



# Bream Head Scenic Reserve Threatened and At Risk Plants



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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.

## *Calystegia marginata*

### Common Name(s):

small-flowered white bindweed

### Threat Status (2009):

Naturally Uncommon

### Distribution:

Indigenous. North Island from Te Pahi to Auckland City in the West and Cuvier Island in the east. There are historic records from near Thames. Present in Eastern Australia.

### Habitat:

Primarily coastal but also found in lowland areas. Prefers open shrublands, rough pasture or bracken dominated sites, usually on coastal headlands, but also on road sides, along railway embankments and in rough pasture and lawns.

### Features:

Glabrous perennial vine with creeping rhizome and slender twinning or prostrate stems (when prostrate these root freely at the nodes). Petioles slender (20-)50(-55) x 0.5-1 mm. Lamina bright green, 25-80 x 15-45 mm, sagittae, usually narrowly triangular (rarely broadly so); apex acute to acuminate; basal lobes acute, usually distinctly toothed (resembling a fish tail); basal sinus broad and rounded. Flowers usually solitary; peduncles 10-25 mm long, narrowly winged. Bracts broad-ovate, obtuse. 10 mm long. Sepals broad-ovate, < bracts, obtuse. Corolla 15 x 12 mm, white, campanulate. Capsule 6 mm diam., globose. Seeds black, reticulately ribbed, ribs protruberant.

### Flowering:

Present throughout the year but peaking in spring and summer

### Fruiting:

Present throughout the year

### Threats:

Ignorance seems to be the main threat. Because it is frequently mistaken as a convolvulus, it is sprayed. Also its preference for successional habitats and along road margins tend to make it especially vulnerable to routine, roadside weed spraying. Despite this problem there is some field evidence to suggest it is actually increasing its range. Plants have even been found in urban areas such as Whangarei and Auckland, in situations where the species had not previously been known.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=229](http://nzpcn.org.nz/flora_details.asp?ID=229)



**Caption:** *Calystegia marginata* on roadside adjacent to Whangaroa Harbour

**Photographer:** Bill Campbell



**Caption:** Seed. In cultivation. Jul 2007.

**Photographer:** Jeremy Rolfe

## *Celmisia adamsii* var. *rugulosa*

### Common Name(s):

Whangarei Heads Daisy

### Threat Status (2009):

Naturally Uncommon

### Distribution:

Endemic. North Island: Mt Manaia, Bream Head and other nearby high points

### Habitat:

In coastal forest where it mostly grows on steep-sided, shaded or exposed, sparsely vegetated slopes, rock outcrops, cliff faces and rock tors. Also recorded from rough pasture and reverting shrubland.

### Features:

Tufted herb with simple or sparingly branched stock, pseudo-stem up to  $\pm$  60 mm long. Lamina subcoriaceous, acute, often with fine apiculus, 60-250  $\times$  10-15 mm, narrowly to broadly oblong-lanceolate to almost linear-oblong (diverse forms may occur on same plant); upper surface  $\pm$  glabrous, dark green to yellow-green, with a distinct thin, persistent pellicle, midrib broad, grooved, main veins prominent; lower clad in soft white appressed or subappressed tomentum, midrib prominent; margins distantly finely denticulate, narrowing to petiole up to c. 30 mm long; sheath 40-50  $\times$  15 mm, dark green, sometimes tinged purple, veins evident, surface tomentum  $\pm$  as in lamina, margins floccose. Scape 150-300 mm long, rather slender, often flexuous,  $\pm$  flattened, floccose. Bracts usually few, up to 10 mm long, lamina almost filiform. Capitula 30-50 mm diameter; involucre bracts, green to pale green, linear-subulate to narrow-lanceolate, c.12 mm long, margins ciliolate, midrib evident. Ray-florets numerous, up to 30 mm. long, tube slender; limb gradually widened to 4-toothed apex, veins distinct.

Disk-florets 6.0-6.5 mm long, narrow-funnelform, teeth narrow-triangular. Achenes glabrous, strongly ribbed, narrowly compressed-cylindric to very narrowly obovoid, c.3.0-3.8 mm. long. Pappus-hairs sordid-white, up to 5 mm long, slender, finely barbellate.

### Flowering:

September - April

### Fruiting:

October - July

### Threats:

A naturally uncommon, narrow range endemic that is abundant within its few known locations. Some populations have been damaged by tracking and illegal plant collection but most are inaccessible to the general public and one of the most vulnerable has been secure from these threats by a change in track systems to protect waahi tapu.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=413](http://nzpcn.org.nz/flora_details.asp?ID=413)



**Caption:** Mt Manaia, November

**Photographer:** John Smith-Dodsworth



**Caption:** Mt Manaia, November

**Photographer:** John Smith-Dodsworth

# *Chionochloa bromoides*

## Common Name(s):

Coastal Tussock, Seabird Tussock

## Threat Status (2009):

Naturally Uncommon

## Distribution:

Endemic. North Island where virtually confined to northern offshore islands and easterly headlands from the Bay of Islands south to the Poor Knights, Chickens and Mokohinau Islands. One westerly outlier occurs at Maunganui Bluff.

## Habitat:

Coastal on cliff faces, bluffs, rock stacks, and in petrel scrub. Well established plants often have their bases heavily burrowed by sea birds such as diving petrels.

## Features:

Gynodioecious, stout, pendent often sprawling, bright green tussock with persistent leaves and sheaths. Leaf-sheath to 150 mm, shining yellow, keeled, persistent and entire, becoming fibrous, margin abundantly long hairy below, apical tuft of hairs to 4 mm; adaxially with many minute interrib hairs. Ligule to 1.5 mm. Leaf-blade to 500 × 10 mm, flat or shallowly U-shaped, smooth, persistent, adaxially glabrous except for long hairs on margin below and some short or long hairs, sometimes dense, at base. Culm to 700 mm, internodes glabrous. Inflorescence to 200 mm, very congested; rachis and main branches glabrous but with some long hairs at axils; pedicels short and densely hairy. Spikelets of up to 6 florets. Glumes acute or slightly awned, < adjacent lemma lobes, many prickle-teeth abaxially and a few adaxially; lower to 12 mm, 1-3-nerved, upper to 16 mm, 5-nerved.

Lemma to 9 mm; hairs dense at margin and in all internerves though sometimes absent from all or some, less than or equal to sinus, prickle-teeth abundant abaxially and adaxially on lobes and margins; lateral lobes to 5 mm including awn to 3 mm or acute, rarely dividing from awn at sinus; central awn to 22 mm from indistinct straight column. Palea to 10 mm, prickle-teeth abaxially and on flanks. Callus to 1.5 mm, hairs to 5 mm. Rachilla to 0.5 mm. Lodicules to 1.75 mm. Anthers to 5.5 mm in male-fertile flowers, up to 3 mm in male-sterile flowers. Male-fertile flowers with stigma-styles to 3.5 mm, ovary to 1.5 mm, and male-sterile flowers to 5 mm, ovary 1.5 mm. Seeds to 3.5 mm.

## Flowering:

September - December

## Fruiting:

November - March

## Threats:

Not Threatened. Listed because it is a naturally uncommon, regional endemic.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=439](http://nzpcn.org.nz/flora_details.asp?ID=439)



**Caption:** Central Valley mouth, Fanal Island

**Photographer:** Peter de Lange



**Caption:** Maunganui Bluff (November)

**Photographer:** John Smith-Dodsworth

## *Drosera hookeri*

### Common Name(s):

Sundew

### Threat Status (2009):

Coloniser

### Distribution:

Indigenous. North Island from Te Pahi south to about Auckland. Also Australia (south-eastern Australia and eastern Tasmania).

### Habitat:

Coastal to lowland on consolidated sand dunes, on clay pans, sometimes on peat. Usually in low gum land scrub and adjacent shrub lands. Often common after fires, and favours frequently disturbed ground.

### Features:

Tuberous herb, often bright yellow-green in colour (rarely reddish to maroon); tuber ovoid, up to 5 × 5 mm tall; surface white to red, often in a papery sheath; vertical stolon 10–40 mm long. Above ground parts of the plants highly variable in height, with glabrous stems between 25 × 380 mm tall; unbranched or branched apically, distally, or both. Leaves, often in a flat basal rosette and cauline; basal leaves 2–22, the lamina ovate, elliptic, flabellate, reniform to hatchet-shaped, 1–5 × 2–11 mm on a linear petiole 3.0–17.0 × 1.8 mm; cauline leaves alternate, the lamina crescentic, 1.0–6.5 × 1–10 mm, with acute angles, on petiole 3–17 mm long. Inflorescence a 1-sided raceme, 1–10-flowered; peduncle usually 10–50 mm long, but can be as short as 0.1 mm; pedicels 0.5–15 mm long. Sepals ovate, elliptic or obovate, 2.0–5.0 × 0.7–2.4 mm, usually moderately to densely hairy (with up to 30 hairs per mm square), but can also be glabrous; always with a fimbriate margin with hairs up to 1.3 mm long. Petals obovate to cuneate, 3–7 mm long by 2–7 mm wide, white or pink. Styles 3, 0.3–1.2 mm long, divided into a total of between c.20–30 segments. Seeds 0.5–0.8 × 0.3 mm, cylindrical, pandurate to obovoid with a deeply pitted surface.

### Flowering:

September - November

### Fruiting:

November - February

### Threats:

*Drosera hookeri* was first recorded for New Zealand as *D. peltata* (Salmon 2001) when it was recognised from various swamps and gum land scrub Northland. Although it is not clear when this species first arrived in New Zealand, it has been widely collected since it was first drawn to the attention of botanists, and it is evidently now well established throughout Northland. It is now known as far south as the northern Manukau Harbour. *Drosera hookeri* (as *D. peltata*) is currently listed as a "Coloniser" (de Lange et al. 2009) but, despite that status, it does not appear to be under any threat. In parts of its Northland range *D. hookeri* is now more common than *D. auriculata*.

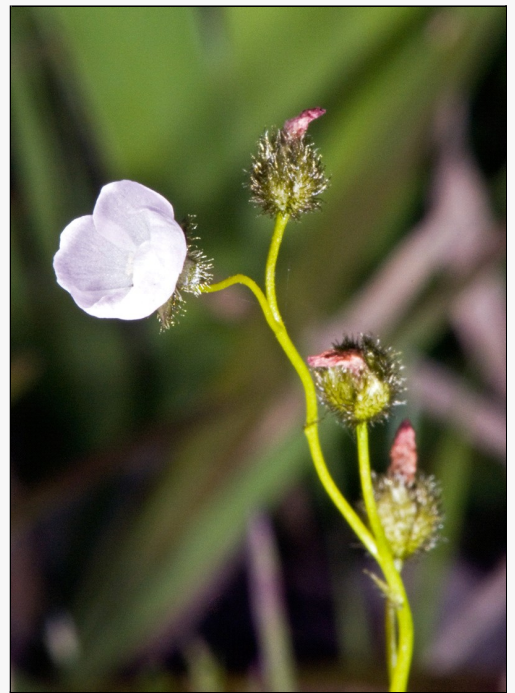
### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2115](http://nzpcn.org.nz/flora_details.asp?ID=2115)



**Caption:** *Drosera peltata* showing coarse, golden hairs on fruit.

**Photographer:** A.J. Townsend



**Caption:** Lake Kai Iwi, Northland. Oct 2009.

**Photographer:** Jeremy Rolfe

## *Fuchsia procumbens*

### Common Name(s):

Creeping fuchsia, climbing or trailing fuchsia

### Threat Status (2009):

Naturally Uncommon

### Distribution:

Endemic. North Island from the Ninety Mile Beach and Perpendicular Point south to Maunganui Bluff in the west and Kennedy Bay (Coromandel Peninsula) in the east. It is known as a naturalised plant on Kapiti Island.

### Habitat:

A strictly coastal species. *F. procumbens* has been collected from cobble/gravel beaches, coastal cliff faces, coastal scrub and grassland, dune slacks and swales, and from the margins of saltmarshes (in places where it would be inundated during spring tides). It is quite tolerant of naturalised grasses and may be found growing amongst dense swards of kikuyu grass (*Pennisetum clandestinum* Chiov.).

### Features:

Subdioecious, lianoid, creeping, glabrescent, prostrate shrub forming large scrambling masses. Stems woody, pliant, slender 3-6 mm diameter, up to 2 m long; branchlets even more slender. Petioles filiform, 15-30 mm long, glabrous or sparsely hairy. Leaves 5-20 x 5-20 mm, suborbicular to broad-ovate, membranous, glabrous to glabrate, sinuate, subserrulate; base subcordate; apex obtuse or rounded. Flowers solitary, erect, pedicels erect, 5-8 mm long, slender. Flora tube 6-12 mm long, golden yellow, tubular-campanulate. Sepals 5-8 mm, lanceolate or narrow-lanceolate, purplish at apices, sharply reflexed. Petals absent. Filaments 2-4 mm, slender, purple. Style 8-16 mm, > staminodes in female flowers, almost = to stamens in perfect flowers; stigma capitate to 4-lobed. Berry 15-25 x 5-10 mm, ovoid-oblong to obovoid, crimson to magenta often with a waxy bloom.

### Flowering:

September - May

### Fruiting:

November - July

### Threats:

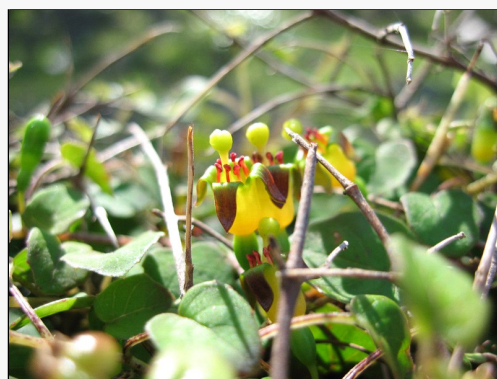
At various times regarded as seriously threatened, partly because some populations comprise only the single sex-type. However, comprehensive surveys throughout this species range have discovered new populations and confirmed the persistence of the majority of the older sites. Indeed its range has hardly contracted, and it would seem that the distribution of sex-types is natural. Because the species is so tolerant of environmental disturbance and weeds it is now regarded as biologically sparse. However, some populations have been eliminated recently by coastal development for holiday homes. If this trend continues then this species will probably qualify for a higher level of threat in the not to distant future.

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=258](http://nzpcn.org.nz/flora_details.asp?ID=258)



**Caption:** Great Barrier Island  
**Photographer:** Rebecca Stanley



**Caption:** Great Barrier Island  
**Photographer:** Rebecca Stanley



# *Libocedrus plumosa*

## Common Name(s):

Kawaka, kaikawaka, NZ cedar

## Threat Status (2009):

Naturally Uncommon

## Distribution:

Endemic. North and South Islands. In the North present from Te Pahi (Radar Bush) south to about the southern Kawhia Harbour (in the west) and near Gisborne (in the East), thence disjunct to north-west Nelson, where it grows locally around the Golden Bay area from about Puponga south to the Anatoro River.

## Habitat:

Coastal to lowland mixed broadleaf/hardwood forest. Often found in association with kauri (*Agathis australis* (D. Don.) Lindl.). Often on ridge lines, spurs, or forming apparently even-aged cohorts in sites of former major disturbance, such as in or around stabilised slips, slumps, or areas of major wind throw damage. This species tends to colonise more fertile soils and soils overlying high fertility (base-rich) substrates.

## Features:

Evergreen, monoecious tree up to 35 m tall, 2-3 m d.b.h. Bark thin, scaly, light-brown to greyish-brown, peeling readily in long irregular, inrolled strips. Branches spreading or ascending, branchlets numerous, spreading, arranged in dense sprays in tiers above each other, forming a pyramidal crown in young trees, becoming conical, rounded or irregular in older specimens. Foliage in flattened sprays except when cone-bearing, ultimate branches subopposite to alternate, 15-35 x 2-6 mm, leafy, flattened, long persistent. Leaves decussate, on lateral branchlets shortly decurrent, imbricate, dimorphic, rhombic 1-2 x 1 mm, apiculate to acute, appressed, partially covered at base by 2-6 x 1.5-2 mm, divergent, bilaterally flattened, slightly curved laterals with entire margins and free apices; leaves on older trees smaller and monomorphic. Male cones terminal, solitary, subglobose to ovoid, 3-5 mm, yellowish-green, maturing light brown. Female cones terminal subtended by weakly dimorphic leaves; comprising 2 decussate pairs of acute 4-6 mm long, spreading bracts subtended by 3-4 pairs of similar, gradually shorter leaves, the upper pair developing within one growing season to become thin, woody, and forming a cone 12-18 mm long. Seeds 2-4, ovoid, flattened, with an acute apex 3-5 mm long, brown, with a whitish hilum and 2 opposite, thin membranous wings of very unequal shape and size, the smaller a narrow strip less than 1 mm wide, the larger irregular oval-oblong, 6-8 x 3-4.5 mm, yellowish-brown.

## Flowering:

July - September

## Fruiting:

July - June

## Threats:

A widespread and at times locally common, though generally naturally sparse species. Although it was logged when suitable trees were found its general scarcity meant that logging has had little effect on its overall distribution and abundance. This species may even have benefited from past logging because it is at its most abundant in places that were once heavily logged, and/or burned. In fact field evidence suggests that *Libocedrus plumosa* needs regular disturbance to maintain itself.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=281](http://nzpcn.org.nz/flora_details.asp?ID=281)



**Caption:** Cones. North Auckland.

**Photographer:** © John Braggins



**Caption:** Cone detail. North Auckland.

**Photographer:** © John Braggins

## *Pimelea acra*

### Common Name(s):

Pimelea

### Threat Status (2009):

Naturally Uncommon

### Distribution:

Endemic. New Zealand: North Island (Whangarei Heads (Mt Aubrey, Manaia and Bream Head), Hauturu (Little Barrier Island))

### Habitat:

On exposed lava and eroding conglomerate ledges of forested old andesitic or basaltic volcanoes; sometimes on boulder heaps below cliffs.

### Features:

A medium-sized, erect to suberect, much-branched, compact or spreading shrub, up to 450 mm tall. Young branchlets usually densely clad in fine, appressed hair; internode length 2 mm or less; older stems glabrate to glabrous, greyish-brown to dark grey. Node buttresses short (0.3 mm) lunate, glabrous, dark brown, hidden by hair on young stems, moderately prominent on leafless stems. Leaves decussate, on short (0.3–1.0 mm), often red petioles, ascendant, becoming patent, not persistent; lamina 5.0–7.0 × 2.0–2.5 mm, medium green, ovate to elliptic, usually slightly keeled, uniform in size, acute, base cuneate; glabrous above with sparse or sometimes moderately dense hair below and then mainly on midvein, margins, and tip. Midvein prominent below, lateral veins not evident. Stomata usually only on upper side of leaf; some individuals have a few stomata on the lower leaf surface. Inflorescences terminal on branchlets, 4–8-flowered. Involucral bracts 4, similar in size to or wider than adjacent leaves (6–10 × 3–4 mm). Receptacle with short, dense hair. Plants gynodioecious. Flowers white, on short pedicels (0.5 mm), often circumscissile, hairy on outside, inside hairless or sometimes with a few hairs on calyx lobes or in tube. Female tube 3.5 mm long, ovary portion 2.5 mm, calyx lobes 2.2 × 1.7 mm ascendant or opening in salverform fashion; Hermaphrodite tube 5 mm long, ovary portion 2.3 mm, calyx lobes 3 × 2 mm. Anther filaments inserted at mouth of tube; anther dehiscence semi-latrorse. Ovary with cluster of short hair at summit. Fruits broad-ovoid, fleshy, red, 5 × 4 mm. Seeds ovoid 3.6 × 2.2 mm.

### Flowering:

July - October

### Fruiting:

September - December

### Threats:

*Pimelea acra* has been listed as *Pimelea* (b) (AK 165780; Mt Manaia) in de Lange et al. (2004) and de Lange et al. (2009) where it was awarded the status of Naturally Uncommon, qualified RR (Range-Restricted). Currently it is believed secure at its stronghold on Mt Manaia and Bream Head. It is also locally common on Mt Aubrey in one small area. As an unpalatable cliff plant *Pimelea acra* is not directly threatened by browsing animals. It is possible that weeds may be an issue for this species at some sites. Its status on Hauturu (Little Barrier Island) needs further investigation as it is only known there from one 1997 gathering made from Herekohu (The Thumb).

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=6644](http://nzpcn.org.nz/flora_details.asp?ID=6644)



**Caption:** Manaia, Whangarei Heads

**Photographer:** Jeremy Rolfe



**Caption:** Manaia, Whangarei Heads

**Photographer:** Jeremy Rolfe

# *Pisonia brunoniana*

## Common Name(s):

Parapara

## Threat Status (2009):

Relict

## Distribution:

Indigenous. Kermadecs (Raoul), Three Kings, North Island (mainly offshore islands) but known on the mainland in scattered locations from the Whangape Harbour to Mangawhai. Historical records show it was around Auckland, on the Coromandel Peninsula and at East Cape.

## Habitat:

Coastal forest. Now mainly found on rodent-free offshore islands where it can be a very important component of the understorey of mixed-broadleaf forest.

## Features:

Spreading, usually multi-trunked and freely coppicing tree rarely exceeding 8 x 2 m in height. Main trunk up to 800 mm dbh, clad in firm, grey-brown to green-brown bark, usually with numerous dormant epicormic buds present. Branches at first erect, then spreading, rather brittle. Leaves opposite or in whorls. Petioles up to 40 mm, stout, fleshy, red-green to green; lamina 100-600 x 50-200 mm, green, yellow-green, or dark-green suffused with red (new growth often pink), glabrous, oblong to obovate-oblong, obtuse, margins entire, sinuate, sometimes lobed. Inflorescence a many-flowered, terminal, paniculate cyme with subtending, deciduous, leaf-like bracts. Pedicels finely covered in red-brown pubescence, stout, fleshy up to 20 mm long. Flowers usually monoecious, up to 10 mm long, calyx funnellform, 5-lobed, usually plicately folded, perianth greenish-white to white, pubescent to glabrescent. Stamens 6-8, anthers scarcely exerted. Fruit a 5-ribbed, hardened, narrowly elliptic to elliptic perianth 25-40 mm long; ribs exuding an extremely viscid exudates. Achene usually narrowly oblong to oblong-elliptic usually 5-angled, 16-20 mm long, dark red-brown to brown.

## Flowering:

August - December

## Fruiting:

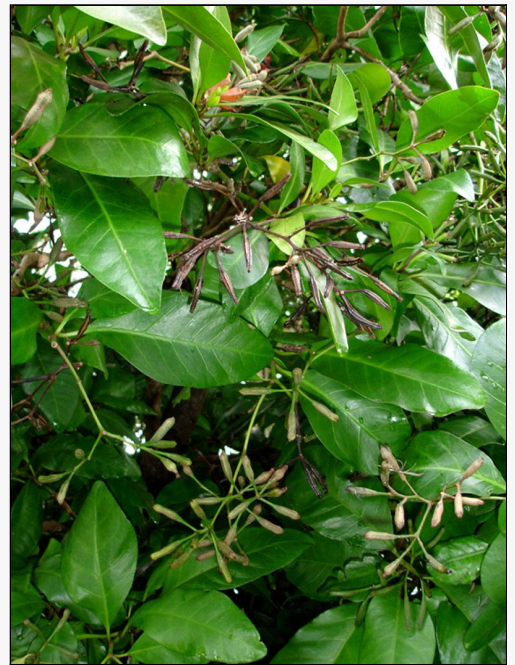
August - July

## Threats:

Within the mainland part of its range, Parapara is virtually extinct. Its large leaves are especially palatable to browsing animals such as possums, goats and other feral livestock. However the main threat to accessible mainland populations is the irresponsible behaviour of ignorant people who have cut down trees because of their ability to trap small passerines. On rodent-free offshore islands it is common but has declined on those supporting these vermin. As more northerly islands are being made rodent-free parapara is making a spectacular come back.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=299](http://nzpcn.org.nz/flora_details.asp?ID=299)



**Caption:** *Pisonia brunoniana* in heavy fruit

**Photographer:** Peter de Lange



**Caption:** *Pisonia brunoniana*

**Photographer:** Peter de Lange

# *Pittosporum ellipticum*

## Threat Status (2009):

Naturally Uncommon

## Distribution:

Endemic. North Island from Te Pahi to Mt Pirongia in the west and about the Karangahake and Waioeka Gorges in the East.

## Habitat:

Most usually associated with kauri (*Agathis australis*) forest, often on ridge lines, slips scars or in secondary regrowth within cut over kauri forest. Outside this forest type it is often found in association with tanekaha (*Phyllocladus trichomanoides*), towai (*Weinmannia silvicola*) or kamahi (*Weinmannia racemosa*). In all situations it prefers relatively open vegetation, where it typically forms apparently evenly-aged cohorts.

## Features:

Small gynodioecious tree up to 8 m tall but usually less. Trunk and branches dark brown, young branchlets clad in fine, appressed rust-coloured tomentum. Leaves alternate, crowded at tips of branches. Petioles 4-15 x 1.5-2 mm, densely invested in appressed, rust-coloured tomentum. Lamina 30-97 x 15-50 mm, yellow-green to dark green above, pale red-green or reddish-yellow beneath, elliptic-oblong, ovate or obovate, apex and base acute or obtuse, margin entire; emergent and expanding leaves densely invested in appressed, rust-coloured tomentum, soon becoming glabrate above and sparsely tomentose to glabrate beneath, coriaceous. Flowers in terminal 2-6-flowered fascicles; pedicels 5-14 mm, accrescent in fruit, rusty orange to rust-grey tomentose, subtended by several caducous, rusty-tomentose 1-2 mm long bud scales. Sepals linear, acuminate, 8-11 x 2-2.7 mm, rusty-tomentose, ciliate; petals 14-19.5 x 3-3.5 mm, oblanceolate-linear, subacute, recurved at tips, reddish-brown, chocolate or dark golden yellow; stamens 7-11 mm, anthers 1-3 mm. Ovary 2.5-7.5 x 1.5-4.5 mm, invested in rust-coloured hairs, style 1.5-6.5 mm long, stigma capitate or truncate. Capsules, woody, subglobose, 3 or 2-valved, 15-20 x 13-17 mm, covered in rust-brown to rust-grey tomentum. Mucilage yellow-red to orange. Seeds 25-36 (with many aborted), reddish-brown, somewhat irregular in outline.

## Flowering:

July - October

## Fruiting:

August - January (though fruit is long persistent and may be seen year round)

## Threats:

Not directly threatened though it is generally very uncommon throughout its range, and where found it is often known from one or two trees. However, there are exceptions, for example the species is common along the ridge lines of Mt Manaia, Bream Head and in the Waitakere Ranges (especially near Anawhata and Destruction Gully).

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=300](http://nzpcn.org.nz/flora_details.asp?ID=300)



**Caption:** Surville Cliffs

**Photographer:** Gillian Crowcroft



**Caption:** Foliage

**Photographer:** Peter de Lange

# *Pittosporum virgatum*

## Threat Status (2009):

Naturally Uncommon

## Distribution:

Endemic. New Zealand, North and Great Barrier islands, from the Mangamuka and Herekino Ranges south and east to Great Barrier and the Coromandel Peninsula. Reaching its southern limit at about the Kauaerange Valley (there are unconfirmed reports of its occurring slightly further south of there).

## Habitat:

Usually associated with kauri (*Agathis australis*) forest, often on ridge lines, slips scars or in secondary regrowth within cut over kauri forest. Outside this forest type it is occasionally found in association with tanekaha (*Phyllocladus trichomanoides*), towai (*Weinmannia silvicola*) or kamahi (*Weinmannia racemosa*). In all situations it prefers relatively open vegetation, where it typically forms apparently evenly-aged cohorts.

## Features:

Slender gynodioecious trees up to 8 m tall. Growth form initially narrowly columnar, becoming more spreading with age. Trunks slender grey brown, branches in distinct whorls in old specimens confined to the upper portion of the tree, bark brown, branchlets slender, pliant, brown at first covered with appressed rust-brown tomentum, soon glabrate. Petioles 1-7 x 0.5-1 mm, hairy. Leaves crowded toward branchlet ends, alternate; juvenile or lower leaves 10-40 x 1-7 mm, dark green or yellow-green, linear, entire or variously lobed, sometimes pinnate, both surfaces initially covered in rust-brown tomentum, soon glabrate; intermediate leaves 13-55 x 9-30 mm, lanceolate, narrowly linear, oblong or obovate, usually lobed or deeply divided both surfaces covered in rust-brown indumentum, soon glabrate; adult leaves 18-70 x 4-30 mm, oblong, oblanceolate, sometimes linear or linear-lanceolate, elliptic oblong, entire or sinuate, often lobed; margins flat to undulate. Flowers in 1-6-flowered, terminal fascicles, or solitary. Pedicels 5-9 mm, accrescent in fruit, covered in rust-brown indumentum, subtended by an approximate whorl of leaves, and 1-3 rust-tomentose caducous scales. Sepals 3.5-6.5 x 1-2.5 mm, oblong or linear-lanceolate, acute, rusty-brown tomentose. Petals 6-13 x 2-3 mm, linear-oblanceolate to linear-oblong, acute, fused in a tube for half of length, tips reflexed, dark red, purple, pink, white or golden yellow; stamens 4-7 mm, anthers sagittiform or oblong-ovate, ovary 2-4 x 1-2.5 mm, rusty-brown tomentose; style 1-5 mm, stigma capitate and obscurely 2-4-lobed. Capsules 11-16 x 10-13 mm, 2(-3)-valved, subglobose to subpyriform, apiculate, coriaceous. Mucilage bright yellow to orange-yellow. Seeds 1-16, dull black of irregular shape.

## Flowering:

September - November

## Fruiting:

July - August (may be present all year round)

## Threats:

Aside from Great Barrier Island where this species is abundant it appears to have always been a sporadically occurring local species of northern kauri dominated forests. While its current distribution suggests that it is biologically sparse, it is vulnerable to possum browsing and some populations were probably lost or reduced by kauri logging. Recent observations in some parts of Northland that had been regarded as mainland strongholds suggest that this species is now seriously threatened. *Pittosporum virgatum* is likely to receive a higher threat listing in the near future.

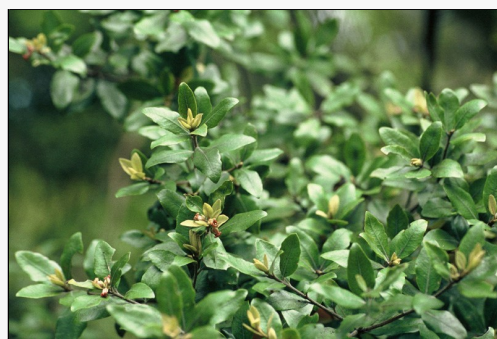
## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=302](http://nzpcn.org.nz/flora_details.asp?ID=302)



**Caption:** Whangaroa Harbour, November 1992

**Photographer:** G. M. Crowcroft



**Caption:** Whangaroa Harbour, November 1992

**Photographer:** G. M. Crowcroft

## *Pseudowintera insperata*

### Common Name(s):

Northland Horopito

### Threat Status (2009):

Nationally Critical

### Distribution:

Endemic. North Island, formerly on all the northern Whangarei Harbour highpoints from Maungatapere to Bream Head, and also at Logues Bush near Wellsford. Now only known from Mt Manaia, Bream Head and Logues Bush.

### Habitat:

Coastal, lowland, and alluvial forest, and on exposed ridge tops within low windshorn scrub and forest overlying skeletal soils developed on igneous (andesitic and basaltic) rocks, talus and rock outcrops.

### Features:

Shrub or small tree up to 7 m tall; trunks and branches upright. Branchlets red-brown to maroon-black, glabrous or hairy. Leaf buds and expanding leaves usually hairy on lamina margin, undersides and petiole. Petiole 4-11 x 1.4-2.4 mm, red-brown to maroon. Leaves 35-110 x 18-45 mm, upper surface glossy, dark green to yellow-green, without blemishes or blotches; midvein conspicuous, pale cream to yellow-green, glabrous or sparsely hairy; lamina broadly obovate, oblanceolate, elliptic, broadly elliptic to orbicular, coriaceous; undersides white; midvein red, sparsely hairy or glabrous. Inflorescences axillary, flowers bisexual, solitary or in fascicles of 2-3. Calyx cupule 2.8-2.9 mm diam., margins entire. Corolla comprised of 5-8 free petals, these 3.8-7.0 x 2.3-3.0 mm, broadly elliptic, cream, apex obtuse. Carpels 2-5, free, obovoid, stigma apical. Stamens 13-22, free. Fruit a 1-4-seeded berry, 6.4-9.8 x 4.9-1.8-2.3 mm, black, obovoid to obovoid-oblong.

### Flowering:

(October-) December - February

### Fruiting:

November - May

### Threats:

Herbarium specimens suggest there was once six discrete populations, three of these are now probably extinct. Of the remaining three, one plant survives at Logues Bush, and there are c.50 adult plants at the other two sites. Although recruitment is happening at the two main populations, all three populations occupy an area of < 1 ha. Although active threats are not evident, one population is potentially vulnerable to trampling. The plant at Logues Bush is in ill thrift. For all these reasons this species is regarded as seriously threatened. However, it is cryptic, and easily overlooked and current population estimates are probably inaccurate. For these reasons the threat ranking is qualified as Data Poor (DP)

### For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=2329](http://nzpcn.org.nz/flora_details.asp?ID=2329)



**Caption:** Bream Head. Aug 2008.  
**Photographer:** Andrew Townsend



**Caption:** Pseudowintera insperata branching habit  
**Photographer:** Peter de Lange, Ex Cult. Bream Head (grown at University of Auckland), November 2005

# *Scandia rosifolia*

## Common Name(s):

Koheriki

## Threat Status (2009):

Declining

## Distribution:

Endemic. North Island, from the Three Kings south to Taranaki in the west and the southern Ruahine Ranges in the east.

## Habitat:

Coastal to subalpine (0-1400 m a.s.l.). Usually on cliff faces, clay banks or amongst boulders, often found along cliffs lining river gorges, more rarely in scrub.

## Features:

Semi-erect to somewhat openly sprawling, woody, aromatic shrub up to 1 x 1 m. Stems much-branched, woody at base, dark green to yellow green when young, maturing orange-brown; at first ascending soon spreading, rarely scrambling and rooting from nodes. Leaves alternate, pinnate; petioles 5-20 (or more) mm long, subcoriaceous, slender, sheathing base broadly 2 lobed; leaflets 2-5(-8) pairs, 25-80 x 10-40 mm, dark green, glossy above, paler and dull below, subsessile to sessile, obliquely ovate, ovate-lanceolate to narrowly lanceolate, acute to acuminate, margins finely to deeply serrated; each leaflet subtended by a narrow, fleshy pair of stipules. Inflorescences umbellate. Umbels numerous, compound, axillary and terminal, on slender peduncles up to 30 mm long, umbels up to 800 mm diameter (usually much less). Primary rays numerous, slender up to 30 mm long; secondary rays shorter, umbellules densely flowered. Flowers white. Calyx teeth narrow-triangular. Mericarps 3-4.5 mm long, yellowish buff to pale orange-yellow, dark yellow or orange, ovate to broadly ovate, oblong to broadly oblong to broadly elliptic or circular, surface semi-glossy, finely bullate or reticulate, ribs 5, the two commissural broadly and evenly winged or more broadly winged toward the base; style remnant erect and straight.

## Flowering:

September - June

## Fruiting:

November - August

## Threats:

This species is extremely palatable and it is greedily consumed wherever plants are accessible to browsing animals. It is evident that the current conservation assessment of At Risk/Sparse while possibly biologically accurate is not longer appropriate. This species has declined from significant parts of its range, and while it is still at times locally common, in many locations it is now represented by only small scattered populations or even single plants. The largest populations reflect the situation, they are cliff bound in sites inaccessible to all browsing animals, even possums.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=314](http://nzpcn.org.nz/flora_details.asp?ID=314)



Photographer: Rebecca Stanley



Photographer: Rebecca Stanley

# *Senecio scaberulus*

## Common Name(s):

fireweed

## Threat Status (2009):

Nationally Critical

## Distribution:

Endemic. New Zealand, North Island from the Three Kings Islands south to Raglan Harbour and the Purua River, north of Thames. *S. scaberulus* is now mainly seen in eastern Northland and on some of the Hauraki Gulf Islands (Fanal, Ponui and Goat Islands). Also known from Chatham (Rekohu) Island where it was last seen in February 1996. Recorded from the South Island from Picton, Akaroa and Dunedin. All these port records (which include the type gathering) are possibly accidental introductions from the North Island via shipping traffic as this species was once abundant on the Auckland waterfront. *Senecio scaberulus* has not been reliably recorded from the South Island since the 1860s.

## Habitat:

Coastal scrub, forest margins and clearings. Shaded sites amongst short grasses, under coastal pohutukawa (*Metrosideros excelsa* Sol. ex Gaertn.) forest or short scrub, on rock outcrops, cliffs or banks near the sea, often occurring with *Senecio hispidulus* A.Rich. Also found at inland sites, on bare lava, with forest on bluffs and in canopy gaps.

## Features:

Grey-green to silvery grey-green, annual or short-lived perennial herb up to 1.5 m tall (usually much less, and depending on local growing conditions). All vegetative parts densely covered in short hairs of both the velutinous and hispid type. Mid cauline leaves 30-200 x 0.5-6 mm, upper surface dark grey-green, covered in distinctly shorter more hispid hairs, undersides pale grey to purple, densely invested in longer, velutinous hairs. Lamina initially sessile becoming shortly petiolate further up stem; lamina narrowly to broadly ovate-elliptic, dentate, pinnately lobed, or pinnatifid, with segments triangular to narrow-oblong, or 1-3-pinnatifid at base. Uppermost leaves similar but smaller, lanceolate, dentate, lobed or sometimes entire. Inflorescences 1-3 per plant, either in sparse or densely flowered corymbs depending on growing conditions, glabrescent. Supplementary bracts 4-8, 1-2 mm long. Involucral bracts 10-13, glabrescent or glabrous, 5-7 mm long. Ray florets absent. Disc sulphur yellow, 2-3 mm diam. Cypsela (seed) 2-3 mm long, subcylindric, slightly constricted below apex, deeply and longitudinally ribbed, surface more or less evenly covered in short hispid hairs.

## Flowering:

October-February

## Fruiting:

November - April

## Threats:

This species is seriously threatened throughout its range. Formerly widespread in open successional habitats, especially the Auckland lava fields, these habitats have either been lost to urbanisation or covered in foreign weed species. Browsing by domestic stock, feral mammals and exotic invertebrate herbivores appears to be a problem in some areas. At all of the known sites the species is still subjected to competition from exotic plants. Hybridization with *Senecio hispidulus* is also believed to be a serious threat to this species.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=93](http://nzpcn.org.nz/flora_details.asp?ID=93)



**Caption:** Flowering plant

**Photographer:** Peter de Lange



**Caption:** Flowering plant

**Photographer:** Peter de Lange



## *Sophora fulvida*

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

kowhai

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

Naturally Uncommon

### **Distribution:**

Endemic to New Zealand, occurring in Northland, Auckland and the Waikato. The southern limit occurs at Mt Karioi on the south side of Raglan Harbour.

### **Habitat:**

Open or disturbed sites, on base-rich volcanic rock, rubble and outcrops, amongst mixed podocarp-hardwood forest.

### **Features:**

A small kowhai tree to 10 m tall. It has many hairy, small, crowded, yellow-green or grey leaflets. Young branches are also hairy, and juvenile plants do not divaricate. Leaves on adults are up to 140 mm long and bear 60-90, roughly elliptical leaflets, each 1.8 to 7.5 by 1.2 to 4.5 mm. The larger juvenile leaves are almost devoid of hairs, also elliptical in shape and range in size from 2 to 3 by 4 to 6 mm. Flowers are yellow.

### **Flowering:**

Flowering occurs from October to November.

### **Fruiting:**

Fruiting in April–May.

### **Threats:**

Competition from weeds, especially on rocky outcrops; animal browse and loss of habitat.

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

[http://nzpcn.org.nz/flora\\_details.asp?ID=206](http://nzpcn.org.nz/flora_details.asp?ID=206)



**Caption:** South Piha

**Photographer:** Peter de Lange



**Caption:** South Piha

**Photographer:** Peter de Lange

# *Streblus banksii*

## Common Name(s):

Large-leaved milk tree, turepo

## Threat Status (2009):

Relict

## Distribution:

Endemic. New Zealand: North and South Islands. In the North Island mainly easterly from about Kaitaia to East Cape, Waikato and northern Hawkes Bay, including islands of the Hauraki Gulf, thence somewhat disjunct reappearing in the Horowhenua to Wellington and the western side of the Wairarapa. Confined to the northern South Island where populations are known from the Marlborough Sounds (mainly islands), Abel Tasman National Park, and also the eastern Golden Bay.

## Habitat:

Coastal and lowland forests (0-200 m a.s.l.), preferring deep, fertile soils, large trees are often found on alluvial terraces. On offshore islands it seems more able to tolerate drier conditions and skeletal soils and may at times be found on steep cliff faces, rock ledges, or as stunted shrubs on cobble/boulder beaches.

## Features:

Dioecious, robust tree or large shrub (depending on growing conditions) up to 12 m tall, usually with a broad canopy crown; trunk up to 0.8 m d.b.h., bark dark brown. Branches ascending at first then widely spreading; branchlets somewhat flexuous, wiry and pliant, initially puberulent and very lenticellate, later glabrate. Leaves of juvenile plants variable 20-60 x 10-30 mm, dark green above, paler beneath, elliptic-oblong, margins finely to deeply crenate, usually deeply lobed, pandurate, sinus obtuse; petioles up to 8 mm long. Leaves of adults 35-85 x 20-35 mm, dark green to yellow green, paler beneath, ovate to broadly ovate, ovate-elliptic, obtuse to subacute, margins crenate (very rarely lobed), petioles stout up to 10 mm long. Inflorescences axillary or terminal, spicate, solitary, paired or in threes; staminate up to 30 mm long, densely flowered, flowers rather densely close-set, almost imbricating, grey-green, perianth 4-partite, segments obtuse to rounded; pistillate similar, up to 25 mm long, flowers widely spaced, distichously arranged. Fruits up to 65 mm diameter, drupaceous, broad-ovoid, fleshy, flesh red.

## Flowering:

August - October

## Fruiting:

October - April

## Threats:

It would appear that this species may once have been quite widespread. However, its current distribution is typically sparse and it is rarely common anywhere except on rodent-free offshore islands in the Hauraki Gulf and off the eastern Coromandel Peninsula. In mainland areas and on rodent infested islands plants are damaged by possum and goat browsing, and also by rodents which avidly eat the fruit, seed and emerging seedlings. In remnants being dioecious sex imbalance can be an issue. Successful island rodent eradication's have allowed this species to reestablish itself. It certainly responds rapidly to rodent removal.

## For more information, visit:

[http://nzpcn.org.nz/flora\\_details.asp?ID=324](http://nzpcn.org.nz/flora_details.asp?ID=324)



**Caption:** Photo by Bec Stanley



**Caption:** Photo by Bec Stanley