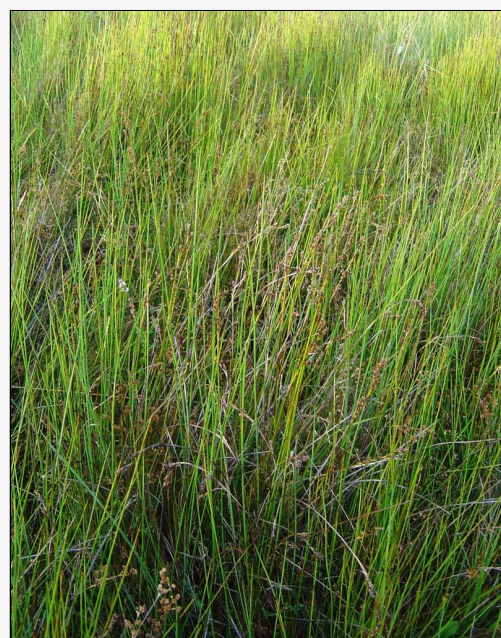
Thorsen, M. J.; Dickinson, K. J. M.; Seddon, P. J. 2009. Seed dispersal systems in the New Zealand flora. *Perspectives in Plant Ecology, Evolution and Systematics* 2009 Vol. 11 No. 4 pp. 285-309

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2025



Caption: *Baumea rubiginosa*
Photographer: Wayne Bennett



Caption: *Baumea rubiginosa*
Photographer: Wayne Bennett

Melicytus ramiflorus

Common Name(s):

mahoe, hinahina, whitey wood

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features:

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

Flowering:

November - February

Fruiting:

November - March

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=973



Caption: Carter Scenic Reserve, Wairarapa

Photographer: John Sawyer



Caption: Carter Scenic Reserve, Wairarapa

Photographer: John Sawyer

Microsorium pustulatum subsp. *pustulatum*

Common Name(s):

hounds tongue, kowaowao, paraharaha

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features*:

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

Flowering:

Not applicable - spore producing

Fruiting:

Not applicable - spore producing

Threats:

Not Threatened

*Attribution:

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

References and further reading:

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

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

For more information, visit:

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



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

Photographer: Wayne Bennett



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

Photographer: Wayne Bennett

Muehlenbeckia australis

Common Name(s):

Pohuehue, large-leaved muehlenbeckia

Current Threat Status (2012):

Not Threatened

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=990



Caption: Fruit. Stokes Valley, Lower Hutt. Apr 2013.

Photographer: Jeremy Rolfe



Caption: Fruit. Stokes Valley, Lower Hutt. Apr 2013.

Photographer: Jeremy Rolfe

Myrsine australis

Common Name(s):

Red mapou, red matipo, mapau, red maple

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Common tree of regenerating and mature forest in coastal to montane situations. Often common on northern offshore islands.

Features*:

Shrub or small tree up 6 m tall. Trunk stout, 0.2-0.6 m diam. Bark dark black or purple-black, red on younger branches. Branchlets numerous erect to spreading, very leafy. Petioles stout, fleshy, 5 mm long, often red or green mottled red. Leaves 30-60 x 15-25 mm, dark green to yellow-green variously mottled or blotched with red, or purple spots, leathery, glabrous except for finely pubescent mid vein, obovate-oblong to broad-elliptic, apex obtuse, margins entire, strongly undulate, rarely flat. Inflorescence a fascicle, usually numerous and crowded, produced along branchlets and in leaf axils. Fixed female and inconstant male flowers on different plants, 1.5-2.5 mm diam., white, cream or pale green. Pedicels short, stout, dark red or purple-black. Calyx-lobes 4, sometimes heavily reduced, long persistent. Petals 4, lanceolate, obtuse, free, revolute. Fruit a 1-seeded drupe, 2-3 mm diam., purple-black to black when mature.

Flowering:

August - January

Fruiting:

September - May

Threats:

Not Threatened

*Attribution:

Fact Sheet Prepared for NZPCN by: P.J. de Lange 28 October 2009.
Description based on Allan (1961)

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1007



Caption: Male flowers. Rimutaka Forest Park.

Photographer: Jeremy Rolfe



Caption: Male flowers. Rimutaka Forest Park.

Photographer: Jeremy Rolfe

Paesia scaberula

Common Name(s):

Lace fern, Ring fern, Scented fern

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

Coastal to montane. An often common fern of open or disturbed ground, rough pasture, grassland or reverting farmland - where it often is considered a serious pest.

Features*:

Terrestrial ferns. Rhizome long-creeping, much branched, stiff and somewhat brittle, 1–2 mm diameter, chestnut-brown, densely clad in slender red-brown, bristly hairs. Stipes 50–400 × 1–2 mm, stiff, muricate to almost smooth, densely clad in slender, bristly, red-brown hairs (especially near base) and short, glandular, yellow hairs in upper portion. Rhachis strongly to slightly zig-zagged, strongly muricate to smooth. Laminae 2–3–4-pinnate, 100–800 × 50–350 mm, deltoid to ovate or elliptic, stiffly coriaceous to subcoriaceous, adaxially yellow-green to yellow, abaxially, covered by numerous, short, glandular hairs, midribs bearing bristly red-brown hairs; veins obscure, free. Pinnae finely dissected, primary pinnae shortly stalked, 70–200 × 30–50 mm, ovate to lanceolate, acuminate. Secondary pinnae shortly stalked, up to 25 × 10 mm, lanceolate. Segments decurrent, pinnatisect to almost pinnate, up to 5 × 2 mm, narrow, sharply toothed or incised, often apiculate. Sori usually copious, extending along both margins of segments, but not reaching base or apex. True indusium delicate, often vestigial

Flowering:

Not Applicable - Spore Producing

Fruiting:

Not Applicable - Spore Producing

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (8 November 2012). Description adapted from Allan (1961) and Brownsey & Smith-Dodsworth (2000).

References and further reading:

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

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=1084



Caption: Coromandel

Photographer: John Smith-Dodsworth



Caption: Coromandel

Photographer: John Smith-Dodsworth

Parablechnum minus

Common Name(s):

swamp kiokio

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: North, South, Chatham Islands. Also Australia from where it was first described.

Habitat:

Coastal to lower montane in swampy ground within swamp forest, wetlands and along the margins of freshwater lakes, streams and rivers.

Features*:

Rhizome creeping to erect. Fronds dimorphic, 0.10–1.65 × 0.025–0.42 m. Stipe 20–330 mm long, stramineous to red-brown, darkening towards the base; scales cordate to linear, acuminate to subulate, entire to slightly dentate, brown to red-brown, often darker at the base of the scale. Lamina lanceolate to ovate, pinnate, with 3–37 pairs of pinnae; rachis and costae stramineous, brown to red-brown, scaly; scales linear, subulate, entire to somewhat dentate, stramineous to dark red-brown (rarely with broad cordate bases); sterile pinnae narrowly oblong with acute apices, 15–220 × 5–17 mm, shortly stalked towards lamina base, basiscopically adnate and sometimes winged at apex; margins finely serrate; basal pinnae auriculate; fertile pinnae 0.06–0.21 m long, 1.5–5.0 mm wide; lowest pinnae with expanded sterile segments at rachis.

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange (19 September 2012). Description adapted Chambers & Farrant (1998b)

References and further reading:

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

Chambers, T.C.; Farrant, P.A. 1998b: Blechnaceae. *Flora of Australia* 48: 359-384. ABRS/CSIRO Australia, Victoria

Gasper, A.L.; de Oliveira Dittrich, V.A.; Smith A.R.; Salino, A. 2016: A classification for Blechnaceae (Polypodiales: Polypodiopsida): New genera, resurrected names, and combinations. *Phytotaxa* 275: 191–227.

Perrie, L.R.; Wilson, R.K.; Shepherd, L.D.; Ohlsen, D.J.; Batty, E.L.; Brownsey, P.J.; Bayly, M.J. 2014: Molecular phylogenetics and generic taxonomy of Blechnaceae ferns. *Taxon* 63(4): 745-758.

PPG 1: The Pteridophyte Phylogeny Group 2016: A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563-603.

Pyner, T. 2017: A new classification of *Blechnum*. British Pteridological Society. <https://ebps.org.uk/new-classification-blechnum/>

Wilcox, M.; Warden, J. 2017: Botany of Hillsborough coast bush reserves, Manukau Harbour, Auckland. *Auckland Botanical Society Journal* 72: 32-46.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2070



Caption: *Blechnum minus*

Photographer: Wayne Bennett



Caption: Matapaua Bay, Coromandel

Photographer: John Smith-Dodsworth

Parablechnum 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.

Gasper, A.L.; de Oliveira Dittrich, V.A.; Smith A.R.; Salino, A. 2016: A classification for Blechnaceae (Polypodiales: Polypodiopsida): New genera, resurrected names, and combinations. *Phytotaxa* 275: 191-227.

Perrie, L.R.; Wilson, R.K.; Shepherd, L.D.; Ohlsen, D.J.; Batty, E.L.; Brownsey, P.J.; Bayly, M.J. 2014: Molecular phylogenetics and generic taxonomy of Blechnaceae ferns. *Taxon* 63(4): 745-758.

PPG 1: The Pteridophyte Phylogeny Group 2016: A community-derived classification for extant lycophytes and ferns. *Journal of Systematics and Evolution* 54: 563-603.

Pyner, T. 2017: A new classification of *Blechnum*. British Pteridological Society. <https://ebps.org.uk/new-classification-blechnum/>

Wilcox, M.; Warden, J. 2017: Botany of Hillsborough coast bush reserves, Manukau Harbour, Auckland. *Auckland Botanical Society Journal* 72: 32-46.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1552



Caption: *Parablechnum novae-zelandiae*

Photographer: Wayne Bennett



Caption: *Parablechnum novae-zelandiae*

Photographer: Wayne Bennett

Phormium tenax

Common Name(s):

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

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features:

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

Flowering:

(September-) October-November (-January)

Fruiting:

(November-) December (-March)

Threats:

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

References and further reading:

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

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

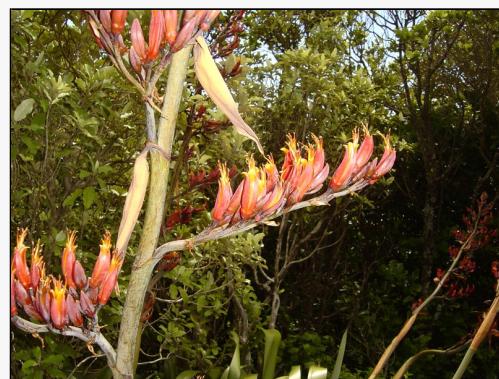
For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2219



Caption: *Phormium tenax*

Photographer: Wayne Bennett



Caption: Flowers of *Phormium tenax*

Photographer: Wayne Bennett

Phyllocladus trichomanoides

Common Name(s):

Tanekaha, celery pine

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North and South Islands. In the North Island widespread from Te Pahi to about the northern Manawatu - after which it is scarce. In the South Island confined to the Marlborough Sounds, northern Richmond Range and North-West Nelson from Puponga south to about Kahurangi Light and across to Abel Tasman National Park.

Habitat:

Found from sea level to c.1000 m a.s.l. Tanekaha is a common tree in northern New Zealand where it often found growing in association with kauri (*Agathis australis*) on ridge lines. Tanekaha is also common in secondary regrowth forest overlying poorly draining and/or infertile soils. It can be very common in reverting fire-induced gumland scrub. In the Central North Island tanekaha-dominated forest is locally common overlying ignimbrite rock and this forest type is very much a feature of the northern Taupo - King Country - Atiamuri area where extensive tanekaha-dominated forests are present overlying such high aspect ratio ignimbrites as the Whakamaru Ignimbrite. Further south Tanekaha is rarely such a major component of the forest canopy.

Features*:

Monoecious tree up to 25 m, trunk up to 1 m diameter; phylloclades alternate, pinnately arranged on whorled rachides up to 300 mm long. Leaves of juveniles up to 20 mm long, narrow-linear, deciduous; of adults much smaller. Phylloclades 10-15 per rachis, irregularly and broadly rhomboid, flabellately lobed, cuneate at base; lobes obtuse to truncate, margins minutely crenulate; leaf-denticles small, subulate, 1.5-3.0 mm long, up to 1.5 mm wide. Male strobili terminal in clusters of 5-10, pedicels 3-10 mm long; staminal portion c.10 mm long, apiculus small, triquetrous; carpoidia rather thick, marginal on reduced final phylloclades up to 30 mm long, in clusters of 6-8; seeds nutlike, exserted beyond white, fleshy, irregularly crenulate cupule, c.3 mm long.

Flowering:

September - December

Fruiting:

January - April

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 1 August 2004. Description adapted from Allan (1961).

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1117



Caption: *Phyllocladus trichomanoides* (Tanekaha)

Photographer: Wayne Bennett



Caption: Catkins of *Phyllocladus trichomanoides*

Photographer: Wayne Bennett

Piper excelsum subsp. *excelsum*

Common Name(s):

kawakawa, pepper tree

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Islands. Common from te Pahi south to about Okarito, North Canterbury and Banks Peninsula.

Habitat:

Coastal to lowland (extending up 500 m a.s.l. in warmer parts of the country). Usually an important understorey species in coastal forest.

Features*:

Small tree to at least 5 m tall; stems erect (occasionally layering), not notably lenticellate, new shoots red-green or green (leaf nerves, petioles and new stems with reddish colouring), taste peppery; pith of axes (including rachis of spike) without a mucilage core. Prophyll a collar to 0.3 (-2.2) mm high. Leaf blades submembranous, orbicular, suborbicular, at vegetative nodes to 100(-120) mm diameter, usually with 5-8 principal nerves, cordate at base, with a very narrow or closed sinus, occasionally basal lobes overlapping, upper surface of blade not bullate; petiole to 40(-60) mm long, c.0.4×as long as blade, the sheath 0.3-1.0(-2)× as long as non-sheathing part, truncate-rounded at apex and not produced there, the non-sheathing part of petiole to 4.0 mm diameter. Inflorescences solitary or 2-3 together on a short (rarely more than 10 mm long) axillary shoot, and (usually solitary) on the adjacent terminal shoot (occasionally this shoot not fertile); reduced leaf at apex of fertile shoot with a glabrous petiole and usually with a green oblong lamina at least 5 mm long, but lamina often ± lacking, especially on terminal fertile shoot. Female inflorescence erect in flowering and remaining so into fruit, peduncle to c. 1.5 cm long, spike to 60(-100) × c.6 mm diameter, with uniseriate usually 5-10-cellular hairs to 0.15 mm long on lower part of bract stalks and sparingly on rachis, these hairs not obvious on the peduncle just below the lowermost bracts; bracts peltate, bract heads 0.40-0.75 mm diameter; flowers at full emergence centred c.1.3 mm apart, emergent part of ovary ovoid; stigmas 3-4(-5), together c. 1.2 mm diameter. Male inflorescence erect, spike to c.110 mm long, proximally c.6 mm diameter, bracts and hairs as in female inflorescence; staminal filaments c. 0.25 mm long, anthers c.1.00 × 0.75 mm wide. Ripe infructescence c.10 mm diameter; fruitlets coalescent, sunken apically about the persistent dark stigmas, exocarp and mesocarp orange; seed oblong to slightly obovoid, apiculate at apex, c.2.0 × 1.5 dark brown, with (3-)4-5(-7) broad longitudinal furrows.

Flowering:

August - November

Fruiting:

Throughout the year

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 30 August 2005. Description based on Gardner (1997).

References and further reading:

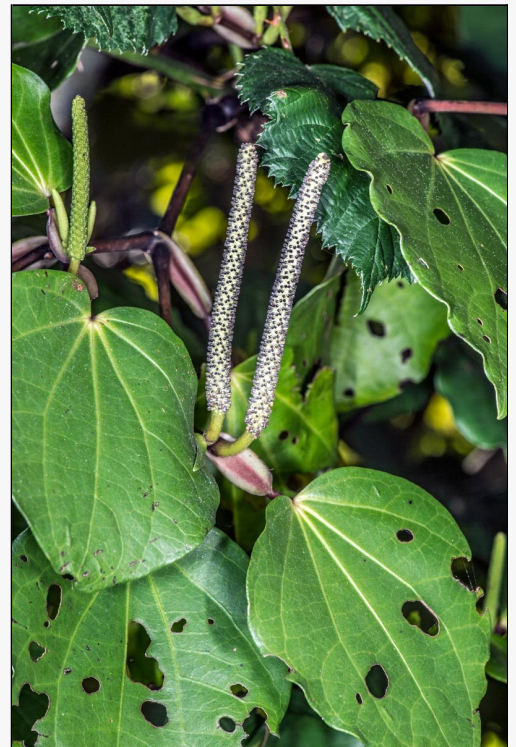
de Lange, P.J. 2012: Taxonomic notes on the New Zealand flora: new names in *Piper* (Piperaceae). *New Zealand Journal of Botany* DOI:10.1080/0028825X.2012.708904

Gardner, R.O. 1997: *Macropiper* (Piperaceae) in the south-west Pacific. *New Zealand Journal of Botany* 35: 293-307.

Jaramillo, M.A.; Callejas, R; Davidson, C.; Smith, J.F.; Stevens, A.C.; Tepe, E.J. 2008: A phylogeny of the tropical genus *Piper* using ITS and the chloroplast intron psbJ-petA. *Systematic Botany* 33: 647-660.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=964



Caption: Lower Hutt. Jul 2013.
Photographer: Jeremy Rolfe



Caption: Cathedral Cove,
Coromandel
Photographer: John Sawyer

Pittosporum tenuifolium

Common Name(s):

Kohukohu, kohuhu, black matipo

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic and widespread throughout country.

Habitat:

A small tree of coastal to montane shrubland and forested habitats. Preferring successional habitats.

Features*:

Shrub or small gynodioecious tree up to 10 m tall (usually much less). Trunk 0.3-0.4(-0.6) m diam., stout, clad in dark grey-black or brown persistent bark. Branches numerous, erect then spreading. Branchlets and young leaves pubescent, hairs pale yellow or cream. Petioles short, somewhat fleshy. Leaves alternate, (10-)30(-70) x (5-)10(-20) mm, leathery, pale-green to dark green above, lighter below, oblong, oblong-ovate or elliptic-obovate, apex obtuse to acute, rarely acuminate, margins entire, often undulose. Flowers solitary or in axillary cymes, rather fragrant, especially at night. Pedicels stout, pale green, fleshy, bracts entire, lanceolate, caducous. Sepals narrowly ovate-oblong, subacute to obtuse, silky hairy. Petals 12 mm long, lanceolate, dark red, black (rarely yellow or white). Capsules 2-valved (rarely 3), subglobose, valves woody, black when mature, long persistent. Seeds immersed in sticky, red or yellow viscid pulp.

Flowering:

October - November (-December)

Fruiting:

January - March

Threats:

Not Threatened

*Attribution:

Fact sheet prepared for NZPCN by P.J. de Lange 10 January 2004. Description adapted from Allan (1961).

References and further reading:

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

For more information, visit:

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



Caption: *Pittosporum tenuifolium* in flower Dunedin

Photographer: John Barkla



Caption: Quail Island

Photographer: John Barkla

Plagianthus regius subsp. regius

Common Name(s):

Manatu, ribbonwood, lowland ribbonwood

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: North, South and Stewart Islands

Habitat:

Coastal to lower montane. Often a prominent tree in lowland alluvial forest.

Flowering:

September - November

Threats:

Not Threatened

References and further reading:

Wilcox, M.D. 2002. Lowland ribbonwood *Plagianthus regius* at Clevedon. Auckland Botanical Society Journal, 57: 144-146

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1142



Caption: Bark, Dunedin

Photographer: John Barkla



Caption: Woodhaugh, Dunedin

Photographer: John Barkla

Podocarpus totara var. *totara*

Common Name(s):

Totara

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Common throughout most of the North and South Islands. Present but extremely scarce on Stewart Island (Freshwater River).

Habitat:

Widespread and at times abundant tree of lowland, montane and lower subalpine forest. May also form a vegetation type in which it is the dominant species.

Features:

Robust dioecious conifer up to 30 m tall. Trunk stout, 2-3 m diam., clad in thick, corky, furrowed and somewhat stringy reddish-grey bark. Trunk without branches at base, branches stout, erect to spreading. Leaf bud narrower than or the same diam., as branchlet, surrounded by caducous, papery, narrowly lanceolate bracts. Leaves brownish-green, erect, leathery; juvenile 20 x 1-2 mm, adults 15-30 x 3-4 mm., linear-lanceolate, acute, apex pungent, mid-vein distinct to obscure. Male cones (strobili) axillary 10-15 mm, solitary or in 4s. Female branchlets axillary, ovules solitary or paired, receptacle of 2-4 scales, acute and free at tips, maturing as a red, swollen, succulent, sweet tasting "fruit" this surmounted by a 1(-2) broadly elliptic, ovoid-oblong 3-6 mm, semi-glossy, buff, grey nut brown, henna or dark brown (green to glaucous-green) when fresh, seed.

Fructing:

Flowering:
(August-)
October (-
December)

Fruits take a year or so to ripen, and may be found throughout the year, usually peaking at about the same time that cones are produced. They are most frequently seen between April and May

Threats:

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

References and further reading:

Gardner, R. 1990. Totara and Halls totara. *Auckland Botanical Society Journal*, 45:27-28.

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

Landcare Research. *Nga Tipu Whakaoranga - Maori Plant Use Database*.
<http://maoriplantuse.landcareresearch.co.nz/WebForms/default.aspx>

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1176



Caption: Podocarpus totara var. totara at Pokemokemoke

Photographer: Wayne Bennett



Caption: Seeds of Podocarpus totara var. totara

Photographer: Wayne Bennett

Polystichum neozelandicum subsp. *neozelandicum*

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: Three Kings, North and Chatham Islands. Common from Te Pahi south to Awakino and Bay of Plenty (exact southern limits not clear). On the Chatham Islands it is scarce.

Habitat:

Coastal to lowland (extending rarely into lower montane habitats). Common fern of forested hillsides and banks, coastal cliff faces (under scrub), usually in well-lit conditions. It has also extended its range into urban situations where it sometimes a feature of roadside banks and cuttings.

Features*:

Rhizomes short, erect. Stipes 100–420 mm long. Stipes and rachises moderately to densely scaly. Scales obviously scale-like to the naked-eye; usually acicular-lanceolate; usually widest in the basal third of length; those from the stipe-rachis junction usually 135–570 µm wide at mid length; mid to dark brown, often appearing black to the naked eye; apex tapering; margins almost always with projections which usually taper to cilia-like apices; underlain by smaller scales, including 'arachnioid' scales with fimbriate bases. Lamina 175–525 × 90–220 mm, bipinnate with the basal primary pinnae of some large fronds becoming tripinnate; usually forest green with primary and secondary costae blackish blue. Primary pinnae in 11–25 pairs, the longest 45–120 × 5–38 mm. Secondary pinnae stalked and free towards the base of primary pinnae, becoming sessile and adnate towards the apex of primary pinnae; with sharply pointed apices and usually additional marginal teeth and/or crenulations. Sori round. Indusia peltate, ± flat, ± round, with entire, although often undulate and/or scalloped, margins; persistent; central dark area always significant and obvious (15–60% surface area, and usually > c. 30%).

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 Perrie et al. (2003).

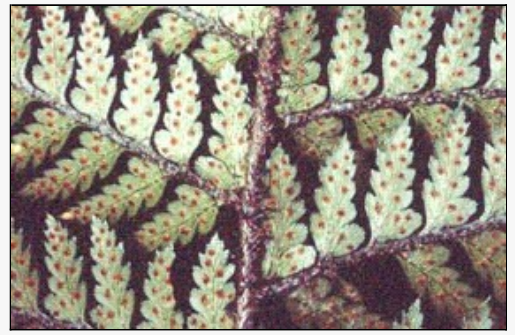
References and further reading:

de Lange, P.J.; Heenan, P.B.; Rolfe, J.R. 2011: Checklist of vascular plants recorded from the Chatham Island Islands. Department of Conservation, Wellington. 57pp.

Perrie, L.R.; Brownsey, P.J.; Lockhart, P.J.; Large, M.F. 2003A: Evidence for an allopolyploid complex in New Zealand *Polystichum* (Dryopteridaceae). *New Zealand Journal of Botany* 41: 189–215.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1179



Caption: Kennedy Bay

Photographer: John Smith-Dodsworth



Caption: Kennedy Bay

Photographer: John Smith-Dodsworth

Prumnopitys taxifolia

Common Name(s):

Matai, black pine

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features:

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

Flowering:

(October-) November - February

Fruiting:

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

Threats:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1193



Caption: Matai with female cones

Photographer: Bill Clarkson



Caption: Cones of *Prumnopitys taxifolia* (male)

Photographer: Wayne Bennett

Pseudopanax crassifolius

Common Name(s):

Horoeka, lancewood

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features*:

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

Flowering:

January-April

Fruiting:

January-April

Threats:

Not Threatened

*Attribution:

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

References and further reading:

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

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1196



Caption: *Pseudopanax crassifolius*

Photographer: Wayne Bennett



Caption: Seeds of *Pseudopanax crassifolius*

Photographer: Wayne Bennett

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

Pyrrosia elaeagnifolia

Common Name(s):

leather-leaf fern, Pyrrosia

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features*:

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

Flowering:

N.A.

Fruiting:

N.A.

Threats:

Not Threatened

***Attribution:**

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

For more information, visit:

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



Photographer: Rebecca Stanley



Caption: Rangaika, Chatham Island. June 2013.

Photographer: Jeremy Rolfe

Rumohra adiantiformis

Common Name(s):

leathery shield fern, florists fern

Current Threat Status (2012):

Not Threatened

Distribution:

Indigenous. New Zealand: Three Kings, North, South, Stewart and Chatham Islands. Also Central and South America, southern Africa, Madagascar, the Mascarenes, Seychelles, New Guinea, Australia and New Zealand (depending on the way *R. adiantiformis* is circumscribed)

Habitat:

Coastal to montane. Epiphytic, lithophytic or terrestrial in forest or dense scrub. Usually in indigenous forest but also commonly seen epiphytic on willow (*Salix* spp.) along river banks, in gullies and on the margins of wetlands.

Features*:

rhizome 10–15 mm diameter, densely covered in long, golden brown to red-brown scales; margins entire or minutely toothed; apices acuminate. Fronds often widely spaced or aggregated toward rhizome apices, 0.2–0.9 m long. Stipes 0.2–0.8 m long, thick, densely invested by peltate, golden brown scales. Lamina 2–3-pinnate, coriaceous, 100–500 × 70–400 mm, ovate to deltoid, adaxially glossy dark green to yellow-green (sometimes pale orange-green), abaxially paler and dull, ± scaly. Primary and lower secondary pinnae stalked; ultimate segments oblong, obtused to rounded, crenate to bluntly lobed; veins immersed. Sori black when mature; indusium with a dark centre.

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 Jones (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

Jones, D.L. 1998: *Rumohra* Pp. 401-402. *Flora of Australia* 48. *Flora of Australia* 48. Australian Biological Resources Study, CSIRO Canberra

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2241



Caption: Rangaika, Chatham Island. June 2013.

Photographer: Jeremy Rolfe



Caption: Western Hutt hills.

Photographer: Jeremy Rolfe

Schefflera digitata

Common Name(s):

Patete, pate, seven-finger

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Widespread. North, South and Stewart Islands.

Habitat:

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

Features:

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

Flowering:

February-March

Fruiting:

February-March

Threats:

Not Threatened

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1281



Caption: Waipoua Forest, Northland

Photographer: John Sawyer



Caption: Schefflera digitata (Patete)

Photographer: Wayne Bennett

Sophora microphylla

Common Name(s):

Kowhai, weeping kowhai, small-leaved kowhai

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. Throughout the main islands of New Zealand but scarce in parts of Northland.

Habitat:

In the North Island, especially the northern half this is a species of mainly riparian forest. South of about Hamilton it can be found in a diverse range of habitats from coastal cliff faces and associated wetlands to inland grey scrub communities. Scarce to absent over large parts of the eastern North Island from about East Cape south to the northern Wairarapa.

Features*:

Tree up to 25 m tall, usually a single trunk. Branches weeping, and spreading. Juveniles divaricating and/or strongly flexuose, and interlacing. Leaves on seedlings sparsely to moderately leafy, 3-5.8 x 2.3-4.9 mm, broadly obovate to orbicular, glabrous to sparsely pubescent, distant, not crowded or overlapping. Adult leaves up to 150 mm long, imparipinnate, moderately to sparsely hairy, hairs, straight, appressed. Leaflets 30-50, not crowded or overlapping, distant, 4.5-12.5 x 2.3-5.7 mm, elliptic, broadly elliptic, obovate to ovate, sometimes orbicular, distal and proximal leaflets of similar size. Inflorescences racemose with up to 7 flowers. Calyx 5-11 x 7-10 mm, cupulate. Flowers yellow, keel petal blade 18-50 x 7-13 mm, wing petal blade 18-50 x 6-11 mm, standard petal blade 20-35 x 14-25 mm; petals with distinct claws 4-8 mm long. Fruit 50-200 mm long, 4-winged, brown, with up to 12 seeds. Seeds 5.5-8.5 x 4-5.5 mm, oblong, elliptic to orbicular, yellow to light yellow-brown.

Flowering:

(May-) August-October

Fruiting:

October - May

Threats:

The main threat that faces all wild New Zealand kowhai species is the risk posed through planting for revegetation and horticultural purposes of hybrid material, foreign species, such as the Chilean Pelu (*S. cassioides*) and also of kowhai species outside their natural range. In many places *S. microphylla* occurs as isolated stands within otherwise cleared alluvial forest, and in this situations the loss of trees over time is inevitable. The species is genuinely uncommon in Northland, and in that area inadequately represented within reserves and other conservation land.

*Attribution:

Fact Sheet prepared for NZPCN by P.J. de Lange (31 July 2004).
Description adapted from Heenan et al. (2001).

References and further reading:

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

Duguid, F. 1971. Germination of kowhai at Hokio beach. *Wellington Botanical Society Bulletin* 37: 65-66.

Heenan, P.B.; de Lange, P. J.; Wilton, A. D. 2001: *Sophora* (Fabaceae) in New Zealand: taxonomy, distribution, and biogeography. *New Zealand Journal of Botany* 39: 17-53

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1302



Caption: Bark, Dunedin Botanic Gardens

Photographer: John Barkla



Caption: *Sophora microphylla* (Kowhai)

Photographer: Wayne Bennett

Syzygium maire

Common Name(s):

swamp maire, maire tawake, waiwaka

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. North and South Island from Te Pahi south to Rarangi (near Blenheim). Now often scarce or absent over large parts of its former range due to the clearance of swamp forest.

Habitat:

Mostly found in coastal and lowland riparian forest in waterlogged ground, on the margins of swamps and streamsides. Also found in some of montane forest and cloud forest of Northland (e.g., Tutamoe) and the western Waikato (Pirongia, Taumatotara and Tawarau) where high rainfall and poor drainage provide ideal conditions for this tree to establish on hill slopes, tablelands and with karst landscapes.

Features*:

Glabrous tree to c.16 m high. Trunk up to 0.8 m dbh, solitary or with several arising from base, often with knees and where the root plate is exposed frequently bearing pneumatophores. Bark smooth, pinkish grey, grey-brown or white, flaking in soft or brittle, irregular shards. Branches numerous, spreading, branchlets numerous, spreading, 4-angled. Leaves opposite, subcoriaceous, adaxially yellow-green to green, glossy often bearing small galls and leaf blisters, midrib impressed, side veins slightly impressed scarcely evident when viewed from above; abaxial surface pale green, midrib prominently raised, side veins evident when fresh or dried; margins entire, sinuate or undulate; petioles 5-10 mm long, slender, brittle. Lamina 15-60 × 10-25 mm, usually elliptic, sometimes broadly elliptic. Inflorescences in cymose 5-30-flowered clusters, up to 100 mm diameter.

Pseudopedicels slender. Hypanthium 2-3 mm long at anthesis, obconic; calyx lobes very short and broad, persistent on fruit. Petals 2-3 mm diameter, orbicular, white, forming calyptum in bud, caducous. Stamens numerous, 5-12(-18) mm long, white, in 6-8 (or more) indistinct whorls, filaments 4.5-17.5 mm long, white, anthers basifixed, pollen white. Style 5-18 mm long, distinctly broader than stamens and tapering, cream to yellow-green. Ovary adnate to base of hypanthium. Fruit 10-15 mm diameter, subglobose, broad-ellipsoid or elliptic-ovoid, flesh deep crimson, glossy. Seed 1, 6-11 mm long, obovate, testa dull, very hard, covered in fibres, striped pale orange-yellow and pale brown, brown or grey-brown.

Flowering:

November - July

Fruiting:

January - December

Threats:

Not Threatened. However, many populations now qualify as "Living Dead" as they persist (and are in slow terminal decline) as remnants within partially drained farmland (previously riparian forest). In some parts of its range it is listed as regionally threatened, e.g., Auckland and Wellington.

*Attribution:

Factsheet prepared by: P.J. de Lange (5 November 2005). Description based on Webb et al. (1988), Webb & Simpson (2001) and observations made from fresh material.

References and further reading:

Cameron, E.K., Cutting, M. 1995. Maire tawake at Browns bay Auckland. *Auckland Botanical Society Journal*, 50: 66-70.

Webb, C.J.; Simpson, M.J.A. 2011: Seeds of New Zealand Gymnosperms and Dicotyledons. Christchurch, Manuka Press.

Webb, C. J.; Sykes, W. R.; Garnock-Jones, P. J. 1988: *Flora of New Zealand. Vol. IV. Naturalised Pteridophytes, Gymnosperms, Dicotyledons*. Christchurch, New Zealand, Botany Division, D.S.I.R.

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1313



Caption: *Syzygium maire*

Photographer: Wayne Bennett



Caption: Flower of *Syzygium maire*

Photographer: Wayne Bennett

Veronica stricta var. *stricta*

Common Name(s):

koromiko

Current Threat Status (2012):

Not Threatened

Distribution:

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

Habitat:

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

Features*:

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

Flowering:

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

Fruiting:

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

Threats:

Not Threatened

*Attribution:

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

References and further reading:

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

Bayly M. and Kellow A. 2006. An Illustrated Guide to New Zealand Hebes. Te Papa Press: Wellington

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=2009



Caption: Rotorua, February
Photographer: John Smith-Dodsworth



Caption: Rotorua, February
Photographer: John Smith-Dodsworth

Vitex lucens

Common Name(s):

puriri

Current Threat Status (2012):

Not Threatened

Distribution:

Endemic. New Zealand: Three Kings Islands and North Island from Te Pahi to Taranaki, Mahia Peninsula and the northern Hawkes Bay. Puriri is, as a rule, scarce south of about Opotiki and Kawhia.

Habitat:

In the northern part of its range Puriri is a common co-dominant with Taraire (*Beilschmiedia tarairi*) and karaka (*Corynocarpus laevigatus*) especially on rich fertile soils derived from basaltic and basaltic-andesitic igneous rocks. South of the northern Bay of Plenty and Raglan Harbours it is rarely found inland and is more commonly found in coastal forest where it co-habits with pohutukawa (*Metrosideros excelsa*) and karaka. Puriri is also an important forest tree on many of the smaller islands of the Hauraki Gulf, where it may at times be the canopy dominant.

Features*:

Tree up to c. 20 m. tall with a broad spreading canopy; trunk up to c.1.5 m. diameter; bark grey-brown, firm, flaking in small irregular-shaped shards. Branches stout, spreading; branchlets 4-angled, green. Leaves opposite, glabrous, coriaceous, compound, on petioles up to 110 mm long; Leaflets 3-4-5, somewhat undulose, adaxially dark green, glossy, abaxially lighter green, mat; basal one or pair of leaflets usually much smaller than the terminal 3, digitate; lamina of 3 main leaflets 50-140 × 30-60 mm; elliptic-oblong to obovate, abruptly acute to subacuminate, margin entire. Domatia (pit-type) present at axils of costa and main veins. Inflorescence in axillary, dichotomous, (4)-10-15-flowered panicles. Calyx cupular, minutely 5-toothed; corolla dull red, pink or white, pubescent, 2-lipped, c.25-35 mm long. Upper lip entire or bifid, lower deflexed, 3-lobed. Style slender, bifid, c.25 mm long. Drupe 20-26 mm diameter subglobose, bright red, pink or white.

Flowering:

May - October

Fruiting:

January - October

Threats:

Not Threatened. However, in some parts of Northland puriri "die-back" has been observed (the exact causes of which are much debated). Puriri is at times heavily browsed by possums, to such an extent that trees can die.

*Attribution:

Factsheet prepared for NZPCN by P.J. de Lange 9 February 2011. Description adapted from Allan (1961).

References and further reading:

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

For more information, visit:

http://nzpcn.org.nz/flora_details.asp?ID=1359



Caption: In cultivation.

Photographer: John Braggins



Caption: In cultivation.

Photographer: John Braggins

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

Term	Definition
Incoherent	Not sticking together.
Incursion	Entrance of a pest into an area where it is not present
Indumentum	A covering of fine hairs (or sometimes scales)
Indusia	Plural of indusium, a membrane covering a sorus of a fern
Indusium	A thin tissue that covers the sorus in many ferns. Plural: indusia.
Inflorescence	The arrangement of flowers on the stem. A flower head.
Infundibuliform	Funnel-like.
Interkeel	The space between the keel and the leaf blade
Internode	The part of an axis between two nodes; the section of the stem between leaves.
Internodes	Part of a stem between two nodes.
Intramarginal	Within or near the margin.
Involucral bracts	The scales surrounding the flower head or capitula.
Involucre	A group of bracts surrounding a flower head.
Involute	With margins rolled inward toward the upper side.
Irritable	Responding to touch.
Jugate	Paired.
Juvenile	A plant of non-reproducing size.
Keel	A prominent or obvious longitudinal ridge (as in a boat).
Labellar	Pertaining to the labellum: a lip; in orchid flowers referring to the middle petal which usually differs in size, shape or ornamentation from the two lateral petals.
Labellum	A lip; in orchid flowers referring to the highly modified middle petal which usually differs in size, shape or ornamentation from the two lateral petals.
Lacinia	A jagged lobe.
Laciniae	Jagged lobes.
Laciniate	Cut into narrow, irregular lobes or segments.
Lacustrine	Of or having to do with a lake, of, relating to, or formed in lakes, growing or living in lakes.
Lamina	The expanded flattened portion or blade of a leaf, fern frond or petal.
Lanceolate	Lance-shaped; of a leaf several times longer than wide with greatest width about one third from the base, tapering gradually to apex and more rapidly to base
Lateral	On or at the side.
Lax	With parts open and spreading, not compact.
Laxly	With parts open and spreading, not compact
Leaflet	One section of a compound leaf.
Lemma	The lower of two bracts enclosing the flower in grasses.
Lenticillate	Bark that is covered in fine lenticles (breathing pores)
Ligulate	Strap-like, tongue-shaped
Ligule	The membrane between the leaf and the stem of a grass; the "petal" of a ray floret in a composite inflorescence
Linear	Long and narrow with more or less parallel sides.
Littoral	Occurring at the border of land and sea (or lake). On or pertaining to the shore. The shallow sunlit waters near the shore to the depth at which rooted plants stop growing.
Lobe	A recognisable, but not separated, rounded division or segment of a leaf or pinna. Used to describe ferns and leaves in <i>Cotula</i> and <i>Leptinella</i> .
Lobed	Part of a leaf (or other organ), often rounded, formed by incisions to about halfway to the midrib.
Lobule	A small lobe or sub-division of a lobe
Lustrous	Glossy, shiny.
Lycophytes	Seedless vascular plants that belong to the phylum Lycophyta (characterised by microphylls -primitive leaves found in ancient plants).
Lyrate	Pinnatifid or pinnatisect terminal lobe much larger than lower lobes.
Maculate	Blotched or spotted.
Mangrove	Coastal wetland dominated by Manawa or mangrove <i>Avicennia marina</i> var. <i>resifera</i> . Northern New Zealand only, salt marsh replaces it further south.
Margin	The edge or border of a leaf
Marine	Pertaining to the sea and saltwater systems.
Marsh	A tract of wet land principally inhabited by partially-submerged herbaceous vegetation. Has fewer woody plants than 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.
muricate	Rough with short, hard points like the shell of Murex, a genus of tropical sea snails with elaborately pointed shells.
Mycorrhiza	A symbiotic relationship between a fungus and a plant.
Mycorrhizal associations	Symbiotic association between fungi and plant roots which assists plant health by allowing increased ability for uptake of nutrients and promote plant growth.
Napiform	A long swollen but tapering root – like a parsnip, or carrot.
Native	Naturally occurring in New Zealand (i.e., not introduced accidentally or deliberately by humans).
naturalised	Referring to plants that have escaped from cultivation (including gardens or forest plantations) and can now reproduce in the wild (without human assistance)
Nectary	Organ that produces nectar.
Nerve	Prominent vein or rib.
Nerves	Strands of conducting and usually strengthening tissue in a leaves or similar structures
Net veins	Veins that repeatedly divide and re-unite.
Net venation	Feather-like or hand-like venation on a leaf.
Nival	Growing at high altitudes. From Latin: nivalis, snowy etc. from nix, nivis, snow.
Node	The point at which leaves, branches or roots arise on a stem.
Ob-	Prefix meaning inverted, in reverse direction.
Obcordate	Heart shaped with the notch at the apex.
Oblanceolate	Tapering and widest towards the apex or inversely lanceolate.
Oblique	Slanting; of a leaf, larger on one side of the midrib than the other, in other words asymmetrical.
Oblong	Rectangular.
Obovate	Roughly elliptical or reverse egg shaped and widest near the apex (i.e., the terminal half broader than the basal half).
Obtuse	Blunt or rounded at the apex, with the sides meeting at an angle greater than 90°.
Operculate	With a small lid.
Opposite	A pair of organs attached at nodes in pairs on either side of a stem or axis.
Orbicular	Almost or approximately circular.
Outbreeding depression	A reduction in vigor of offspring from distant parents. It can occur when a locally adapted population is moved and mixed with plants adapted to different conditions.
Outer canopy deciduous	Marked reduction in leaf number in the outer canopy in exposed high light environments over winter.
Oval	Planar, shaped like a flattened circle, symmetrical about both the long and the short axis; about twice as long as broad, tapering equally both to the tip and the base. Synonymous with elliptical.
Ovary	Part of a flower containing the ovules and later the seeds.
Ovate	Egg-shaped and widest at base.
Ovoid	Oval; egg-shaped, with rounded base and apex.
Pakihi	A term which in its strict sense refers to open clears within forest dominated by low scrub and rushes. However, more usually used to refer natural and induced wetlands and their associated shrublands. A vernacular most frequently used in the West Coast for impoverished soils and their associated peats, left after forest has been cleared
Palea	The small upper bract enclosing the flower of a grass
palea	1. The upper of the two bracts that enclose each floret in a grass spikelet. 2. A small bract at the base of a disc floret in some plants of the composite family. 3. Scales on various parts of ferns (referred to as paleate or paleaceous). From the Latin word for 'chaff'.
paleae	Plural of palea, from the Latin word for 'chaff'. 1. The upper of the two bracts that enclose each floret in a grass spikelet. 2. A small bract at the base of a disc floret in some plants of the composite family. 3. Scales on various parts of ferns (referred to as paleate or paleaceous).
Palmately	Radiating from a point, as fingers radiating from the palm of a hand.
Palmatifid	Deeply divided into several lobes arising from more or less the same level.
Palmatisect	Intermediate between palmate and palmatifid, i.e. the segments are not fully separated at the base; often more or less digitate.
Palustrine	Pertaining to wet or marshy habitats. Term covers mires and marshes
Pandurate	Fiddle-shaped.
Panicle	Highly branched (multiple raceme).

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

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

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

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

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