Cathedral Cove Weeds - DOC Whitianga

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Introduction

This book was compiled from information stored on the website of the New Zealand Plant Conservation Network (www.nzpcn.org.nz).

This website was established in 2003 as a repository for information about New Zealand's threatened vascular plants. Since then it has grown into a national database of information about all plants in the New Zealand botanic region including both native and naturalised vascular plants, threatened mosses, liverworts and fungi.

Funding to develop the website was provided by the New Zealand Government's Terrestrial and Freshwater Biodiversity Information System Programme (TFBIS).

The species information used on the website has come from a variety of sources. The indigenous vascular plant text was written largely by Dr Peter de Lange (former Network Vice President). Peter based the descriptions on a wide range of sources including the Flora of NZ Series (Allan 1961, Moore and Edgar 1970 and Webb et al 1987) as well as numerous other taxonomic treatments. For a full bibliography of information sources see the References at the end of this book.

Where no published treatment was available Peter used herbarium specimens and his own knowledge of the flora to prepare species pages. Various other contributors have provided text and additional information to many species pages including botanists such as Mike Thorsen, John Barkla, Cathy Jones, Simon Walls, Nick Singers and many others. The threatened fungi text was written by Eric Mackenzie and Peter Buchanan (Landcare Research).

More than 200 photographers have kindly provided images to illustrate the website and for use in this book especially John Smith-Dodsworth, Jeremy Rolfe, Peter de Lange, Wayne Bennett and Gillian Crowcroft.

The New Zealand Botanic Region

The information on the Network website, from which this book was compiled, is for species that are indigenous to or naturalised within the New Zealand Botanic Region as defined by Allan (1961). The New Zealand botanic region encompases the Kermadec, Manawatawhi/Three Kings, North, South, Stewart Island/Rakiura, Chatham, Antipodes, Bounties, Snares, Auckland Campbell island/Motu Ihupuku and Macquarie.

About the Network

The Network has more than 800 members worldwide and is New Zealand's largest non-governmental organisation solely devoted to the protection and restoration of New Zealand's indigenous plant life.

The vision of the New Zealand Plant Conservation Network is that '*no indigenous species of plant will become extinct nor be placed at risk of extinction as a result of human action or indifference, and that the rich, diverse and unique plant life of New Zealand will be recognised, cherished and restored*'.

Since it was founded in 2003 the Network has undertaken a range of conservation initiatives in order to achieve its vision.

That work has included:

- Training people in plant conservation
- Publishing plant books, reports and posters
- Raising money for the David Given Threatened Plant Research Trust to pay for plant conservation research scholarships
- Advocacy to raise awareness of the importance of plant life in general and especially New Zealand's status as a Global Centre of Plant Diversity
- Lobbying central and regional government and business to protect indigenous plant life
- Educating people about plant life through the Network website
- Connecting people through the monthly newsletter, the Network conference and the annual general meeting

What is a threatened plant?

The NZ Threatened Plant Committee was formed in 1991 and ever since then it has met at regular intervals to review the status of indigenous vascular plants. It is made up of a small group of botanists that between them have an extensive knowledge of the native plants of New Zealand. This group is chaired by Dr Peter de Lange of the New Zealand Department of Conservation.

This committee applies a set of criteria to each native plant to determine its conservation status. The resulting list of species classified as threatened is published in the NZ Journal of Botany (see for example de Lange et al. 2009). The main threat categories used are: Extinct, Critical, Endangered, Vulnerable, Declining. Other categories used are: Recovering, Relict, Naturally Uncommon, Coloniser, Vagrant and Data Deficient. For vascular plants the threat status used in this book is taken from the 2009 conservation assessment (see de Lange et al 2009).

More recently other committees have been established to review the status of non-vascular plants but their lists are yet to be published.

Acacia longifolia

Common Name(s):
Sydney golden wattle

Current Threat Status (2009):
Exotic

Habitat:
Shrubland, coastal areas, dry banks and river beds.

Features:
Shrub or small tree, twigs sharply angled, glabrous or sparsely hairy. Leaves reduced to phyllodes, phyllodes narrowly elliptic to obovate, symmetric or slightly curved up to 130 x 22mm, with 2 prominent veins. Inflorescence is a spike of pale to golden yellow flowers. Seed pod straight or slightly curved, up to 120 x 4mm.

Flowering:
July, August

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2418

Caption: Opening flower buds. Whanganui. Aug 2012.
Photographer: Colin Ogle

Caption: Open flowers. Whanganui. Aug 2012.
Photographer: Colin Ogle

Agapanthus praecox subsp. orientalis

Common Name(s):
Agapanthus

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial.

Features:
Robust, clump-forming perennial. Rhizomes thick, long, white. Leaves 20-70 x 2-6 cm, leathery, arching, arising from base in clumps up to 20, sap watery. Flowers small, purplish-blue or white, in many-flowered umbrella-shaped clusters 7 x 5 cm, Dec-Feb. Seeds thin, papery, black.

Flowering:
December, January, February

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2441

Caption: Hutt Valley. Jan 2008.
Photographer: Jeremy Rolfe

Caption: Agapanthus
Photographer: DoC

Ageratina adenophora

Common Name(s):
Mexican devil

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Lightly shaded frost-free areas, e.g. forest edges, shrublands, wetlands, streamsides, open forest, inshore and offshore islands, gumlands, slips, alluvial flats, coast and estuaries.

Features:
Erect, many-stemmed herb to subshrub to 1-2 m. Perennial fibrous rootstock. Stems often die back in winter, densely covered in stalked sticky hairs, usually purple, becoming woody, with branches in opposite pairs, often with galls formed by parasitic fly. Leaves in opposite pairs, 55-80 x 35-70 mm, diamond-shaped, margins irregularly roundtoothed. Flowers small, white, 5-7 mm diam, in dense terminal clusters, Aug-Dec. Seeds black, 5- angled, 1.8 mm long.

Flowering:
August, September, October, November, December, January, February, March.

Fruiting:
Late Summer-Autumn? (Timmins & MacKenzie 1995).

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2454

Caption: Ageratina adenophora
Photographer: John Smith-Dodsworth

Caption: Ageratina adenophora
Photographer: John Smith-Dodsworth

Araujia sericifera

Common Name(s):
moth plant, moth vine

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. coastal, lowland cliff, bluff, waste places and other modified habitats (Timmins & MacKenzie 1995).

Features:
Rampant, evergreen vine to 10 m tall with smelly, milky sap. Stems twining, flexible, tough, downy, woody near base. Leaves opposite, 3-12 x 2-6 cm, dark green, hairless and dull above, greyish-downy below. Flowers bell-shaped, 20-25 mm diam, white, occ with pale pink streaks, usually in 2-4 clusters, Dec-May (can trap and kill insects). Distinctive pear-shaped choko-like pod, 10 x 7 cm, thick and leathery, containing kapok-like pulp, splits open dispersing many black, thistle down-like seeds.

Flowering:
December, January, February, March, April, May

Fruiting:
Autumn and winter (ARC, 1998).

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2542

Caption: Coromandel, Feb.
Photographer: John Smith-Dodsworth

Caption: Araujia sericifera showing flowers
Photographer: John Smith-Dodsworth

Banksia integrifolia

Common Name(s):
banksia

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Threat to well drained sites, e.g.. sand dunes.

Features:
Large shrub or small tree to about 10 m high. Leaves narrowly elliptic with densely serrate margins. Deep shining green above and white beneath. Inflorescence mostly 9-12 cm long, erect, forming a broadly cylindrical cone, pale green or pale greenish yellow. Fruiting cone woody, with brown felty indumentum persisting in lower part, valves opening widely to expose seed. Cones may persist on the tree a long time after flowering.

Flowering:
May, June, July

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3493

Caption: Banksia integrifolia tree
Photographer: John Smith-Dodsworth

Caption: Banksia integrifolia tree
Photographer: John Smith-Dodsworth

Calystegia silvatica subsp. disjuncta

Common Name(s):
Great bindweed

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Gardens, waste places, forest edges, roadsides etc

Features:
Perennial herb with extensive and far creeping white rhizomes. Vigorously twining glabrous stems, to 2m or more. Lamina usually glabrous, dark green, triangular-ovate, sagiittate or hastate, base deeply cordate with rounded sinus. Flowers always singly, peduncles usually 8-20cm long. 2 large overlapping bracts at base of flower, enclosing the sepals. Corolla usually 5-8cm long almost always pure white, usually funnel-shaped. Capsule 1-1.5cm rounded and brown, with triangular-ovoid black seeds (Webb et al 1988 with additions from Melanie Newfield).

Flowering:
October, November, December, January, February, March, April, May

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3588

Caption: Paraparaumu.
Photographer: Jeremy Rolfe

Caption: Involucral bracts overlapping.
Photographer: Jeremy Rolfe. Hutt Valley. Jan 2007.

Casuarina cunninghamiana

Common Name(s):
common river oak

Current Threat Status (2009):
Exotic

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3626

Caption: Casuarina cunninghamiana
Photographer: John Smith-Dodsworth

Caption: Casuarina cunninghamiana
Photographer: John Smith-Dodsworth

Cortaderia selloana

Common Name(s):
pampas grass

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A coastal and lowland plant found between sea level and 800 metres. Plant grows in sites of all levels of fertility from low to high. The plant grows in a wide variety of soils from pumice and coastal sands to heavy clay (Ford 1993). Coloniser of open ground (West, 1996). A plant that occurs in low or disturbed forest, wetlands, grasslands, scrub, cliffs, coastlines, islands, forest margins, riverbanks, shrubland, open areas, roadsides and sand dunes.The plants primary habitat is disturbed ground.

Features:
Large-clump-forming grass to 4 m+. Leaf base smooth or sparsely hairy, no white waxy surface. Leaves with conspicuous midrib which does not continue into leaf base, no secondary veins between midrib and leaf edge. Leaves bluish-green above, dark green below, snap readily when tugged. Dead leaf bases spiral like wood shavings. Flowerhead erect, dense, fluffy, white-pinkish, fading to dirty white, (Jan)-Mar-Jun.

Flowering:
March, April, May

Fruiting:
April-May (Timmins & MacKenzie 1995).

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3753

Caption: Plimmerton. Jun 2006.
Photographer: Jeremy Rolfe

Caption: Plimmerton. Jun 2006. Glabrous leaf base.
Photographer: Jeremy Rolfe

Cotoneaster glaucophyllus

Common Name(s):
cotoneaster, large-leaved cotoneaster

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Prefers free draining soil (Fromont and King, 1992). Gardens, bushland, wasteland areas and along railway lines. (Ermert and Clapp 1998) Wasteland, scrub in gullies, a garden weed (Webb et al., 1988). Stream banks, riverbeds, coastal and inshore islands, dry shrublands, rocklands, forest steeplands, coastal forest, forest margins and slips, roadside, quarries, wasteland, exotic plantations (Fromont and King, 1992).

Features:
Spreading, evergreen shrub 2-5 m high. Stems erect at first then arching, young shoots buff coloured, maturing to dark reddish purple. Leaves up to 70 x 35 mm mostly distributed along young long shoots, often clustered on short shoots. dull and hairless above, pale tomentose below, but becoming hairless. flowers in groups of 15-60, petals white and spreading. Fruit 4-7mm diameter, scarlet or orange-red, glossy.

Flowering:
October, November, December, January

Fruiting:
February - August

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3767

Caption: Naenae, Lower Hutt. May 2103
Photographer: Jeremy Rolfe

Caption: In kanuka scrub; upper leaf surfaces; Craters of the Moon, Taupo
Photographer: Colin Ogle

Crataegus monogyna

Common Name(s):
hawthorn

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A plant of lowland and montane habitats. Plant occurs in sites with low to low/moderate fertility. A plant that grows in low forest, forest margins, scrub, hill country pasture, pasture, disturbed forest, waste places and roadsides.

Features:
Shrub or small tree, up to 10m when mature, armed with axillary spines up to 12mm long, the longest spines associated with short flowering shoots; stems glabrous, smooth and reddish-brown when young but becoming grey when older. Leaves solitary on vigorous vegetative shoots but in fascicles on short shoots; petiole 5~25mm long, greenish, narrowly winged, grooved above; blade approx. deltoid to rhombic, 35~50 x 35~45mm, deeply lobed, glabrous, dark to mid green above, paler below with primary veins obvious; lobes 3~7, ascending, oblong, usually entire in lower half and sparingly and irregularly serrate near the acute apex; stipules of vegetative shoots reniform with prominently toothed margins, those of short shoots smaller and deciduous. Flowers many in flat corymbs subtended by small leafy acute bracts; bracts often larger and toothed on young stems; pedicels 5~11mm long, often bearing scattered, fine white hairs. Sepals greenish, finely pilose at least in lower part; lobes triangular to oblong, subacute, becoming reflexed. Petals broadly ovate to orbicular, 4~8mm diam., rounded to crenulate, spreading, usually white, rarely red-pink. Stamens < petals; filaments white or sometimes pale pink; anthers pink. Style usually 1. Fruit broadly oblong to subglobose, 7~11mm diam., dark red, shining, crowned by deflexed sepals; nutlets usually 1. (- Webb et. al., 1988)

Flowering:
August, September, October

Fruiting:
autumn; May onwards.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3788

Caption: Otago Peninsula
Photographer: John Barkla

Caption: Otago Peninsula
Photographer: John Barkla

Crocosmia x crocosmiiflora

Common Name(s):
montbretia

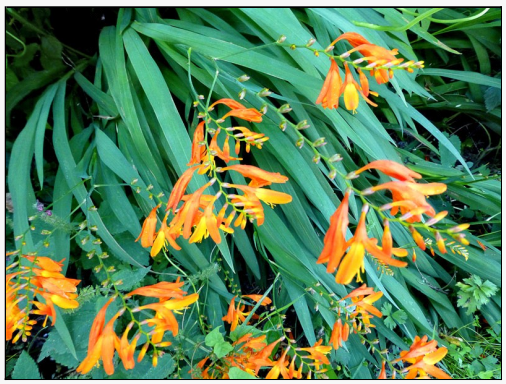
Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Prefers moist soils (Fromont and King, 1992). Streams, forest margins, alluvial plains, roadsides, gravel pits, wasteland, slips, light gaps, shrublands (Fromont and King, 1992).

Features:
Stiff, leafy, clump-forming, evergreen or summergreen perennial with underground rhizomes. Corms flattened, 35 x 15 mm, fibrous cover, light brown, in 3+ clusters at stem base. Leaves all arising from base, erect to curving above, 90 x 2 cm, firm, sword-shaped, mid-vein conspicuous. Flowerhead tall, zig-zag shaped. Flowers solitary, 6 petals, 3 cm long, orange to crimson, Jan-Feb. Seed capsule 3-sided, 5 mm long; with reddish-brown, flat-triangular, 3 mm seeds.

Flowering:
January, February

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3789



Caption: Whanganui. Jan 2013.
Photographer: Colin Ogle

Caption: Whanganui. Jan 2013.
Photographer: Colin Ogle

Erica lusitanica

Common Name(s):
Spanish heath

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A plant of coastal, lowland and montane habitats (Timmins & MacKenzie 1995). Plant grows in sites with low - moderate fertility (Timmins & MacKenzie 1995). The plant occurs in areas with moderate to high rainfall and also where the soil is acidic (Wilson & Galloway 1993). The plant is found in scrub and forest margin, shrubland, tussockland, herbfield and fernland (Timmins & MacKenzie 1995). The plant occurs in rough pasture, shrubland and scrub (Wilson & Galloway 1993).

Features:
Erect shrub to about 2m high, occasionally with a trunk > 15cm diam. Shoots densely covered with short hairs, especially when young; hairs simple, of varying lengths. Leaves in whorls of 3~4, subsessile, 3~7mm long; margins revolute and contiguous, entirely concealing undersurface; apparent or false margin sometimes with sparse hairs giving a serrulate appearance, otherwise glabrous. Flowers in lateral racemes; racemes usually densely arranged so appearing as a large terminal panicle. Pedicels about 2mm long, recurved. Bracteoles situated near base, < 1mm long, generally linear, whitish, not reaching calyx. Calyx 1~1.5mm long; lobes triangular-ovate, glabrous, white, 2~3x length of tube. Corolla 3~5mm long, tubular-campanulate, white except for rose or pink flush outside in bud, glabrous; lobes very short, very broadly ovate, erect to spreading. Stamens included; anthers approx. 1mm long, dark maroon; awns whitish, echinate, 1/2 ~ 2/3 length of anther. Style slightly exserted; stigma obconic. Capsule about 3mm long, broad ellipsoid, glabrous. (- Webb et. al., 1988)

Flowering:
March, April, May June, July, August, September, October, November, December

Fruiting:
Germinable seed present in capsules in early spring (Timmins & MacKenzie 1995).

References and further reading:
Webb C.J., Sykes W.R., Garnock-Jones P.J. 1988. Flora of New Zealand Volume IV. Botany Division, D.S.I.R., Christchurch. 1365 p.

Wilson H.D., Galloway T. 1993. Small-leaved Shrubs of New Zealand. Manuka Press, Christchurch. 305 p.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3911

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

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

Eriobotrya japonica

Common Name(s):
loquat

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial.

Features:
Tree up to 8m high when mature; trunk well developed; primary stems erect; secondary stems spreading; young stems stout, white-tomentose; older stems with prominent leaf scars, becoming greyish-brown and transversely calloused. Leaves near branch tips; petiole about 15mm long, stout; blade oblanceolate to narrowly elliptic, 150~350 x 75~100mm, acute, tapering to cuneate or slightly auriculate base, very coriaceous, generally rugose, dark green and glossy above, thinly grey- or brown- tomentose below (very young leaves completely brown-tomentose), serrate at least in upper half; stipules long-triangular, generally attenuate, pilose. Infl. of many flowers; pedicels 5~8mm long, brownish tomentose. Sepals fused for most of length; lobes 2~4mm long, brown-tomentose. Petals white or ivory, oblong, around 7~8 x 3~4mm, shallowly emarginate. Fruit pyriform to broadly ellipsoid-oblong or subglobose, up to 50 x 35mm; skin yellow, around tomentose; flesh sweet. (- Webb et.al., 1988)

Flowering:
April, May June, July, August, September, October, November.

Fruiting:
October-December.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3913

Caption: Abaxial surface of leaf. Whanganui. Apr 2011.
Photographer: Colin Ogle

Caption: Whanganui. Apr 2011.
Photographer: Colin Ogle

Erythrina x sykesii

Common Name(s):
coral tree, flame tree

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial.

Features:
Deciduous tree up to 12-(18)m high; trunks with stout prickles; twigs round, smooth, clothed in short hairs when young but becoming glabrous, armed with prickles; prickles stout-based, scattered, 5-10 mm long. Leaves densely clothed with short medifixed hairs when young, becoming +/- glabrous; leaflets broadly ovate to deltoid, +/- acuminate, obtuse to truncate at base, entire (7)-10-20 cm long; lateral leaflets somewhat smaller than terminal; stipules lanceolate, 5-10 mm long, caducous; stipels c. 1 mm long. Inflorescences axillary, clustered at tips of branches, clothed in brown medifixed hairs when young; flowers numerous, shortly pedicellate, subtended by caducous bracteoles. Calyx spathe-like, bilbiate, or irregularly shallowly toothed. Standard scarlet, c. 50-60 mm long, wings and keel c. 1/2 length of standard, orange to pale orange; filaments mauve. Pods not formed. (Webb et al 1988).

Flowering:
August, September, October.

Caption: Matapouri Bay, Northland
Photographer: John Sawyer

Caption: Matapouri Bay, Northland
Photographer: John Sawyer

References and further reading:

Gardner, R. 1992. Coral trees *Erythrina* Papilionaceae of Auckland. Auckland Botanical Society Journal, 47: 32-35.

Gardner, R.O. 1997. *Erythrina* x sykesii. Auckland Botanical Society Journal, 52: 39-42.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3926

Fatsia japonica

Common Name(s):
fatsia

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial.

Features:
Tree (up to 6 m) with large leaves and a green-black spherical berry 5-8mm diameter (Rogan, 1997).

Flowering:
March, April, May

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3941

Caption: Mature fruit. Whanganui. Sep 2012.
Photographer: Colin Ogle

Caption: Fatsia japonica
Photographer: Peter de Lange

Gomphocarpus fruticosus

Common Name(s):
swan plant, narrow leaf cotton bush

Current Threat Status (2009):
Exotic

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=4011

Caption: Gomphocarpus fruticosus
Photographer: Peter de Lange

Caption: Gomphocarpus fruticosus
Photographer: Peter de Lange

Hakea sericea

Common Name(s):
prickly hakea

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A coastal and lowland plant (Timmins & MacKenzie 1995). The plant grows in low fertility sites (Timmins & MacKenzie 1995). A plant of low forest, scrub and forest margin and shrubland (Timmins & MacKenzie 1995).

Features:
Large spreading shrub or small tree. Shoots densely hairy, somewhat angular. Leaves terete, simple, 20~60 x .7~1mm, glabrous except when very young, rigid and spiny. Flowers few, in fascicles of less than 10; peduncles 0 or very short, densely hairy. Pedicels 3~4mm long, densely hairy to glabrate. Perianth white, glabrous, = pedicels. Ovary shortly stipitate or sessile; style glabrous; stigma cone slightly oblique. Fruit 2~3 x 1.4~2.5cm, mostly very corrugated; beak very short. Seed 15~25 x 6~12mm (incl. wing), black; wing extending down one side. (-Webb et. al., 1988)

Flowering:
June, July, August, September, October, November

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=4050

Caption: Ridge above Stokes Valley. Jul 2003. GR R27 771034
Photographer: Jeremy Rolfe

Caption: Ridge above Stokes Valley. Jul 2003. GR R27 771034
Photographer: Jeremy Rolfe

Hedychium gardnerianum

Common Name(s):
Wild Ginger, Kahili Ginger

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Forests, regenerating forest, streamside and alluvial forest, forest light gaps and gullies. Prefers moderate to high fertility, not found in very dry or rocky areas.

Features:
Non-woody perennial to 2 m tall, ginger-scented. Rhizomes massive, taro-like, close to ground surface, long, shallow rooted, much-branched, growing over each other, forming deep beds. Rhizome segments 4 x 10 cm, each producing an aerial stem usually annually. Stems to 2 m, erect, soft, unbranched, thickening to short pinkish collar at base. Leaves alternate, 20-45 x 10-15 cm, shiny, slightly hanging. Flowerhead 25-45 cm tall with many flowers, Jan-Mar. Flowers lemon-yellow with conspicuous red stamens, fragrant. Fruiting spike with fleshy orange fruits, 15-20 mm long, containing many bright scarlet seeds.

Flowering:
January, February, March

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=4063

Caption: Auckland
Photographer: John Barkla

Caption: Hedychium gardnerianum
Photographer: John Smith-Dodsworth

Impatiens sodenii

Common Name(s):
sods balsam, poor man's rhododendron

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Waste places, coastal areas, scrubland. Common garden and pot plant.

Features:
Glabrous subshrub to about 2m high, stems green, semi succulent. Leaves in whorls of up to 6 up to 12 x 3.5 cm. Flowers solitary on slender pedicels amongst axils of uppermost leaves, 5-6.5 cm diameter, pink. Fruit up to 2.5 cm long, fusiform.

Flowering:
January, February, March, April, May, June, July, August, September, October, November, December

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

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=4103

Caption: Algies Bay, north of Auckland
Photographer: John Sawyer

Caption: Algies Bay, north of Auckland
Photographer: John Sawyer

Jasminum polyanthum

Common Name(s):
jasmine

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial.

Features:
Perennial, evergreen, climbing, almost hairless, non-woody vine. Stems round, tough, very long, rooting at nodes. Leaves opposite, pinnate with usually 7 leaflets, terminal leaflet up to 7 x 2.5 cm, others smaller, all entire. Flowers clustered in panicles, tube-like, up to 25 mm diameter, very fragrant, white, pink in bud, Jan-Dec. Berries glossy black, 5-8 mm diameter, rarely formed.

Flowering:
January, February, March, April, May, June, July, August, September, October, November, December

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

Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. (1988). Flora of New Zealand, volume IV. Naturalise Pteridophytes, Gymnosperms, Dicotyledons. DSIR Botany Division. 1365pp.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3324

Caption: Whanganui. Sep 2011.
Photographer: Colin Ogle

Caption: Stokes Valley. Aug 2005.
Photographer: Jeremy Rolfe

Kniphofia uvaria

Common Name(s):
red hot poker

Current Threat Status (2009):
Exotic

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=4684

Caption: Kniphofia uvaria
Photographer: Peter de Lange

Caption: Kniphofia uvaria
Photographer: John Smith-Dodsworth

Lilium formosanum

Common Name(s):
Formosan lily

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial, Disturbed areas, Roadsides, Dunes.

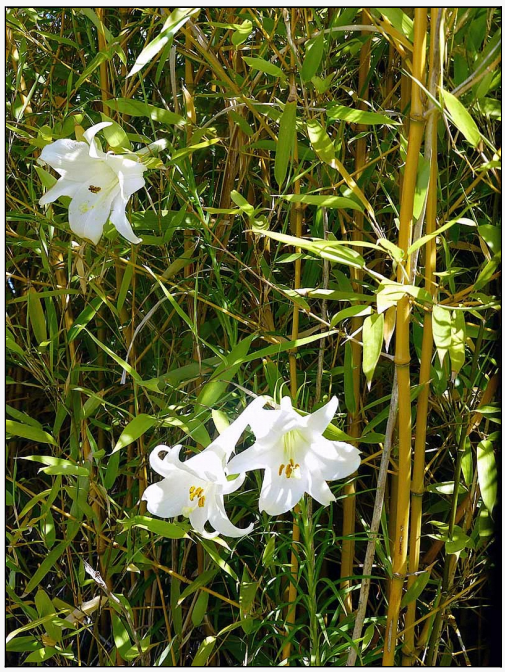
Features:
Perennial herb with simple stem to about 75 cm. Stems root freely at ground level. Many dark-green strap-like leaves to about 13 cm long. Large white trumpet-like flowers, often tinged purple on the outside.

Flowering:
January, February, March

Fruiting:
Feb-April

References and further reading:
Cameron, E.K. 1989. *Lilium formosanum* ii. Auckland Botanical Society Journal, 44:48-49.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3425



Caption: Naturalised amongst bamboo, Fordell.
Photographer: Colin Ogle

Caption: Lilium formosanum
Photographer: John Smith-Dodsworth

Miscanthus nepalensis

Common Name(s):
Himalayan fairy grass

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Waste areas, spreading from roadsides.

Features:
Tall tufted perennial grass to about 1 m tall. Culm 40-80 cm, purple-green to yellow-green with purplish nodes. Leaf-sheath often conspicuously purple, with scattered long silky hairs. Leaf-blade 20-60 cm x 4-10 mm, stiff with obvious pale green mid-rib, gradually tapering, margins rough to the touch. Panicle 10-20 cm, golden brown, drooping fan-shaped. Seed 1-1.5 mm.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3208

Caption: Miscanthus nepalensis
Photographer: John Smith-Dodsworth

Caption: Miscanthus nepalensis
Photographer: John Smith-Dodsworth

Osmunda regalis

Common Name(s):
royal fern

Current Threat Status (2009):
Exotic

Distribution:
Scattered from Northland to Wellington, locally abundant in Waikato.

Habitat:
Fens often under open manuka and grey willow (Salix cinerea), other wet peaty habitats including roadside drains, occasionally on exposed clay banks adjacent to water bodies.

Features*:
Rhizomes forming thick erect trunks to 150 cm tall. Fronds 30-300 × 20-75 cm, ovate, 2-pinnate, glabrous except when very young, dimorphic with the outer ones sterile and inner fertile. Fertile fronds bearing sterile pinnae at base and much reduced fertile pinnae at apex. Sterile secondary pinnae in up to 15 pairs, 2-7 × 0.8-1.8 cm, narrowly oblong, obtuse, ± truncate at base, often with a rounded lobe on one side. Fertile secondary pinnae to 3 × 0.4 cm, densely covered with clusters of sporangia.

Flowering:
Late spring to autumn

Fruiting:
Late spring to autumn

***Attribution:**
Factsheet prepared by Paul Champion and Deborah Hofstra (NIWA). Features description from Webb et al. (1988).

References and further reading:
Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. (1988). Flora of New Zealand Volume 4: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch.

Popay et al (2010). An illustrated guide to common weeds of New Zealand, third edition. NZ Plant Protection Society Inc, 416pp.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3265

Caption: Osmunda regalis at Torehape Wildlife Management Reserve
Photographer: Paul Champion

Caption: Osmunda regalis
Photographer: Trevor James (AgResearch)

Paraserianthes lophantha

Common Name(s):
brush wattle

Current Threat Status (2009):
Exotic

Habitat:
Prefers disturbed open land, especially scrubland, riverbanks and coastal sites, but can persist in low forest for many years.

Features:
Evergreen shrub to small tree with hairy ribbed twigs. Leaves alternate and 2-pinnate, pinnae in 8-15 pairs; pinnules in 20-40 pairs, petiole 3-8 cm long, stipules minute. Numerous greenish-yellow flowers arranged in a cylindrical inflorescence. Seed pod without any hairs, straight, up to 15cm x 18mm. Numerous dark brown or black seeds in each pod.

Flowering:
May, June, July, August

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3287

Caption: Paraserianthes lophantha
Photographer: Peter de Lange

Caption: Paraserianthes lophantha
Photographer: Peter de Lange

Paspalum vaginatum

Common Name(s):
saltwater paspalum

Current Threat Status (2009):
Exotic

Habitat:
Aquatic: Emergent. Found in brackish water around the margins of river mouths and estuaries

Features:
Decumbent perennial grass with long creeping stolons. Leaf-blade up to 8 cm x 2 mm, rather stiff and much narrower than the sheath. Culm up to about 20 cm tall, panicle consisting of 2 spreading racemes.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3296

Caption: North Cape. Feb 2011.
Photographer: Jeremy Rolfe

Caption: North Cape. Feb 2011.
Photographer: Jeremy Rolfe

Pinus pinaster

Common Name(s):
cluster pine

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A plant of coastal and lowland habitats (Timmins & MacKenzie 1995). The plant grows in sites of low fertility (Timmins & MacKenzie 1995). A plant of shrubland, tussockland, cliff, bluff and coastal communities (Timmins & MacKenzie 1995).

Features:
Medium-sized to large tree with rather open crown, the stout trunk becoming bare of branches for most of length. Bark thick, deeply fissured and forming small irregular plates with smooth dark red or reddish-brown surfaces. Shoots deep brown or brownish, shining, glabrous, with remains of leaf bases prominent. Buds cylindric-oblong, sometimes very large (> 4 x 1.5cm), not resinous; scales dark reddish, reflexed, with margins strongly white-fimbriate. Leaves 2 per fascicle, 6~17cm x 2mm, appearing narrower due to incurved margins, dull green, rigid, pungent; resin canals median; sheath 5~10mm long in older leaves. Male strobili < 1.5cm long, ellipsoid or broad-ellipsoid. Conelets sessile, prominent and broad-ellipsoid; scales obtuse, acute or mucronate. Mature cones often persistent for several years, sessile or subsessile, 7~15 x 4~6cm when closed, usu. cylindric-ovoid, sometimes ovoid, generally symmetric; apophyses rhomboid, keeled, shining brown; umbo prickly. Seed wing asymmetric, to 2.5cm long. (-Webb et. al., 1988)

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3087

Caption: Pinus pinaster
Photographer: John Smith-Dodsworth

Caption: Pinus pinaster
Photographer: John Smith-Dodsworth

Pinus radiata

Common Name(s):
radiata pine, P Rad

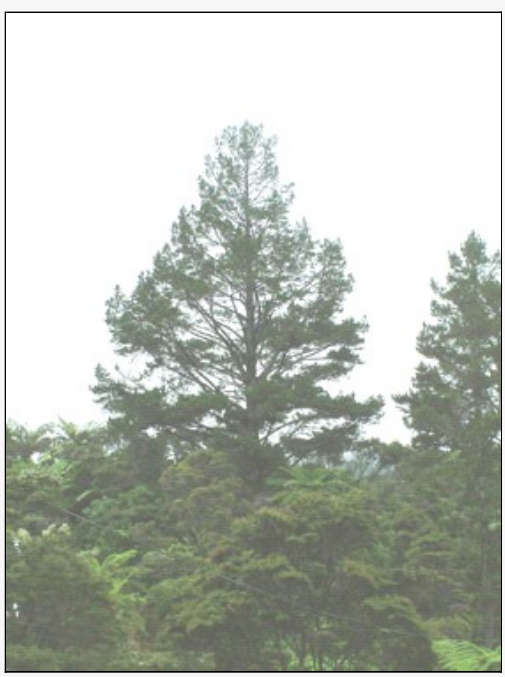
Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A plant of coastal and lowland habitats (Timmins & MacKenzie 1995). A plant of low fertility sites (Timmins & MacKenzie 1995). The plant occurs in scrub and forest margin, shrubland, short tussockland, sand dunes, cliffs and bluff communities (Timmins & MacKenzie 1995).

Features:
Medium to large tree (40-60 m in cultivation). Needles are slender, about 15 cm long, deep or dark green and held in bunches of 3. Male cones are clustered at ends of new shoots in spring, light-brown to pinkish. Female cones are 12 by 8 cm, brown, in clusters of up to 6 and backwards pointing.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=3089

Caption: Seedling, Maidstone Park, Upper Hutt.
Photographer: Jeremy Rolfe



Caption: Pinus radiata
Photographer: John Smith-Dodsworth

Prunus campanulata

Common Name(s):
bell-flowered cherry, Taiwan cherry

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial.

Features:
Deciduous small tree up to 8 m high. Leaves cherry-like, usually 60-130 by 20-60 mm, thin and on 12-20 mm petioles. Leaves rounded at base, broadly elliptic with sharp point at tip, small teeth along entire leaf margin. Deep red bell-shaped flowers in clusters of 2-3. Fruit up to 12 x 10 mm, glossy scarlet, glabrous.

Flowering:
July, August, September

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2850

Caption: Prunus campanulata
Photographer: John Smith-Dodsworth

Caption: Prunus campanulata
Photographer: John Smith-Dodsworth

Prunus persica

Common Name(s):
peach

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. Light demanding (West, 1996). Grassy and scrub-covered hillsides, roadsides, tracks, railways, wasteland (Webb et al., 1988).

Features:
A small, spreading, deciduous tree up to 4m; 5 pink petals; round, greenish yellow to red fruit 50-80mm long; stone deeply pitted and furrowed (Webb et al., 1988).

Flowering:
August, September, October

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2854

Caption: Prunus persica
Photographer: John Smith-Dodsworth

Caption: Close up of flowers, Sep 2006.
Photographer: Peter de Lange

Rubus fruticosus agg.

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

Caption: Taita Gorge, Hutt River. Mar 2004.
Photographer: Jeremy Rolfe

Common Name(s):
blackberry

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A plant of coastal and lowland habitats. A plant that grows where there has been settlement or significant disturbance of native flora (Webb et. al. 1988). Usually prevalent on lightly grazed areas and waste land in moist situations especially higher rainfall areas. A plant that does not compete successfully with well managed good pasture. A plant of scrub and forest margins, shrubland, fernland, riverbeds and wetlands (Timmins & MacKenzie 1995). A plant of open areas, wasteland, roadsides, hedgerows, farmland, scrub, forest margins and clearings, riverbeds, gardens, embankments and swamps (Webb et. al. 1988). Areas at risk from the plant are pasture, exotic forests, open areas, roadsides, sand dunes, pasture, streambanks. A plant of roadsides, streambanks, waste areas, pastures, orchards and forestry.

Features:
Scrambling shrub, suckering, usu. semi-erect with stems arching and entangling, sometimes semi-prostrate or almost erect; stems usu. angled, flat to concave or furrowed between angles, rarely terete, sometimes striate, glabrous to moderately hairy, esp. on young growth, often with subsessile glands; sometimes pruinose, with stalked glands, green to purplish, red or flecked; armature of prickles, and sometimes also pricklets or acicles. Leaves palmate with 5 leaflets; petioles and petiolules usu. pilose to tomentose and prickly; leaflets glabrous to pilose on upper surface, usu. pilose or tomentose on lower surface, dentate to 1~2-serrate or sometimes obscurely lobed or deeply 1~2-pinnatisect; terminal leaflets usu. obovate or ovate, sometimes elliptic, oblong, orbicular or deltoid, 30~160 x 15~110mm, petiolulate; stipules usu. linear or linear-lanceolate, sometimes lanceolate to elliptic. Infl. a cylindric to pyramidal, usu. many-flowered panicle, often leafy at least in lower part, sometimes flowers 1~few, with stalked glands. Flowers 15~60mm diam. Sepals usu. lanceolate to ovate or ovate-triangular, acute and apiculate to acuminate or long-attenuate and sometimes leafy at tip, pilose to tomentose, sometimes with pricklets or stalked glands, usu. deflexed or rarely erect at fruiting. Petals rounded to notched, flat or crinkled, white to deep pink. Stamen filaments white or pink. Fruit of black, shiny or rarely pruinose drupelets, ovoid, oblong or cylindric, 10~15mm long. (-Webb et. al., 1988)

Flowering:
November, December, January, February, March, (May)

Fruiting:
November-May

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2973

Salix cinerea

Common Name(s):
grey willow, pussy willow

Current Threat Status (2009):
Exotic

Distribution:
Widespread and locally abundant throughout both islands but rare in the Far North, South Westland and Southland

Habitat:
Swamps, fens, water body margins and disturbed places.

Features*:
Shrub or small tree to approx. 7m high, often only 1~2m, spreading or often forming dense thickets; bark rather smooth. Shoots not brittle; grey or greenish-grey and remaining hairy, or reddish to dark purple and often becoming glabrous or glabrate, generally with pale brown markings and striations prominent below surface for around 2 years. Buds reddish, glabrate or hairy. Petiole to about 1cm long on adult shoots, but often very short and hairy. Lamina 2~7 x 1.5~3.5cm, often smaller at base of lateral shoots, generally obovate, sometimes elliptic, not bitter to taste; grey or glaucous below, generally densely clothed in soft grey hairs, sometimes rather sparsely clothed in harsher reddish-brown hairs, soon glabrous and shining above except for midrib, glandular-serrulate to subentire; angle between midrib and veins > 45¦; apex rounded to cuspidate. Stipules semi-annular, small, persisting on strong vegetative shoots. Catkins appearing before leaves, 1.5~3.5cm long, broad-cylindric to clindric-ovate, generally erect; rachis villous. Bracts 1.5~3mm long, elliptic to oblong-obovate, black in upper half, sericeous; apex obtuse to rounded. Gland .5~.8mm long, rectangular to almost square. Stamens 2; filaments pilose towards base. Female flowers with pedicels > bracts; ovary white-tomentose, stalked.

Flowering:
September to October

Fruiting:
October to November

Caption: Salix cinerea
Photographer: John Smith-Dodsworth

Caption: Salix cinerea
Photographer: Nic Singers

***Attribution:**
Factsheet prepared by Paul Champion and Deborah Hofstra (NIWA). Features description from Webb et. al. (1988).

References and further reading:

Webb, C.J.; Sykes, W.R.; Garnock-Jones, P.J. (1988). Flora of New Zealand Volume 4: Naturalised pteridophytes, gymnosperms, dicotyledons. Botany Division, DSIR, Christchurch.

Popay et al (2010). An illustrated guide to common weeds of New Zealand, third edition. NZ Plant Protection Society Inc, 416pp.

Johnson PN, Brooke PA (1989). Wetland plants in New Zealand. DSIR Field Guide, DSIR Publishing, Wellington. 319pp.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2983

Solanum carolinense

Common Name(s):
horse nettle

Current Threat Status (2009):
Exotic

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2770

Caption: Solanum carolinense
Photographer: ARC

Solanum mauritianum

Common Name(s):
woolly nightshade

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A lowland plant. The plant occurs in scrub and forest margin and shrubland communities. Invades pastoral land, native forest margins and urban areas.

Features:
Spreading unarmed shrub or small tree to 10m tall and with trunk to 15cm diam., with all parts stellate-tomentose, the hairs generally sessile to long-stalked. Leaves on vegetative and most flowering shoots with prominent stipule-like auricles 5~25mm long at base; petioles to 6mm long on flowering shoots, longer on strong vegetative shoots. Lamina 10~25 x 3.5~10cm, ovate to elliptic, entire, light to dark green on upper surface, white to yellowish-green on lower surface; base cuneate; apex usu. acuminate but blunt at tip. Panicles dense, many-flowered, corymbose, terminal at first; rachis to 18cm long, stout; pedicels generally erect at fruiting. Calyx approx. 5mm long, not accrescent; lobes mainly elliptic. Corolla 1.5~2cm diam., usu. mauve to purple, occasionally white; lobes ovate or triangular-ovate, stellate-tomentose outside. Anthers 2~3mm long. Berry approx. 1cm diam., globose, dull yellow; stone cells 0. Seeds 1~2mm long, oblong-obovoid to suborbicular. (-Webb et. al., 1988)

Flowering:
January, February, March, April, May, June, July, August, September, October, November, December

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2790

Caption: Northland
Photographer: John Sawyer

Caption: Northland
Photographer: John Sawyer

Syzygium smithii

Common Name(s):
lilly pilly, monkey apple

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial.

Features:
Tree (6-15 m high in cultivation). Lvs very aromatic when crushed; petiole usually c. 5mm long. Lamina 4-12-(15) x 2-5-(8) cm, ovate or elliptic-ovate, coriaceous, glossy above, dotted with glands below; veins parallel and prominent below; base cuneate or narrow-cuneate; apex obtusely cuspidate or acuminate. Fls shortly pedicellate. Hypanthium (including pseudopedicel) 3-5 mm long; calyx lobes 4, deciduous. Petals 4, c. 2mm long, forming a small calyptrum, whitish. Stamens to c.3mm long whitish. Fr. subglobose to broad-oblong or obovoid, often slightly flattened, usually 1-1.7-(3) cm diam., pinkish mauve or white, with apical cavity. Seed large. (Webb et. al. 1988).

Flowering:
October, November, December, January

References and further reading:
Gardner, R. 2009. Monkey-apples: the fruit and seed of two Syzygium spp. (Myrtaceae). Auckland Botanical Society Journal, 64(1): 75-76

Syzygium smithii - Wikipedia

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2437

Caption: Thorndon, Wellington
Photographer: Clayson Howell, Department of Conservation (Crown copyright)

Caption: Coromandel
Photographer: John Smith-Dodsworth

Ulex europaeus

Caption: Mt Frith, Rimuataka Hill
Photographer: John Sawyer

Caption: Mt Frith, Riutaka Hill
Photographer: John Sawyer

Common Name(s):
gorse

Current Threat Status (2009):
Exotic

Habitat:
Terrestrial. A plant of coastal and lowland habitats. The plant occurs in sites with low - low/modertate fertility. It is common in disturbed areas and can tolerate a wide range of conditions and soil types allowing it to establish in most areas. It is more abundant in waste places, riverbeds and poorer land than it is in developed and fertile land. It occurs in scrub and forest margin, shrubland, fernland and riverbed communities and grassland, shrubland, forest margins, coastal habitats and waste places. It occurs in rough foothills and less-intensively farmed areas and is often abundant in disturbed lowland and lower montane places. It is a plant that often aggressively invades rough pasture.

Features:
Shrub up to 2m high; main stems erect or spreading, densely branched in younger parts but eventually bare at base; young twigs and spines somewhat glaucous; hairs usu. grey. Leaves of seedlings not spinous but with 3 hairy leaflets; spines branched; terminal and lateral spines rigid, deeply furrowed, 15~30mm long; secondary spines subtending lateral up to 12mm long. Flowers solitary; bracteoles acute to rounded, 1.5~3mm wide. Calyx greenish-yellow, about 2/3~3/4 length of corolla, with generally patent hairs; calyx teeth connivent. Corolla clear yellow or golden yellow, 13~20mm long; wings > keel. Pod villous, turning dark brown to black, 13~25mm long; seeds smooth and rounded, brown or greenish-brown, shiny, few per pod. (Webb et. al., 1988).

Flowering:
(January) May, June, July, August, September, October, November (December)

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2610

Watsonia meriana var. bulbillifera

Common Name(s):
bulbil Watsonia

Current Threat Status (2009):
Exotic

Features:
Gladiolus-like, clump-forming, summer-green perennial to 2 m tall. Stout corms, 5-7 cm diam, with thick fibrous coat, multiply at ground level. Stem stiffly erect, 2 cm diam. Leaves sword-shaped, 2-5 x 30-60 cm, arising from base, folded, tough, fibrous, light green. Flowers curved, brick-red to salmon pink and 6-8cm long - numerous in a terminal spike. Petals 6, fused. Produces numerous brown cormils in clusters of up to 16 at nodes on the upper stem.

For more information, visit:
http://nzpcn.org.nz/flora_details.asp?ID=2646

Caption: Watsonia bulbillifera
Photographer: John Smith-Dodsworth

Caption: Flowering Watsonia bulbillifera
Photographer: John Smith-Dodsworth

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.
Basiscopic	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 of and growing into a new plant
Bullate	With rounded projections covering the surface as if blistered
Caespitose	Growing in dense tufts
Calli	Circular, warty, stalked thickenings commonly found on the lip (labellum) of the orchid (plural of callus).
Callose	Hardened or thickened.
Callus	Stalked thickening on the lip (labellum) of an orchid.
Calyx	The group of sepals, or outer floral leaves, of a flower
Campanulate	Bell-shaped.
Canaliculate	With longitudinal channels or grooves.
Canopy	The uppermost cover formed by the branches and leaves of trees or the spread of bushes,shrubs and ground covers.
Canopy closure	Stage where canopies of shrub and tree species meet.
Canopy manipulation	Selectively removing vegetation to create gaps to facilitate natural invasion of native plants, or to plant later successional plants.
Capillary	Hair-like
Capitula	Plural of capitulum: A dense head-like inflorescence of many flowers as occurs in most Asteraceae (daisies)
Capitulum	A dense head-like inflorescence of many flowers as occurs in most Asteraceae (daisies)
Capsule	A dry fruit formed from two or more fused carpels that splits open when ripe.
Carbon sinks	Carbon locked away, or sequestered e.g. by trees
Carpel	One unit of the female part of a flower that consists of a basal seed-bearing ovary joined to a receptive stigma by a stalk-like style.
Cauda	Tail-like appendage. (pl. caudae; adj. caudate)
Caudex	The axis of a woody plant, esp. a palm or tree fern, comprising the stem and root.
Cauline	Belonging to the stem, as in cauline leaves emerging from the stem.
Cerise	Bright or deep red.
Chartaceous	Having a papery texture.
Chlorophyll	The green pigment of plants.
Chlorotic	Lacking chlorophyll, therefore yellowish, suffering from chlorosis.
Cilia	Short small hair–like structures on a cell or microorganism
Ciliate	With small hairs (cilia).
Ciliolate	Diminutive of ciliate, i.e., having very small hairs
Cladode	Flattened stem with the function of a leaf
Cladodes	Usually flattened, photosynthetically active branches, these may be leaf–like (e.g., Phyllocladus) or branch–like (e.g., Carmichaelia)
Clavate	Club-shaped, gradually widening towards apex.
Cleft	Having indentations that extend about halfway to the center, as in certain leaves.
Cleistogamous	Flowers that self-fertilise without opening.
Coherent	Sticking together of like parts.
Column	Stamen and stigmas fused to form a single organ.

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

Term	Definition
Dorsal	Of the back or outer surface relative to the axis. (cf. ventral)
Drupe	A stone fruit, the seed enclosed in a bony covering (endocarp) which is surrounded by a + fleshy layer (mesocarp)
Early successional species	Plants which are able to colonise an open area after disturbance but which are often temporary and are replaced by taller plants in time and shaded out.
Echinate	having sharply pointed spines or bristles.
Ecological district	A characteristic landscape and biological community defined in the PNA (Protected Natural Area) programme.
Ecological restoration	Attempt to reinstate original (pre-disturbance) state of a habitat, plant community or ecosystem.
Ecosourced	Plants sourced from seed collected from similar naturally growing plants in the area of the planting site.
Ecosourcing	Using native plants grown from locally grown seeds. Eco-sourced plants help to preserve the ecological distinctiveness of an area, and ecosourced plants fare better and are adapted to survive in the local conditions.
Eglandular	Without glands.
Elaiosome	Fleshy, oil-rich structure attached to seed that attracts ants which act as dispersers.
Ellipsoid	Elliptic in long section and circular in cross-section.
Elliptic	Broadest at the middle
Emarginate	With a notch at the apex.
Emarginated	Having a shallow notch at the tip, as in some petals and leaves.
Emergent	In an aquatic sense - wetland herbs that are rooted in the substrate below water level, but carry leaves and stems above the water level e.g. rushes and raupo. Found on the shallow margins of lakes, ponds and waterways. In a forest sense - tree that is appearing above the surrounding canopy.
Emergent marginals	An aquatic plant having most of its structure above water. Other aquatic plants are submerged or floating.
Endemic	Unique or confined to a place or region, found naturally nowhere else.
Endophyte	An endosymbiont (usually a bacterium or fungus) that lives within a plant for at least part of its life without causing any apparent disease.
Endophytes	Endosymbionts (usually bacteria or fungi) that live within plants for at least part of their lives without causing any apparent disease.
Endosperm	The nutritive tissue of a seed, consisting of carbohydrates, proteins, and lipids.
Enrichment planting	Returning to a revegetation site and creating gaps, or filling existing gaps, with different plants of plants, usually later successional plants which may not have survived being planted in the first phases of the project.
Ensiform	Sword shaped
Entire	Smooth. Without teeth, notches or divisions.
Entomophilous	Pollinated by insects.
Epicalyx	Calyx–like structure outside, but close to, the true calyx.
Epigeal	Growing on or close to the ground or emerging from the ground after germination (often used for cotyledons).
Epiphyte	A plant that grows upon another plant but is not parasitic and does not draw nourishment from it.
Epiphytic	Growing upon another plant but not parasitic and not drawing nourishment it
Erose	Irregularly toothed, as if gnawed.
Estuarine	Pertaining to the meeting of freshwater and seawater wetlands.
Ethnobotany	The study of people's classification, management and use of plants.
Eusporangia	Sporangia that arise from groups of epidermal cells
Evanescent	Lasting a very short time or running a short distance.
Ex situ	Away from the place of natural occurrence.
Ex-situ	Maintenance of plants as live specimens or propagules in cultivation as insurance against the loss of wild populations and as source for material for translocation.
Excurrent	Having the axis prolonged to form an undivided main stem or trunk (as in conifers).
Extravaginal	Outside an enclosing sheath
Falcate	Hooked or curved like a sickle.
Fastigiate	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.
Ferrugineous	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 fimbrillae (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.
Frond	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	abrubtly bent
Genus	A taxonomic rank of closely related forms that is further subdivided in to species (plural = genera). In a scientific name (e.g., Sicyos australis), the first word is the genus, the second the species.
Gibbous	Swollen or enlarged on one side, as in a gibbous moon.
Glabrescent	Lacking hair or a similar growth or tending to become hairless
Glabrous	Without or devoid of hairs, smooth.
Gland	A structure that secretes a sticky or oily substance.
Glandular	A structure that secretes a sticky or oily substance.
Glaucous	Covered with a fine, waxy, removable powder that imparts a white or bluish cast to the surface.
Gley	A soil prone to seasonal inundation.
Globose	Globe-shaped.
Glume	One of two bracts at the base of a grass spikelet.
Groundwater	Groundwater is the water beneath the surface that can be collected with wells, tunnels, or drainage galleries, or that flows naturally to the earth's surface via seeps or springs. Groundwater is the water that is pumped by wells and flows out through springs.
Gymnosperm	Plants in the class Gymnospermae that have seeds which are not enclosed in an ovary.
Gynodioecious	A species population containing plants that produce bisexual (perfect) flowers, and plants that produce only female (pistillate) flowers.
Gynoecium	The female reproductive organs of a flower; the pistil or pistils considered as a group. Means literally "womans house" i.e., the overall structure that contains the female sex organs
Hastate	Spear like. Shaped like an arrowhead, but with basal lobes pointing outward rather than downward.
Haustorium	The absorbing organ of a parasite or hemiparasite
Hemi–parasite	Obtains water and nutrients from the roots of other plants but also manufactures food through photosynthesis.
Hemi–parasitic	Obtaining water and nutrients from the roots of other plants then manufacturing food through photosynthesis.
Herbarium	The place where collections of dried/pressed plants are kept.
Hermaphrodite	Having both male and female sexual characteristics and organs.
Heteroblastic	Exhibiting differences in leaf shapes or forms in juvenile and adult phases of the plant.
Heteroblasty	The state of being heteroblastic (i.e., exhibiting differences in leaf shapes or forms in juvenile and adult phases of the plant).
Hirsute	Hairy.
Hyaline	Membranous, thin and translucent.
Hybrid	An individual that is the offspring of a cross between two different varieties or species.
Hybridise	Breeding with a member of a different plant or type.
Hydrophyte	A plant species adapted to growing in or on water or in wet situations. Aquatic or semi-aquatic.
Hymenium	The fertile, spore–bearing layer of a fruitbody.
Hypanthium	A ring–like, cup–shaped, or tubular structure of a flower on which the sepals, petals, and stamens are borne.
Imbricate	Overlapping.
imbricating	Overlapping.
Imparipinnate	Odd–pinnate, a leaf shape; pinnate with a single leaflet at the apex.
In-situ	On site conservation relating to the maintenance of plants in the wild.
Inbreeding	Genetic similarity in offspring of closely related individuals.

Term	Definition
Incoherent	Not sticking together.
Incursion	Entrance of a pest into an area where it is not present
Indumentum	A covering of fine hairs (or sometimes scales)
Indusia	Plural of indusium, a membrane covering a sorus of a fern
Indusium	A thin tissue that covers the sorus in many ferns. Plural: indusia.
Inflorescence	The arrangement of flowers on the stem. A flower head.
Infundibuliform	Funnel–like.
Interkeel	The space between the keel and the leaf blade
Internode	The part of an axis between two nodes; the section of the stem between leaves.
Internodes	Part of a stem between two nodes.
Intramarginal	Within or near the margin.
Involucral bracts	The scales surrounding the flower head or capitula.
Involucre	A group of bracts surrounding a flower head.
Involute	With margins rolled inward toward the upper side.
Irritable	Responding to touch.
Jugate	Paired.
Juvenile	A plant of non-reproducing size.
Keel	A prominent or obvious longitudinal ridge (as in a boat).
Labellar	Pertaining to the labellum: a lip; in orchid flowers referring to the middle petal which usually differs in size, shape or ornamentation from the two lateral petals.
Labellum	A lip; in orchid flowers referring to the highly modified middle petal which usually differs in size, shape or ornamentation from the two lateral petals.
Lacinia	A jagged lobe.
Laciniae	Jagged lobes.
Laciniate	Cut into narrow, irregular lobes or segments.
Lacustrine	Of or having to do with a lake, of, relating to, or formed in lakes, growing or living in lakes.
Lamina	The expanded flattened portion or blade of a leaf, fern frond or petal.
Lanceolate	Lance-shaped; of a leaf several times longer than wide with greatest width about one third from the base, tapering gradually to apex and more rapidly to base
Lateral	On or at the side.
Lax	With parts open and spreading, not compact.
Laxly	With parts open and spreading, not compact
Leaflet	One section of a compound leaf.
Lemma	The lower of two bracts enclosing the flower in grasses.
Lenticillate	Bark that is covered in fine lenticles (breathing pores)
Ligulate	Strap–like, tongue–shaped
Ligule	The membrane between the leaf and the stem of a grass; the "petal" of a ray floret in a composite inflorescence
Linear	Long and narrow with more or less parallel sides.
Littoral	Occurring at the border of land and sea (or lake). On or pertaining to the shore. The shallow sunlit waters near the shore to the depth at which rooted plants stop growing.
Lobe	A recognisable, but not separated, rounded division or segment of a leaf or pinna. Used to describe ferns and leaves in Cotula and Leptinella.
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 Avicennia marina var. resiifera. 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 swampier 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 widdest near the apex (i.e., the terminal half broader than the basal half).
Obtuse	Blunt or rounded at the apex, with the sides meeting at an angle greater than 90°.
Operculate	With a small lid.
Opposite	A pair of organs attached at nodes in pairs on either side of a stem or axis.
Orbicular	Almost or approximately circular.
Outbreeding depression	A reduction in vigor of offspring from distant parents. It can occur when a locally adapted population is moved and mixed with plants adapted to different conditions.
Outer canopy deciduous	Marked reduction in leaf number in the outer canopy in exposed high light environments over winter.
Oval	Planar, shaped like a flattened circle, symmetrical about both the long and the short axis; about twice as long as broad, tapering equally both to the tip and the base. Synonymous with elliptical.
Ovary	Part of a flower containing the ovules and later the seeds.
Ovate	Egg-shaped and widest at base.
Ovoid	Oval; egg–shaped, with rounded base and apex.
Pakihi	A term which in its strict sense refers to open clears within forest dominated by low scrub and rushes. However, more usually used to refer natural and induced wetlands and their associated shrublands. A vernacular most frequently used in the West Coast for impoverished soils and their associated peats, left after forest has been cleared
Palea	The small upper bract enclosing the flower of a grass
palea	1. The upper of the two bracts that enclose each floret in a grass spikelet. 2. A small bract at the base of a disc floret in some plants of the composite family. 3. Scales on various parts of ferns (referred to as paleate or paleaceous). From the Latin word for 'chaff'.
paleae	Plural of palea, from the Latin word for 'chaff'. 1. The upper of the two bracts that enclose each floret in a grass spikelet. 2. A small bract at the base of a disc floret in some plants of the composite family. 3. Scales on various parts of ferns (referred to as paleate or paleaceous).
Palmately	Radiating from a point, as fingers radiating from the palm of a hand.
Palmatifid	Deeply divided into several lobes arising from more or less the same level.
Palmatisect	Intermediate between palmate and palmatifid, i.e. the segments are not fully separated at the base; often more or less digitate.
Palustrine	Pertaining to wet or marshy habitats. Term covers mires and marshes
Pandurate	Fiddle-shaped.
Panicle	Highly branched (multiple raceme).

Term	Definition
Papilla	A short rounded projection.
Papillae	A soft, fleshy projection, usually small and nipple–like.
Papillate	With short rounded projections.
Papillose	Warty, with short rounded projections or gland-dotted
Parallel venation	Veins are parallel along leaf.
Parasite	An organism that derives all its nourishment from its host.
Patent	Spreading or expanded, e.g., spreading petals.
Peat	A mass of partially carbonised plant tissue formed by partial decomposition in water of various plants and especially of mosses of the genus Sphagnum, widely found in many parts of the world, varying in consistency from a turf to a slime used as a fertiliser, as stable litter, as a fuel, and for making charcoal. Partially carbonized vegetable matter saturated with water; can be used as a fuel when dried. A type of soil deriving from dead organic material situated in a wet area, where the reduced amount of [[oxygen available in the wet conditions results in the organic material not decomposing as much as it usually would do so in the presence of more oxygen. Used in growing media. Represents an important carbon sink –drainage of peat releases large amounts of carbon (CO_2) to the atmosphere.
Pedicel	The stalk of a single flower in an inflorescence or fruit (either in a cluster or existing singularly).
Peduncle	The stalk of a solitary flower or the main stalk of an inflorescence or flower cluster.
Pedunculate	Describing fruits, which are borne on a stalk (a peduncle).
Pellucid	Transparent.
Peltate	Shield-like, with the stalk attached well inside the margin
Pendent	Hanging down from its support
Pendulous	Hanging or drooping.
Penicillate	With a tuft of hairs at the end, like a brush.
Perennial	A plant lasting for three seasons or more
Perianth	A collective term for the calyx (sepals or tepals) and corolla (petals) of the flower, especially when these are indistinguishable
Petal	Part of flower inside the sepals; usually coloured.
Petiolate	Having a petiole.
Petiole	Leaf stalk.
phloem	The vascular tissue in land plants that is primarily responsible for the distribution of sugars and nutrients manufactured in a shoot.
Photopoint	A monitoring technique where repeat photos are taken of the same scene from the same point over a period of time in order to quantify changes.
Pilose	Bearing long, soft hairs.
Pinna	A segment of a divided lamina that is classified as primary, secondary or tertiary according to the degree of dissection of the lamina.
Pinnae	Divisions of a pinnate leaf
Pinnate	With leaflets arranged regularly in two rows on either side of a stalk as in a feather; the lamina on a fern is divided into separate pinnae
Pinnatifid	Pinnately lobed, cleft more than halfway to the midrib. Not cleft all the way to the rachis.
Pinnatisect	Pinnately divided almost to midrib but segments still confluent.
Pioneer	Plant species are hardy species that should be planted first to establish a good canopy cover that restricts weed growth and promotes natural regeneration. In natural ecosystems these are the first plants to arrive and grow on a site.
Pistil	The female reproductive organ of a flower, consisting of an ovary, style, and stigma.
Pistillate	A flower with one or more pistils, but no stamens.
Plano-convex	Flat on one side, convex on the other.
Plumose	Feathery.
Podzol	Infertile, acidic soil, strongly leached to form a whitish-grey subsoil underlain by a layer enriched in iron, aluminium and organic matter; usually under forest in a wet temperate climate.
Pole	A subcanopy size individual with a long thin trunk and foliage tuft of a potential canopy tree.
Pollinia	Compact masses of orchid pollen.
Population enhancement	Increasing a population for a specific biological purpose, e.g., when a species is already present in an area but extra individuals are added to address a sex imbalance.
Porrect	Extending forward.
Procumbent	Lying and flat along the ground but not rooting
Propagate	To reproduce a plant by sexual (i.e., from seed) or asexual (e.g., from cuttings) means.
Prostrate	A general term for lying flat along the ground. This includes procumbent (that is lying and flat along the ground but not rooting) and decumbent (with a prostrate or curved base and an erect or ascending tip).
Provenance	The place of origin (of a plant that is in cultivation).
Proximal	Toward the base or point of attachment (cf. distal).
Pseudobulb	Thickened surface stem; usually looking like a bulb.
Pseudoterminal	Falsely terminal – as in a bud which appears to occupy a terminal position but does not

Term	Definition
Puberulent	Minutely clad in short, soft hairs
Pubescence	Covering of soft, fine hairs
Pubescent	Covered in short, soft hairs.
Pungent	Ending in a stiff sharp point
Pustule	Small blister-like elevation.
Quadrate	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 (Apodasmia similis)
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 horizontallly or creeping) or short and erect.
Rhombic	Diamond-shaped.
Rhomboid	Diomond 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 Juncus 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 (Alectryon excelsus).
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 skhizein 'split' and karpos 'fruit'
schizocarps	Plural of schizocarp, a fruit which splits when dry, from the Greek skhizein 'split' and karpos '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 of leaf-like appendage at the base of a petiole, usually paired.
Stolon	A stem which creeps along the ground, or even underground.
Stoloniferous	Producing stolons
Stramineous	Chaffy, like straw or straw-colored.
Stria	A fine line or groove.
Striae	Fine lines or grooves.
Striate	Fine longitudinal lines or minute ridges
Style	The elongated part of the flower between the ovary and the stigma.
Sub-	A prefix meaning under, somewhat or almost.
Subglabrous	Very slightly, but persistently, hairy.
Suborbicular	Slightly rounded in outline
Substrate	The surface upon which an orchid grows.
Subtended	Immediately beneath, occupying a position immediately beneath a structure, i.e., flower subtended by bract
Subulate	Slender and tapering to a point.
Succession	Progressive replacement of one species or plant community type by another in an ecosystem.
Successional	Referring to species, plant communities or habitats that tend to be progressively replaced by another.
Succulent	Fleshy and juicy.
Summer-green	Used in New Zealand to indicate herbs or sub-shrubs that die down to a root stock or rhizomatous network.
Supplementary planting	Returning to a revegetation site and creating gaps, or filling existing gaps, with different plants of plants, usually later successional plants which may not have survived being planted in the first phases of the project.

Term	Definition
Surface water	Water present above the substrate or soil surface.
Surveillance	Regular survey for pests inside operational and managed areas e.g. nurseries, standout areas on parks.
Survey	Collection of observations on the spatial distribution or presence or absence of species using standardised procedures.
Sustainable Land Management	The use of farming practices which are sustainable both financially and environmentally including management of nutrient runoff, waste disposal or stock effluent, reducing impacts of nutrients on waterways, preventing erosion and soil loss, and protecting native forest and wetland habitats from stock damage.
Swamp	Low land that is seasonally flooded; has more woody plants than a marsh and better drainage than a bog. They are more fertile and less acidic than bogs because inflowing water brings silt, clay and organic matter. Typical swamp plants include raupo, purei and harakeke (flax). Zonation and succession often leads through manuka to kahikatea swamp forest as soil builds up and drainage improves.
Symbiote	An organism that has an association with organisms of another species whereby the metabolic dependence of the two associates is mutual.
Symbiotic	The relation between two different species of organisms that are interdependent; each gains benefits from the other (see also symbiosis).
Sympatric	Occupying the same geographical region.
Synangia	Structures made up of fused sporangia
Synonym	A botanical name that also applies to the same taxon.
Systematics	The study of taxonomy, phylogenetics, and taxagenetics.
Tabular	Shaped like a rectangular tablet.
Taxa	Taxonomic groups. Used to refer to a group at any level e.g., genus, species or subspecies.
Taxon	A taxonomic group. Used to refer to a group at any level e.g., genus, species or subspecies.
Taxonomy	The process or science of classifying, naming, and describing organisms
Tepal	An individual member of the perianth.
Terete	Cylindrical and tapering.
Terminal	At the tip or apex.
Ternatifid	Leaflets In threes,
Tetrad	A group of four.
Tomentum	A hairy covering of short closely matted hairs.
Translocation	The movement of living organisms from one area to another.
Trifid	Divided into three.
Trifoliate	Having three leaflets.
Trigonous	Three–angled
Tripinnate	With each secondary pinna divided to the midrib into tertiary pinnae
Triquetrous	Triangular in cross section and acutely angled.
Truncate	With the apex or base squared at the end as if cut off.
Tuberculate	Bearing small swellings.
Tubular	Tube-shaped.
turbinate	Top-shaped.
Turgid	Distended through internal pressure
Type locality	The place or source where a holotype or type specimen was found for a species.
Ultramafic	A type of dark, usually igneous, rock that is chemically dominated by magnesium and iron-rich minerals, the partially metamorphosed form of which is serpentinite.
Umbel	Umbrella like; the flower stalks arise from one point at the stem.
Undulate	Wavy edged.
Undulose	Wavy edged.
Unitubular	A tube partioned 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 leafs than 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 a aquatic or semi-aquatic environment.

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