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Made on the New Zealand Plant Conservation Network website – [www.nzpcn.org.nz](http://www.nzpcn.org.nz)

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## Introduction

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

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

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

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

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

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

## The New Zealand Botanic Region

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

## About the Network

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

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

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

That work has included:

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

## What is a threatened plant?

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

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

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

## *Acacia mearnsii*

### **Common Name(s):**

black wattle

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Waste places, scrubland, pasture, riverbanks

### **Features:**

Shrub to large tree, twigs ribbed or angled. Leaves 2-pinnate, pinnae in 9-18 pairs, pinnules close-set, dark green and in 20-60 pairs.

Inflorescence consists of many pale creamy yellow globose heads arranged in racemes. Seed pod straight or somewhat curved, up to 90 x 7 mm, usually constricted around each seed.

### **Flowering:**

July, August, September

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2419](http://nzpcn.org.nz/flora_details.asp?ID=2419)



**Caption:** *Acacia mearnsii*

**Photographer:** Nic Singers



**Caption:** *Acacia mearnsii*

**Photographer:** John Smith-Dodsworth

## *Allium triquetrum*

### **Common Name(s):**

onion weed

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Disturbed forest and shrubland, streamsides, herbfields, bare land. Especially after spraying or other clearance to bare land.

### **Features:**

Perennial herb to about 60 cm, strong garlic smell. Bulbs to 10-15 mm diameter, with offset bulbs. Leaves 2-5, linear, fleshy, keeled, 20-60 cm long, with white papery sheaths. The leaves usually die back in late spring. Flower stalk is three-sided, 20-60 cm high, fleshy and soft, sheathed by leaves at the base. Flowers are bell-shaped, 10-15 mm long, 5 petalled, white with green stripe on the petals, on drooping stalks. Seed capsules 7 mm diameter containing small black seeds.

### **Flowering:**

October, November

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2483](http://nzpcn.org.nz/flora_details.asp?ID=2483)



**Caption:** Hutt Valley. Sep 2007.

**Photographer:** Jeremy Rolfe



**Caption:** Onion weed

**Photographer:** John Barkla

## *Anredera cordifolia*

### **Common Name(s):**

madeira vine

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial. Coastal localities, wasteland, especially shrub covered areas such as coastal gullies.

### **Features:**

Climbing vine with slender stems often reddish, ageing to dull brown. Leaves slightly succulent, less so when exposed to high light, shining, broadly oval shaped, up to 13 cm with small irregular tubers where they join to the stem. Tubers can accumulate to form large clusters. Long hanging racemes of small white fragrant flowers to 18cm long are produced January to April.

### **Flowering:**

January, February, March, April

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2538](http://nzpcn.org.nz/flora_details.asp?ID=2538)



**Caption:** Stem tubers. Growing on boxthorn.

**Photographer:** Colin Ogle



**Caption:** Wanganui.

**Photographer:** Colin Ogle

## *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](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

## *Arum italicum*

### **Common Name(s):**

Italian arum

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Heavily disturbed shrubland and forest, herbfield, damp areas with low cover, regenerating ex-pasture.

### **Features:**

Tuberous, clump-forming perennial 25-60 cm tall. Main tuber 4 cm diameter, many small tubers attached. Leaves up to 30 cm long, arrow shaped (young leaves thinner), glossy, dark-green with creamy midrib and main veins, purple-tinged, present from Autumn to Spring. Flower a yellow spike, surrounded by a 30 x 15 cm, pale green translucent bract. Berries 1 cm, orange or red, on flower stalk after leaves die back.

### **Flowering:**

October, November

### **Fruiting:**

November, December

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3473](http://nzpcn.org.nz/flora_details.asp?ID=3473)



**Caption:** Arum italicum plant

**Photographer:** John Smith-Dodsworth



**Caption:** Arum italicum close up of leaf

**Photographer:** Peter de Lange, June 2006, Western Springs, Motat Grounds



# *Asparagus scandens*

**Common Name(s):**

climbing asparagus

**Current Threat Status (2009):**

Exotic

**Habitat:**

Terrestrial. Found in lowland and coastal forest, shrublands, mature broadleaf/podocarp forests especially those of light to moderate shade, streams, coastal areas, shrublands, epiphytic niches, roadsides, gravel pits/quarries, farm hedges, house gardens and wasteland areas. Can infest unmodified and fully intact forest.

**Features:**

Slender scrambling or climbing perennial. Tuberous roots. Stems 2-4 m long, green and much branched at the top, thin and wiry. Leaves are flat cladodes (resembling miro), usually in threes at each node, 5-15 mm x 1-1.5 mm. Flowers tiny, whitish, Sep-Dec. Round berry, 8 mm diam, green turning orange-red, Oct-Feb, with 1-2 seeds.

**Flowering:**

September, October,  
November, December

**Fruiting:**

January, May, August  
(Timmins & MacKenzie  
1995).

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3481](http://nzpcn.org.nz/flora_details.asp?ID=3481)



**Caption:** Coromandel, December  
**Photographer:** John Smith-Dodsworth



**Caption:** Asparagus scandens  
**Photographer:** Richard Hursthouse

## *Buddleja davidii*

### Common Name(s):

buddleia

### Current Threat Status (2009):

Exotic

### Habitat:

Terrestrial. Occurs in Lowland sites with low-moderate fertility (Timmins & MacKenzie 1995). Colonises new, coarse-textured, nitrogen deficient surfaces (Smale 1990). Colonises stable habitats (Kay & Smale 1990). Thrives on free-draining pumice soils of the central north island (Mike Harre, pers comm.) Found in scrub and forest margins, cliffs, bluffs and riverbeds (Timmins & MacKenzie 1995). Colonises alluvial sites (Smale 1990). Very invasive of forest margins and revegetation areas (Porteus 1993). The plant is invasive of waste spaces, river beds and plantation forests especially following land disturbance i.e. forest harvesting (Golden Bay Gazette, 27/12/96).

### Features:

Deciduous (occasionally semi-evergreen) open, multi-stemmed shrub to 3+ m tall. Stems bluntly angled, clad in tufts of easily-removed soft woolly hair (tomentos when young), becoming lax when long. Leaves willow-shaped, 6-20 x 3-8 cm, thin, usually hairless above, white or grey tomentose below, finely toothed. Flowerhead a distinctive, dense, cone-shaped panicle 30 x 5 cm with many flowers; each 5 mm diam, fragrant, purple or white, orange inside, Dec- Feb. Seed capsule 5-10 mm long.

### Flowering:

December, January, February, March, April

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=3582](http://nzpcn.org.nz/flora_details.asp?ID=3582)



**Caption:** Moke Lake, near Queenstown

**Photographer:** John Barkla



**Caption:** Moke Lake, near Queenstown

**Photographer:** John Barkla

## *Cestrum nocturnum*

### **Common Name(s):**

queen of the night

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial.

### **Features:**

Shrub, generally 1.5-2.5 m high, almost glabrous. Petiole c. 1cm long. Lamina 5-15 X 1.5-6 cm, elliptic to elliptic-ovate, glabrous or with minute puberulence when young; base cuneate to rounded, sometimes asymmetric; apex abruptly acuminate. Panicle open, large; fls usually shortly pedicellate, sometimes sessile, fragrant nocturnally. Calyx 2-3 mm long; lobes >1 mm long, +/- triangular, densely ciliate, acut. Corolla 1.5-2 cm long, pale green or greenish white; tube cylindrical to narrow-funnelform, widening slightly above; lobes 3 mm long, eventually spreading, glabrous except for shortly villous margins. Fruit c. 0.5 - 1 cm diameter, globose to ellipsoid, white glossy. (Webb et al 1988).

### **Flowering:**

November, December, January, February, March

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3669](http://nzpcn.org.nz/flora_details.asp?ID=3669)



**Caption:** *Cestrum nocturnum*, Cult, Coromandel.

**Photographer:** John Smith-Dodsworth



**Caption:** *Cestrum nocturnum*, Cult, Coromandel.

**Photographer:** John Smith-Dodsworth

# *Chrysanthemoides monilifera* subsp. *monilifera*

**Common Name(s):**

boneseed, bitou bush

**Current Threat Status (2009):**

Exotic

**Habitat:**

Terrestrial. mainly coastal areas, coastal cliffs, inshore islands, dry shrublands, shrubland margins, consolidated sand dunes, gumlands, roadsides, quarries, wastelands, exotic plantations and a threat to offshore islands.

**Features:**

Bushy, semi-woody, much branched shrub or small tree to 2-3 m. Young stems ribbed and woolly, becoming smooth. Leaves alternate, smooth, leathery, entire, 70 x 35 mm, margins irregularly toothed. Bright yellow daisy-like flowers, 25-30 mm diam, Sep-Feb. Fruit an oval green drupe, 6-9 mm, hard with thin fleshy covering, turning black, with very hard seed.

**Flowering:**

September, October, November, December, January, February

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3703](http://nzpcn.org.nz/flora_details.asp?ID=3703)



**Caption:** Quail Island

**Photographer:** John Barkla



**Caption:** Quail Island

**Photographer:** John Barkla

## *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](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

### **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 steeples, 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](http://nzpcn.org.nz/flora_details.asp?ID=3767)



**Caption:** Naenae, Lower Hutt.  
May 2103

**Photographer:** Jeremy Rolfe



**Caption:** Cotoneaster  
glaucophyllus in flower

**Photographer:** John Smith-Dodsworth

## *Cyrtomium falcatum*

**Common Name(s):**

holly fern

**Current Threat Status (2009):**

Exotic

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3779](http://nzpcn.org.nz/flora_details.asp?ID=3779)



**Caption:** New Plymouth. Jun 2012.

**Photographer:** Colin Ogle



**Caption:** *Cyrtomium falcatum*

**Photographer:** John Smith-Dodsworth

## *Erigeron karvinskianus*

### **Common Name(s):**

Mexican daisy

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial. Intact and disturbed bush, shrubland, tussockland, fernland, herbfield, bare land, streamsides, cliffs and bluffs, inshore and offshore islands, gumlands, consolidated sand dunes, most coastal areas, riverbeds, epiphyte niches.

### **Features:**

Sprawling perennial daisy to 40 cm tall. Roots fibrous. Stems long, thin, sparsely hairy to hairless, much-branching, rooting, sprawling, 15-70 cm long. Leaves small, narrow (upper leaves usually 3-lobed), fragrant when crushed. Flowers daisy-like, white, white-purplish or pink, central disc yellow to brownish-yellow, Jan-Dec. Fluffy seeds in profusion.

### **Flowering:**

September, October, November, December, January, February, March, April, May.

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3912](http://nzpcn.org.nz/flora_details.asp?ID=3912)



**Caption:** Eastbourne Hills

**Photographer:** John Sawyer



**Caption:** Eastbourne Hills

**Photographer:** John Sawyer



## *Lantana camara* var. *aculeata*

### Common Name(s):

Lantana

### Current Threat Status (2009):

Exotic

### Features:

Aromatic shrub; stems upright to spreading, or almost scrambling to about 2m high, usu. with recurved prickles. Petioles to 2cm long. Lamina 3~13 x 1.5~7cm, ovate or oblong-ovate, crenate or crenate-serrate, densely hispidulous or scabrid above, the hairs usually dense but soft below; glandular scales minute; base cuneate to subcordate; apex acute to short-acuminate. Infl. corymbose; flowers fragrant. Peduncles 3~10cm long, moderately slender; bracts (1~3)/4 length of corolla tube, linear-lanceolate, densely hairy but eglandular. Calyx 1.5~2.5mm long, ciliate. Corolla densely puberulent outside; tube around 1cm long, narrow-cylindric; limb 6~10mm diam., when fresh, rather flat except for generally recurved lobes, usu. initially cream or pale yellow, changing to pink to rose, rarely deep yellow or orange. Drupe approx. 5mm diam., globular, black or blue-black. (- Webb et. al., 1988)

### References and further reading:

Gardner, R.O. 1995. *Lantana camara* warning for Northern New Zealand. *Auckland Botanical Society Journal*, 50: 27-28.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=3372](http://nzpcn.org.nz/flora_details.asp?ID=3372)



**Caption:** Algies Bay, Auckland  
**Photographer:** John Sawyer



**Caption:** Algies Bay, Auckland  
**Photographer:** John Sawyer

## *Leycesteria formosa*

### Common Name(s):

Himalayan honeysuckle

### Current Threat Status (2009):

Exotic

### Habitat:

Terrestrial. A plant of coastal and lowland habitats (Timmins & MacKenzie 1995). The plant occurs in streams and favours damper habitats (Veitch 1995; Department of Conservation 1996). A plant of streams, shrublands, light gaps in forests (such as windfall gaps), roadsides, exotic plantations, farm hedges and wasteland habitats (Veitch 1995; Department of Conservation 1996). A plant of scrub and forest margin, shrubland and riverbed communities (Timmins & MacKenzie 1995).

### Features:

Shrub to 2m high; stems hollow, glabrous, green, glaucous at first. Petiole .5~2cm long, purplish, with hairy groove on upper side. Lamina 4~14 x 1.5~8cm, ovate or broad-ovate, mostly entire, sometimes 5~9-lobed with rounded sinuses, becoming glabrous except for midrib and bases of main veins; base rounded to cordate; apex long-acuminate. Infl. 3~8cm long at flowering. Bracts mostly 1~3cm long, sessile, broad-ovate, aristate-acuminate, generally glandular-hairy, usu. deep reddish-purple. Calyx small, hidden by bracts; lobes very unequal. Corolla approx. 1.5cm long, funnellform, white; lobes rounded at apex, much < tube, with glandular-hairy margins. Stamens shortly exserted. Style > stamens. Berry 7~10mm diam., subglobose, dark brownish-purple, glandular-hairy. Seed 1.1~1.5mm long, obovoid-ellipsoid, shining brown, minutely white-dotted. (- Webb et. al., 1988)

### Flowering:

December, January, February, March, April, May.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=3405](http://nzpcn.org.nz/flora_details.asp?ID=3405)



**Caption:** *Leycesteria formosa*

**Photographer:** John Barkla



**Caption:** Near Raglan, west coast, North Island

**Photographer:** John Sawyer

## *Ligustrum sinense*

### **Common Name(s):**

Chinese privet

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial. A plant of coastal and lowland habitats (Timmins & MacKenzie 1995). The plant occurs in sites of low-high fertility (Timmins & MacKenzie 1995). A plant of scrub and forest margin, roadsides, fencelines, open forest communities (Timmins & MacKenzie 1995). Communities in which the plant occurs are alluvial forest remnants, wastelands, shrublands, open stream systems and coastal areas (Department of Conservation 1996).

### **Features:**

Shrub or small tree to approx. 5m high, evergreen, or semi-deciduous in cold districts. Shoots densely hairy. Petioles to 5mm long, hairy. Lamina 2.5~6 x 1.25~2.5cm, elliptic or elliptic-oblong, dull green above, hairy on midrib beneath and usu. above in lower part, ciliate when young; base broad-cuneate; apex usu. obtuse. Panicles to around 10cm long, rather loose; branches densely hairy, somewhat flattened, generally angular; pedicels short. Bracts and bracteoles linear to oblong, caducous. Flowers very fragrant. Calyx 1~2mm long, glabrous or nearly so; lobes very shallow. Corolla white; tube 1.5~2mm long, slightly > calyx; lobes about 3mm long, elliptic-ovate, spreading, subacute. Stamens = or slightly < corolla lobes; anthers pinkish-mauve or purple. Style exserted. Fruit 4~6mm diam., globose or subglobose, dull- or purplish-black. Seed 3~4mm long, oblong, shallowly grooved. (- Webb et. al., 1988)

### **Flowering:**

July, August, September, October, November, December, January, February, March

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3420](http://nzpcn.org.nz/flora_details.asp?ID=3420)



**Caption:** *Ligustrum sinense*  
**Photographer:** John Smith-Dodsworth



**Caption:** *Ligustrum sinense*  
**Photographer:** Richard Hursthouse

# *Lycium ferocissimum*

## Common Name(s):

boxthorn

## Current Threat Status (2009):

Exotic

## Habitat:

Terrestrial. A plant of lowland and coastal habitats. A plant of low fertility sites. The plant occurs in sites with stony ground and gravel, as well as ungrazed areas. A plant that occurs in sand dunes. Other sites that the plant occurs are shrublands, coastal scrub (Porteus 1993) and other coastal area as well as scrub on cliffs, banks and roadsides. A plant of coastal shrublands and disturbed waste places.

## Features:

Densely branched evergreen shrub, 1~6m high. Shoots and young leaves with minute glandular scales. Leaves subsessile or shortly petiolate, alternate on young shoots but on mature stems mostly in fascicles on short spurs along the rigid branch spines. Lamina 5~43 x 3~12mm, oblong, linear-oblong or spatulate; base attenuate; apex rounded-truncate. Flowers 1~2 together, on short spurs. Pedicels slender, around 5mm long at flowering, to 2cm long at fruiting. Calyx 4~8mm long, tubular-campanulate; teeth triangular, obtuse to acute. Corolla 10~13mm long; tube broad-cylindric; lobes 4~5mm long, obovate, pale mauve or cream; apex rounded. Filaments hairy at base. Fruit 5~12mm diam., globular or obovoid, scarlet.

## Flowering:

July, August, September, October, November, December, January, February, March

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=3164](http://nzpcn.org.nz/flora_details.asp?ID=3164)



**Caption:** Near Raglan, west coast, North Island

**Photographer:** John Sawyer



**Caption:** *Lycium ferocissimum*

**Photographer:** John Sawyer

## *Nephrolepis cordifolia*

### **Common Name(s):**

tuber sword fern

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial. Open forest, clay banks, track margins, rock outcrops.  
Lowland sites: rock outcrops, track margins.

### **Features:**

Terrestrial or epiphytic fern to 1 m. Rhizomes small, erect, scaly, producing many long runners and round, 1-3 cm hairy potato-like tubers (only fern with tubers). Fronds 40-100 x 5-8 cm, erect (arching when long), pinnae leaflets) serrated.

### **Flowering:**

N/A

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3230](http://nzpcn.org.nz/flora_details.asp?ID=3230)



**Caption:** *Nephrolepis cordifolia*

**Photographer:** John Smith-Dodsworth



**Caption:** *Nephrolepis cordifolia*

**Photographer:** John Smith-Dodsworth

## *Nerium oleander*

### **Common Name(s):**

Oleander

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial. Persisting in the vicinity of old plantations.

### **Features:**

Much-branched shrub to about 4 m high. Leaves opposite and shortly petiolate, to 15 x 2.5 cm on flowering shoots, to 25 x 4 cm on suckering shoots. Large pink flowers with reddish-purple calyx. Flowers are usually single but can be semi-double. Fruits are uncommon, but are up to 18 cm long when produced.

### **Flowering:**

November, December, January, February, March.

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3234](http://nzpcn.org.nz/flora_details.asp?ID=3234)



**Caption:** Hamilton Road, Herne Bay, Auckland

**Photographer:** John Sawyer



**Caption:** Hamilton Road, Herne Bay, Auckland

**Photographer:** John Sawyer

## *Osteospermum fruticosum*

### **Common Name(s):**

Dimorphotheca

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial. Sand and coastal sites.

### **Features:**

Perennial herb, becoming woody at the base often forming dense mats. The leaves are alternately arranged on procumbent stems. Leaves are fleshy, toothed and are up to 10 x 2.5 cm. Daisy-like flowers are produced with white-mauve petals and dark central disc. Many small seeds are produced.

### **Flowering:**

August, September, October, November, December, January

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=3266](http://nzpcn.org.nz/flora_details.asp?ID=3266)



**Caption:** *Osteospermum fruticosum*

**Photographer:** John Smith-Dodsworth



**Caption:** *Osteospermum fruticosum*

**Photographer:** John Smith-Dodsworth

## *Psidium cattleianum*

**Common Name(s):**

purple guava

**Current Threat Status (2009):**

Exotic

**Habitat:**

Terrestrial.

**Features:**

Large shrub or tree to 6 m high. Trunk smooth, pale brown. Leaves smooth, oval to 4-5 cm long. Round fruit to 2 cm diameter becoming dark purple or sometimes yellow. edible.

**Flowering:**

January, February, March

**Fruiting:**

June-August

**For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2861](http://nzpcn.org.nz/flora_details.asp?ID=2861)



**Caption:** Robinson Crusoe Island, Chile

**Photographer:** John Sawyer



**Caption:** Robinson Crusoe Island, Chile

**Photographer:** John Sawyer



## *Robinia pseudoacacia*

### **Common Name(s):**

black locust

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial.

### **Features:**

Deciduous tree up to 25 m high. The compound pinnate leaves are 20-30 cm long, bearing 12-15 elliptic leaflets arising more or less opposite one another. Branches are scattered with sharp, stipular spines c. 1 cm long. Inflorescence is a raceme with numerous white flowers, each about 1 cm long.

### **Flowering:**

November, December, January

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2918](http://nzpcn.org.nz/flora_details.asp?ID=2918)



**Caption:** Hutt River Trail north of Stokes Valley. Nov 2007.

**Photographer:** Jeremy Rolfe



**Caption:** Flowers. Hutt River Trail north of Stokes Valley. Nov 2007.

**Photographer:** Jeremy Rolfe

## *Rumex sagittatus*

### **Common Name(s):**

climbing dock

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial.

### **Features:**

Climbing or scrambling, dioecious or monoecious perennial with tuberous woody rootstock; stems to approx. 3m long, glabrous, flexuous. Leaves all similar. Petioles slender,  $\geq$  lamina. Lamina 3~8 x 2~6cm, triangular or hastate with 2 long basal lobes at 45° to petiole, otherwise entire, slightly puberulent on main veins below when young; sinus broad and rounded; apex acuminate to cuspidate. Panicle pyramidal, with small leaves in the lower axils only. Pedicels filiform, long, glabrous. Perianth 1.5~2mm long, green; outer segments generally ovate-oblong, becoming strongly reflexed in female flowers. Fruit valves 6~9mm diam., orbicular, entire, prominently reticulate, cordate, yellow, pink to crimson; tubercles 0. Nuts approx. 3mm long, glossy light brown; keels almost winged. (-Webb et. al., 1988)

### **Flowering:**

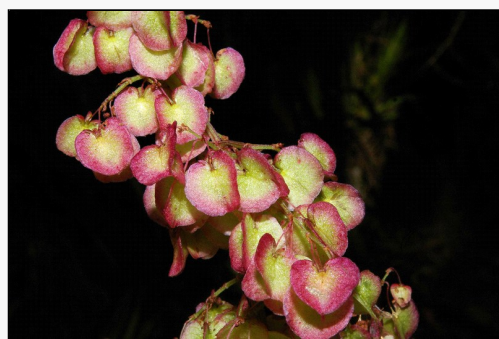
November, December, January, February, March

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2974](http://nzpcn.org.nz/flora_details.asp?ID=2974)



**Caption:** *Rumex sagittatus*  
**Photographer:** John Smith-Dodsworth



**Caption:** *Rumex sagittatus*  
**Photographer:** John Smith-Dodsworth

# *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

**\*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](http://nzpcn.org.nz/flora_details.asp?ID=2983)



**Caption:** *Salix cinerea*

**Photographer:** John Smith-Dodsworth



**Caption:** *Salix cinerea*

**Photographer:** Nic Singers

# *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](http://nzpcn.org.nz/flora_details.asp?ID=2790)



**Caption:** Northland

**Photographer:** John Sawyer



**Caption:** Northland

**Photographer:** John Sawyer

## *Tecomaria capensis*

### **Common Name(s):**

Cape honeysuckle

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Terrestrial.

### **Features:**

Vigorous hedge plant with bright orange flowers, a strong tendency to ramble if left uncut, and ability to layer itself indefinitely away from the original hedge site.

### **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=2824](http://nzpcn.org.nz/flora_details.asp?ID=2824)



**Caption:** Tecomaria capensis flowers

**Photographer:** Jeremy Rolfe, May 2006, Riversdale



**Caption:** Tecomaria capensis flowers

**Photographer:** Jeremy Rolfe, May 2006, Riversdale

## *Vinca major*

### **Common Name(s):**

periwinkle

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

A widespread escape from cultivation naturalised in all districts. Waste places, particularly in the shade of trees by riverbanks, roadsides, cemeteries and around gardens.

### **Features:**

Stems glabrous, long and partly trailing or running and rooting at nodes, with terminal part often ascending, forming dense mats often covering many square metres. Petiole 7~20mm long; margins hirsute. Lamina 4~10 x 2.5~7cm, ovate, usually dark glossy green above, rarely variegated white and green; midrib hairy above; margins ciliate; base mostly rounded or subcordate, sometimes truncate or broad-cuneate; apex obtuse or acute, pedicels 2.5~4cm long, slender. Calyx .9~1.7cm long; lobes linear-subulate, ciliate, glandular towards base, Corolla tube approx. 1.5cm long; limb 3.5~5cm diam., mauvish-blue; lobes obliquely obovate; apex truncate or obtuse. Anthers slightly wider than long. Follicles 3.5~5cm long, the apical part very narrow and pointed, constricted between seeds. Seeds 7~8mm long, oblong, strongly corrugated; margins inrolled. (Webb et. al., 1988) The plant has endless trailing and twining stems (Hilgendorf 1926), and glossy green leaves and beautiful pale blue salver-shaped flowers 2 -3 cm across (Hilgendorf 1926). A plant that forms a dense mat of long running, hairless stems with roots at the nodes (Department of Conservation 1996). The opposite leaves are oval, usually around 4 cm long, usually a dark glossy green and rarely variegated white and green (Department of Conservation 1996). The flowers are tubular and flat-lobed at the mouth to 5cm in diameter and are a mauvish blue (Department of Conservation 1996).

### **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=2637](http://nzpcn.org.nz/flora_details.asp?ID=2637)



**Caption:** Otago Peninsula

**Photographer:** John Barkla



**Caption:** Waihopo, Far North

**Photographer:** John Sawyer

## *Yucca gloriosa*

### **Common Name(s):**

Spanish dagger, palm lily, mound-lily yucca

### **Current Threat Status (2009):**

Exotic

### **Habitat:**

Occur naturally on coastal dunes and shell mounds near the Atlantic, from North Carolina to north-east Florida.

### **Features:**

An erect evergreen shrub with swordlike leaves about 5 cm wide and 0.6-0.9 m long originating from a basal rosette. The leaves are bluish or grayish green with smooth margins and pointed tips. They tend to bend near the middle and arch downward. In summer mound-lily yucca puts up a showy 6-8 ft (1.8-2.4 m) spike of fragrant flowers that are white with purplish tinges, pendant and about 7.6 cm across. Mound-lily yucca stays in a stemless rounded clump 2-5 ft (0.6-1.5 m) across and about the same height for several years, but eventually develops a trunk or stem which elevates that clump of leaves above the ground as much as 1.8-2.4 m. In older plants the stem develops branches and each terminus has its own rosette of leaves.

### **Flowering:**

Summer

### **For more information, visit:**

[http://nzpcn.org.nz/flora\\_details.asp?ID=2654](http://nzpcn.org.nz/flora_details.asp?ID=2654)



**Caption:** *Yucca gloriosa*

**Photographer:** John Smith-Dodsworth



**Caption:** *Yucca gloriosa*

**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
<b>Abaxial</b>	Facing away from the stem of a plant (especially denoting the lower surface of a leaf).
<b>Acerose</b>	Narrow with a sharp stiff point.
<b>Achene</b>	A simple, dry, one-seeded (one-celled) fruit
<b>Acicular</b>	Needle-shaped.
<b>Acidic</b>	Having a low pH, opposite of basic or alkaline.
<b>Acroscopic</b>	Pointing towards, or on the side of, the apex
<b>Acuminate</b>	Gradually tapered to a point. Sharply pointed.
<b>Acute</b>	Pointed or sharp, tapering to a point with straight sides.
<b>Adnate</b>	Fusion of unlike parts, e.g. stamens fused to petals.
<b>Adventive</b>	A plant that grows in the wild in New Zealand but which was introduced to the country by humans.
<b>Agglutinated</b>	Stuck together.
<b>Allelopath</b>	An organism that releases compounds that are toxic to other species.
<b>Allelopathy</b>	The release by an organism of compounds that are toxic to other species.
<b>Alternate</b>	Attached singly at each node but changing from one side of a stem to the other.
<b>Alveolate</b>	Honeycombed with ridged partitions.
<b>Amplexicaul</b>	clasping or surrounding the stem
<b>Anamorph</b>	Asexual fruiting stage, usually of an ascomycete fungus.
<b>Anastomosing</b>	Rejoining after branching, as in some leaf veins.
<b>Annual</b>	A plant that completes its complete life cycle within the space of a year
<b>Annual evergreen</b>	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.
<b>Annulus</b>	Line of thickened cells that governs the release of spores from a sporangium
<b>Anterior</b>	Towards the front.
<b>Anther</b>	The pollen-bearing portion of the stamen.
<b>Antheridium</b>	Male reproductive organ formed on the prothallus of a fern
<b>Anthesis</b>	When the flower is fully developed and functioning. The time of pollination or bloom.
<b>Apex</b>	Tip; the point furthest from the point of attachment.
<b>Apices</b>	Plural of apex. Tip, the point furthest from the point of attachment
<b>Apiculate</b>	Bearing a short slender and flexible point.
<b>Apiculus</b>	A small, slender point.
<b>Apomixis</b>	A form of reproduction whereby seed is formed without the usual mode of sexual fusion
<b>Appressed</b>	Pressed against another organ or surface.
<b>Aquatic</b>	Growing, or living in, or frequenting water. Applied to plants and animals and their habitats. Opposite of terrestrial (land living).
<b>Archegonium</b>	Female reproductive organ of a fern formed on the prothallus
<b>Arcuate</b>	Curved into an arch.
<b>Aril</b>	An often fleshy appendage on the outside of a seed.
<b>Artificial thinning</b>	Selectively removing vegetation to create gaps to facilitate natural invasion of native plants, or to plant later successional plants.
<b>Ascending</b>	Growing obliquely upward.
<b>Asexual</b>	Vegetative reproduction, lacking sexual involvement by sperm or egg cells
<b>Attenuate</b>	Narrowing gradually
<b>Auricle</b>	A small, ear-shaped appendage.
<b>Auriculate</b>	Bearing a small, ear-shaped appendage.
<b>Autogamous</b>	Self-fertilising flowers.
<b>Autotrophic</b>	Of or relating to organisms (as green plants) that can make complex organic nutritive compounds from simple inorganic sources by photosynthesis
<b>awn</b>	A stiff or bristle like projection often from the tip or back of an organ
<b>Axil</b>	The upper angle between the leaf and the stem.
<b>Axis</b>	The longitudinal supporting structure around which organs are borne, e.g., a stem bearing leaves.
<b>Barbellate</b>	Barbed, having or covered with protective barbs or quills or spines or thorns or setae
<b>Basal</b>	At the base.
<b>Basispic</b>	Pointing towards the base
<b>Beak</b>	A prominent extension of an organ
<b>Bifid</b>	Deeply split into two lobes.
<b>Bifurcate</b>	Divided into two.



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

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

<b>Term</b>	<b>Definition</b>
<b>Dorsal</b>	Of the back or outer surface relative to the axis. (cf. ventral)
<b>Drupe</b>	A stone fruit, the seed enclosed in a bony covering (endocarp) which is surrounded by a + fleshy layer (mesocarp)
<b>Early successional species</b>	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.
<b>Echinate</b>	having sharply pointed spines or bristles.
<b>Ecological district</b>	A characteristic landscape and biological community defined in the PNA (Protected Natural Area) programme.
<b>Ecological restoration</b>	Attempt to reinstate original (pre-disturbance) state of a habitat, plant community or ecosystem.
<b>Ecosourced</b>	Plants sourced from seed collected from similar naturally growing plants in the area of the planting site.
<b>Ecosourcing</b>	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.
<b>Eglandular</b>	Without glands.
<b>Elaiosome</b>	Fleshy, oil-rich structure attached to seed that attracts ants which act as dispersers.
<b>Ellipsoid</b>	Elliptic in long section and circular in cross-section.
<b>Elliptic</b>	Broadest at the middle
<b>Emarginate</b>	With a notch at the apex.
<b>Emarginated</b>	Having a shallow notch at the tip, as in some petals and leaves.
<b>Emergent</b>	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.
<b>Emergent marginals</b>	An aquatic plant having most of its structure above water. Other aquatic plants are submerged or floating.
<b>Endemic</b>	Unique or confined to a place or region, found naturally nowhere else.
<b>Endophyte</b>	An endosymbiont (usually a bacterium or fungus) that lives within a plant for at least part of its life without causing any apparent disease.
<b>Endophytes</b>	Endosymbionts (usually bacteria or fungi) that live within plants for at least part of their lives without causing any apparent disease.
<b>Endosperm</b>	The nutritive tissue of a seed, consisting of carbohydrates, proteins, and lipids.
<b>Enrichment planting</b>	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.
<b>Ensiform</b>	Sword shaped
<b>Entire</b>	Smooth. Without teeth, notches or divisions.
<b>Entomophilous</b>	Pollinated by insects.
<b>Epicalyx</b>	Calyx-like structure outside, but close to, the true calyx.
<b>Epigeal</b>	Growing on or close to the ground or emerging from the ground after germination (often used for cotyledons).
<b>Epiphyte</b>	A plant that grows upon another plant but is not parasitic and does not draw nourishment from it.
<b>Epiphytic</b>	Growing upon another plant but not parasitic and not drawing nourishment it
<b>Erose</b>	Irregularly toothed, as if gnawed.
<b>Estuarine</b>	Pertaining to the meeting of freshwater and seawater wetlands.
<b>Ethnobotany</b>	The study of people's classification, management and use of plants.
<b>Eusporangia</b>	Sporangia that arise from groups of epidermal cells
<b>Evanescent</b>	Lasting a very short time or running a short distance.
<b>Ex situ</b>	Away from the place of natural occurrence.
<b>Ex-situ</b>	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.
<b>Excurrent</b>	Having the axis prolonged to form an undivided main stem or trunk (as in conifers).
<b>Extravaginal</b>	Outside an enclosing sheath
<b>Falcate</b>	Hooked or curved like a sickle.
<b>Fastigate</b>	Branches erect and close to central axis.
<b>Fen</b>	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.
<b>Ferruginous</b>	Rust-like (a colour term)
<b>Fertile frond</b>	Fronds that bear sporangia.
<b>Filamentous</b>	Resembling a filament.
<b>Filiform</b>	Thread like, resembling a filament.
<b>Filiramulate</b>	Branching at a very wide angle with stiff intertwined stems.
<b>Fimbriae</b>	Plural of fimbria: Fringe. A fimbria is composed of many fimbriae (individual hair-like structures).
<b>fimbriate</b>	With fringes.
<b>Flabellate</b>	Fan shaped.
<b>Flaccid</b>	Limp, not rigid, flabby.
<b>Flange</b>	A projecting rim.

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

Term	Definition
<b>Incoherent</b>	Not sticking together.
<b>Incursion</b>	Entrance of a pest into an area where it is not present
<b>Indumentum</b>	A covering of fine hairs (or sometimes scales)
<b>Indusia</b>	Plural of indusium, a membrane covering a sorus of a fern
<b>Indusium</b>	A thin tissue that covers the sorus in many ferns. Plural: indusia.
<b>Inflorescence</b>	The arrangement of flowers on the stem. A flower head.
<b>Infundibuliform</b>	Funnel-like.
<b>Interkeel</b>	The space between the keel and the leaf blade
<b>Internode</b>	The part of an axis between two nodes; the section of the stem between leaves.
<b>Internodes</b>	Part of a stem between two nodes.
<b>Intramarginal</b>	Within or near the margin.
<b>Involucral bracts</b>	The scales surrounding the flower head or capitula.
<b>Involucre</b>	A group of bracts surrounding a flower head.
<b>Involute</b>	With margins rolled inward toward the upper side.
<b>Irritable</b>	Responding to touch.
<b>Jugate</b>	Paired.
<b>Juvenile</b>	A plant of non-reproducing size.
<b>Keel</b>	A prominent or obvious longitudinal ridge (as in a boat).
<b>Labellar</b>	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.
<b>Labellum</b>	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.
<b>Lacinia</b>	A jagged lobe.
<b>Laciniae</b>	Jagged lobes.
<b>Laciniate</b>	Cut into narrow, irregular lobes or segments.
<b>Lacustrine</b>	Of or having to do with a lake, of, relating to, or formed in lakes, growing or living in lakes.
<b>Lamina</b>	The expanded flattened portion or blade of a leaf, fern frond or petal.
<b>Lanceolate</b>	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
<b>Lateral</b>	On or at the side.
<b>Lax</b>	With parts open and spreading, not compact.
<b>Laxly</b>	With parts open and spreading, not compact
<b>Leaflet</b>	One section of a compound leaf.
<b>Lemma</b>	The lower of two bracts enclosing the flower in grasses.
<b>Lenticillate</b>	Bark that is covered in fine lenticles (breathing pores)
<b>Ligulate</b>	Strap-like, tongue-shaped
<b>Ligule</b>	The membrane between the leaf and the stem of a grass; the "petal" of a ray floret in a composite inflorescence
<b>Linear</b>	Long and narrow with more or less parallel sides.
<b>Littoral</b>	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.
<b>Lobe</b>	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> .
<b>Lobed</b>	Part of a leaf (or other organ), often rounded, formed by incisions to about halfway to the midrib.
<b>Lobule</b>	A small lobe or sub-division of a lobe
<b>Lustrous</b>	Glossy, shiny.
<b>Lycophytes</b>	Seedless vascular plants that belong to the phylum Lycophyta (characterised by microphylls -primitive leaves found in ancient plants).
<b>Lyrate</b>	Pinnatifid or pinnatisect terminal lobe much larger than lower lobes.
<b>Maculate</b>	Blotched or spotted.
<b>Mangrove</b>	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.
<b>Margin</b>	The edge or border of a leaf
<b>Marine</b>	Pertaining to the sea and saltwater systems.
<b>Marsh</b>	A tract of wet land principally inhabited by partially-submerged herbaceous vegetation. Has fewer woody plants than swamper habitats.
<b>Mealy</b>	Dry, powdery, crumbly.
<b>Median</b>	In the middle.
<b>Membranous</b>	Very thin, like a membrane.
<b>Mid-lobe</b>	The middle part into which a leaf is divided.
<b>Midrib</b>	The central or principal vein of a leaf or pinna of a fern.
<b>Mire</b>	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
<b>Molecular techniques</b>	Where proteins and genes are used to investigate plant relationships
<b>Monitoring</b>	Recording of quantitative data over time to document changes in condition or state of species or ecosystems.
<b>Monoecious</b>	Having male and female flowers on the same plant of the same species.
<b>Montane</b>	Land between 300 and 800 metres above sea level.
<b>Mucronate</b>	Tipped with a short, sharp, point.
<b>Mucronulate</b>	Having a very small mucro; diminutive of mucronate.
<b>Multi-annual evergreen</b>	Overlapping annual cohorts of leaves always present.
<b>Multifid</b>	Cleft into many lobes or segments
<b>Multiseptate</b>	With many septa.
<b>Mycorrhiza</b>	A symbiotic relationship between a fungus and a plant.
<b>Mycorrhizal associations</b>	Symbiotic association between fungi and plant roots which assists plant health by allowing increased ability for uptake of nutrients and promote plant growth.
<b>Napiform</b>	A long swollen but tapering root – like a parsnip, or carrot.
<b>Native</b>	Naturally occurring in New Zealand (i.e., not introduced accidentally or deliberately by humans).
<b>naturalised</b>	Referring to plants that have escaped from cultivation (including gardens or forest plantations) and can now reproduce in the wild (without human assistance)
<b>Nectary</b>	Organ that produces nectar.
<b>Nerve</b>	Prominent vein or rib.
<b>Nerves</b>	Strands of conducting and usually strengthening tissue in a leaves or similar structures
<b>Net veins</b>	Veins that repeatedly divide and re-unite.
<b>Net venation</b>	Feather-like or hand-like venation on a leaf.
<b>Nival</b>	Growing at high altitudes. From Latin: nivalis, snowy etc. from nix, nivis, snow.
<b>Node</b>	The point at which leaves, branches or roots arise on a stem.
<b>Ob-</b>	Prefix meaning inverted, in reverse direction.
<b>Obcordate</b>	Heart shaped with the notch at the apex.
<b>Oblanceolate</b>	Tapering and widest towards the apex or inversely lanceolate.
<b>Oblique</b>	Slanting; of a leaf, larger on one side of the midrib than the other, in other words asymmetrical.
<b>Oblong</b>	Rectangular.
<b>Obovate</b>	Roughly elliptical or reverse egg shaped and widest near the apex (i.e., the terminal half broader than the basal half).
<b>Obtuse</b>	Blunt or rounded at the apex, with the sides meeting at an angle greater than 90°.
<b>Operculate</b>	With a small lid.
<b>Opposite</b>	A pair of organs attached at nodes in pairs on either side of a stem or axis.
<b>Orbicular</b>	Almost or approximately circular.
<b>Outbreeding depression</b>	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.
<b>Outer canopy deciduous</b>	Marked reduction in leaf number in the outer canopy in exposed high light environments over winter.
<b>Oval</b>	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.
<b>Ovary</b>	Part of a flower containing the ovules and later the seeds.
<b>Ovate</b>	Egg-shaped and widest at base.
<b>Ovoid</b>	Oval; egg-shaped, with rounded base and apex.
<b>Pakihi</b>	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
<b>Palea</b>	The small upper bract enclosing the flower of a grass
<b>Palmately</b>	Radiating from a point, as fingers radiating from the palm of a hand.
<b>Palmatifid</b>	Deeply divided into several lobes arising from more or less the same level.
<b>Palmatisect</b>	Intermediate between palmate and palmatifid, i.e. the segments are not fully separated at the base; often more or less digitate.
<b>Palustrine</b>	Pertaining to wet or marshy habitats. Term covers mires and marshes
<b>Pandurate</b>	Fiddle-shaped.
<b>Panicle</b>	Highly branched (multiple raceme).
<b>Papilla</b>	A short rounded projection.
<b>Papillae</b>	A soft, fleshy projection, usually small and nipple-like.
<b>Papillate</b>	With short rounded projections.
<b>Papillose</b>	Warty, with short rounded projections or gland-dotted
<b>Parallel venation</b>	Veins are parallel along leaf.

Term	Definition
<b>Parasite</b>	An organism that derives all its nourishment from its host.
<b>Patent</b>	Spreading or expanded, e.g., spreading petals.
<b>Peat</b>	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 <sub>2</sub> ) to the atmosphere.
<b>Pedicel</b>	The stalk of a single flower in an inflorescence or fruit (either in a cluster or existing singularly).
<b>Peduncle</b>	The stalk of a solitary flower or the main stalk of an inflorescence or flower cluster.
<b>Pedunculate</b>	Describing fruits, which are borne on a stalk (a peduncle).
<b>Pellucid</b>	Transparent.
<b>Peltate</b>	Shield-like, with the stalk attached well inside the margin
<b>Pendent</b>	Hanging down from its support
<b>Pendulous</b>	Hanging or drooping.
<b>Penicillate</b>	With a tuft of hairs at the end, like a brush.
<b>Perennial</b>	A plant lasting for three seasons or more
<b>Perianth</b>	A collective term for the calyx (sepals or tepals) and corolla (petals) of the flower, especially when these are indistinguishable
<b>Petal</b>	Part of flower inside the sepals; usually coloured.
<b>Petiolate</b>	Having a petiole.
<b>Petiole</b>	Leaf stalk.
<b>phloem</b>	The vascular tissue in land plants that is primarily responsible for the distribution of sugars and nutrients manufactured in a shoot.
<b>Photopoint</b>	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.
<b>Pilose</b>	Bearing long, soft hairs.
<b>Pinna</b>	A segment of a divided lamina that is classified as primary, secondary or tertiary according to the degree of dissection of the lamina.
<b>Pinnae</b>	Divisions of a pinnate leaf
<b>Pinnate</b>	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
<b>Pinnatifid</b>	Pinnately lobed, cleft more than halfway to the midrib. Not cleft all the way to the rachis.
<b>Pinnatisect</b>	Pinnately divided almost to midrib but segments still confluent.
<b>Pioneer</b>	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.
<b>Pistil</b>	The female reproductive organ of a flower, consisting of an ovary, style, and stigma.
<b>Pistillate</b>	A flower with one or more pistils, but no stamens.
<b>Plano-convex</b>	Flat on one side, convex on the other.
<b>Plumose</b>	Feathery.
<b>Podzol</b>	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.
<b>Pole</b>	A subcanopy size individual with a long thin trunk and foliage tuft of a potential canopy tree.
<b>Pollinia</b>	Compact masses of orchid pollen.
<b>Population enhancement</b>	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.
<b>Porrect</b>	Extending forward.
<b>Procumbent</b>	Lying and flat along the ground but not rooting
<b>Propagate</b>	To reproduce a plant by sexual (i.e., from seed) or asexual (e.g., from cuttings) means.
<b>Prostrate</b>	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).
<b>Provenance</b>	The place of origin (of a plant that is in cultivation).
<b>Proximal</b>	Toward the base or point of attachment (cf. distal).
<b>Pseudobulb</b>	Thickened surface stem; usually looking like a bulb.
<b>Pseudoterminal</b>	Falsely terminal – as in a bud which appears to occupy a terminal position but does not
<b>Puberulent</b>	Minutely clad in short, soft hairs
<b>Pubescence</b>	Covering of soft, fine hairs
<b>Pubescent</b>	Covered in short, soft hairs.
<b>Pungent</b>	Ending in a stiff sharp point
<b>Pustule</b>	Small blister-like elevation.

Term	Definition
<b>Quadrat</b>	Square, rectangular.
<b>Raceme</b>	An unbranched, elongated inflorescence with pedicellate flowers maturing from the bottom upward i.e., flowers attached to the main stem by short stalks.
<b>Rachis</b>	the axis of an inflorescence or of a compound leaf
<b>Ray</b>	An outer ring of strap-like florets in the head of Asteraceae (daisy) flowers.
<b>Re-introduction</b>	Translocating wild or cultivated individuals to sites where the taxon has been known to occur in the past, but from which it has disappeared.
<b>Recurved</b>	Curved backward.
<b>Reflexed</b>	Bent back on itself
<b>Reniform</b>	Kidney shaped.
<b>Repand</b>	With a slightly wavy margin.
<b>Replum</b>	The outer structure of a pod in which the valves have dehisced (persists after the opening of the fruit)
<b>Restiad</b>	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> )
<b>Retorse</b>	Pointing backward.
<b>Retuse</b>	A shallow notch at the rounded or blunt apex of a leaf.
<b>Rhizoid</b>	Any of various slender filaments that function as roots in mosses and ferns and fungi.
<b>Rhizomatous</b>	With underground creeping stems.
<b>Rhizome</b>	An underground stem (usually spreading horizontally or creeping) or short and erect.
<b>Rhombic</b>	Diamond-shaped.
<b>Rhomboid</b>	Diamond shaped, nearly rhombic.
<b>Riparian</b>	Relating to or living or located on the bank of a natural watercourse (as a river) or sometimes of a lake or a tidewater.
<b>Riparian margin</b>	Refers to the edges of streams, rivers, lakes or other waterways.
<b>Riparian plants</b>	Refers to plants found growing near the edges of streams, rivers or other waterways.
<b>Riparian zone</b>	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".
<b>Riverine</b>	Pertaining to rivers, streams and such like flowing water systems.
<b>Rootstock</b>	A short, erect, underground stem.
<b>Rosette</b>	A radiating cluster of leaves.
<b>Rostellum</b>	In orchids, a modified stigma that prevents self-fertilisation.
<b>Rosulate</b>	A dense radiating cluster of leaves.
<b>Rugose</b>	Wrinkled.
<b>Rugulose</b>	Having small wrinkles.
<b>Runcinate</b>	Sharply pinnatifid or cleft, the segments directed downward.
<b>Runner</b>	A trailing stem that roots at the nodes.
<b>Rupestral</b>	Growing on rocks.
<b>Rushes</b>	A group of distinctive wetland plants. They have solid stems (grasses have hollow stems), true rushes <i>Juncus</i> sp. have rounded leaves.
<b>Sagittate</b>	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.
<b>Salt marsh</b>	A coastal wetland, with specialized salt tolerant plants (halophytes).
<b>Sapling</b>	A juvenile tree that has reached the stage of 1 or 2 main stems but is still in the shrub layer.
<b>Saprophyte</b>	A plant lacking chlorophyll and living on dead organic matter.
<b>Saprophytic</b>	Lacking chlorophyll and living on dead organic matter.
<b>Sarcotesta</b>	The fleshy, often highly coloured outer layer of the seed coat in some species, e.g., titoki ( <i>Alectryon excelsus</i> ).
<b>Scabrid</b>	Roughened or rough with delicate and irregular projections.
<b>Scale</b>	Any thin, flat, membranous structure.
<b>Scape</b>	A leafless flower stem.
<b>Scutiform</b>	Shield-shaped.
<b>Sedges</b>	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".
<b>Seedling</b>	A newly germinated plant.
<b>Self sustaining</b>	Able to sustain itself, or replace itself, independently of management i.e. regenerate naturally
<b>Self thinning</b>	Natural tree death in a crowded, even-aged forest or shrubland.
<b>Semi-deciduous</b>	Partial leaflessness in winter, and greater than 50% leaves lost by the beginning of spring flush.
<b>Sepal</b>	Outer part of flower; usually green.
<b>Serrate</b>	Sharply toothed with teeth pointing forwards towards apex.
<b>Serrulate</b>	Finely serrate, i.e., finely toothed with asymmetrical teeth pointing forward; like the cutting edge of a saw.



<b>Term</b>	<b>Definition</b>
<b>Sessile</b>	Attached by the base without a stalk or stem.
<b>Seta</b>	The stalk of a fruiting moss capsule
<b>Sheath</b>	A portion of an organ that surrounds (at least partly) another organ (e.g., the tubular envelope enclosing the stem in grasses and sedges).
<b>Silicles</b>	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)
<b>Silique</b>	A capsule, usually 2-celled, with 2 valves falling away from a frame (replum) bearing
<b>Simple</b>	Of one part; undivided (cf compound).
<b>Sinuate</b>	With a wavy margin.
<b>Sinus</b>	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.
<b>Sorus</b>	A cluster of two or more sporangia on the margin or underside of the lamina of a fern, sometimes protected by an indusium.
<b>Spathulate</b>	Spatula or spoon-shaped, a rounded blade tapering gradually to the base.
<b>Spheroidal</b>	Almost spherical but elliptic in cross section.
<b>Spicate</b>	Arranged in a spike.
<b>Spike</b>	Flowers attached to main stem without stalks.
<b>Spikelet</b>	Collection of individual grass florets borne at the end of the smallest branch of the inflorescence.
<b>Sporangia</b>	Plural of sporangium. Structures in which spores are produced.
<b>Sporangium</b>	Structure in which spores are produced.
<b>Spore</b>	A single-celled reproductive unit similar in function to that of the seed in a flowering plant.
<b>sporophyte</b>	The spore producing plant in ferns that is usually the visible part.
<b>Stamen</b>	The male reproductive organ of a flower where pollen is produced. Consists of an anther and its stalk.
<b>Stamens</b>	The male, pollen bearing organ of a flower.
<b>Standing water</b>	Where water lies above the soil surface for much of the year.
<b>Stellate</b>	Irregularly branched or star shaped.
<b>Stigma</b>	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.
<b>Stipe</b>	The stalk of a frond.
<b>Stipitate</b>	Borne on a stipe or stalk.
<b>Stipulate</b>	A leaf with stipules.
<b>Stipule</b>	A scale-like of leaf-like appendage at the base of a petiole, usually paired.
<b>Stolon</b>	A stem which creeps along the ground, or even underground.
<b>Stoloniferous</b>	Producing stolons
<b>Stramineous</b>	Chaffy, like straw or straw-colored.
<b>Stria</b>	A fine line or groove.
<b>Striae</b>	Fine lines or grooves.
<b>Striate</b>	Fine longitudinal lines or minute ridges
<b>Style</b>	The elongated part of the flower between the ovary and the stigma.
<b>Sub-</b>	A prefix meaning under, somewhat or almost.
<b>Subglabrous</b>	Very slightly, but persistently, hairy.
<b>Suborbicular</b>	Slightly rounded in outline
<b>Substrate</b>	The surface upon which an orchid grows.
<b>Subtended</b>	Immediately beneath, occupying a position immediately beneath a structure, i.e., flower subtended by bract
<b>Subulate</b>	Slender and tapering to a point.
<b>Succession</b>	Progressive replacement of one species or plant community type by another in an ecosystem.
<b>Successional</b>	Referring to species, plant communities or habitats that tend to be progressively replaced by another.
<b>Succulent</b>	Fleshy and juicy.
<b>Summer-green</b>	Used in New Zealand to indicate herbs or sub-shrubs that die down to a root stock or rhizomatous network.
<b>Supplementary planting</b>	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.
<b>Surface water</b>	Water present above the substrate or soil surface.
<b>Surveillance</b>	Regular survey for pests inside operational and managed areas e.g. nurseries, standout areas on parks.
<b>Survey</b>	Collection of observations on the spatial distribution or presence or absence of species using standardised procedures.
<b>Sustainable Land Management</b>	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.
<b>Swamp</b>	Low land that is seasonally flooded; has more woody plants than a marsh and better drainage than a bog. They are more fertile and less acidic than bogs because inflowing water brings silt, clay and organic matter. Typical swamp plants include raupo, purei and harakeke (flax). Zonation and succession often leads through manuka to kahikatea swamp forest as soil builds up and drainage improves.

Term	Definition
<b>Symbiote</b>	An organism that has an association with organisms of another species whereby the metabolic dependence of the two associates is mutual.
<b>Symbiotic</b>	The relation between two different species of organisms that are interdependent; each gains benefits from the other (see also symbiosis).
<b>Sympatric</b>	Occupying the same geographical region.
<b>Synangia</b>	Structures made up of fused sporangia
<b>Synonym</b>	A botanical name that also applies to the same taxon.
<b>Systematics</b>	The study of taxonomy, phylogenetics, and taxogenetics.
<b>Tabular</b>	Shaped like a rectangular tablet.
<b>Taxa</b>	Taxonomic groups. Used to refer to a group at any level e.g., genus, species or subspecies.
<b>Taxon</b>	A taxonomic group. Used to refer to a group at any level e.g., genus, species or subspecies.
<b>Taxonomy</b>	The process or science of classifying, naming, and describing organisms
<b>Tepal</b>	An individual member of the perianth.
<b>Terete</b>	Cylindrical and tapering.
<b>Terminal</b>	At the tip or apex.
<b>Ternatifid</b>	Leaflets In threes,
<b>Tetrad</b>	A group of four.
<b>Tomentum</b>	A hairy covering of short closely matted hairs.
<b>Translocation</b>	The movement of living organisms from one area to another.
<b>Trifid</b>	Divided into three.
<b>Trifoliate</b>	Having three leaflets.
<b>Trigonous</b>	Three-angled
<b>Tripinnate</b>	With each secondary pinna divided to the midrib into tertiary pinnae
<b>Triquetrous</b>	Triangular in cross section and acutely angled.
<b>Truncate</b>	With the apex or base squared at the end as if cut off.
<b>Tuberculate</b>	Bearing small swellings.
<b>Tubular</b>	Tube-shaped.
<b>turbinate</b>	Top-shaped.
<b>Turgid</b>	Distended through internal pressure
<b>Type locality</b>	The place or source where a holotype or type specimen was found for a species.
<b>Ultramafic</b>	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.
<b>Umbel</b>	Umbrella like; the flower stalks arise from one point at the stem.
<b>Undulate</b>	Wavy edged.
<b>Undulose</b>	Wavy edged.
<b>Unitubular</b>	A tube partitioned once – literally one tube (compare – multitubular – many tubes)
<b>Utricle</b>	A thin loose cover enveloping some fruits (eg., Carex, Uncinia)
<b>Valvate</b>	Opening by valves.
<b>Vascular plant</b>	A plant that possesses specialised conducting tissue (xylem and phloem). This includes flowering plants, conifers and ferns but excludes mosses, algae, lichens and liverworts.
<b>Velutinous</b>	Thickly covered with delicate hairs; velvety.
<b>Ventral</b>	Of the front or inner (adaxial) surface relative to the axis. (cf. dorsal)
<b>Vermiform</b>	Worm-shaped.
<b>Vernicose</b>	Glossy, literally as if varnished, e.g., Hebe vernicosa has leaves that appear as if varnished
<b>Verrucose</b>	Having small rounded warts.
<b>Verticillium</b>	A fungus disease that will cause wilting and death.
<b>Villous</b>	Covered with long, soft, fine hairs.
<b>Water table</b>	The level at which water stays in a soil profile. The zone of saturation at the highest average depth during the wettest season.
<b>Wetland</b>	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.
<b>Whipcord</b>	A shrub in which the leaves are reduced to scales that are close-set and pressed against the stem.
<b>Whorl</b>	A ring of branches or leaves arising at the same level around the stem of a plant.