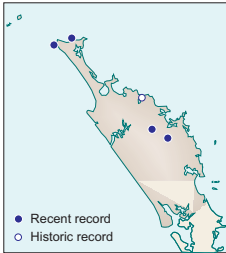


# *Sicyos australis* sensu lato

mawhai



At least two distinct species appear to exist in this taxon: *S. australis* sensu stricto and *S. aff. australis* (AK 252822; New Zealand).

## Status

*Sicyos australis* sensu stricto – Nationally Critical;

*S. aff. australis* – Serious Decline.

## Description

A sprawling, cucumber-like vine with small (8–12 mm diameter) prickly fruit. Stems are up to 4 m or more long, with long, branched, spirally coiled tendrils. Leaves have toothed edges and five prominently pointed lobes. The hairs on the stems and leaf stalks are bristle-like and stick out from the stem or stalk. Plants bear either male or female flowers. Flowers are small, white or greenish, up to 10 mm diameter and on short stalks; males in spikes of more than 10 flowers and females in clusters of up to 14. Fruits are 8–12 mm long, oval and compressed in shape, covered with sharply barbed, spiny bristles which it is best to avoid contact with. Flowering occurs in January–February.

*Sicyos* aff. *australis* is distinguished by having leaves with 5–7 rounded lobes, finer marginal teeth; hairs on the stems and leaf stalks are curved downwards (sometimes abruptly) and shaggy in appearance; stems are slightly thicker; flowers that are slightly larger and can number up to 20. Fruiting occurs in January and there are differences in the chromosome number (Delmiglio & Pearson 2002).

## Similar species

None

## Habitat

Coastal scrub.

## Distribution

*Sicyos australis* sensu stricto occurs on mainland New Zealand from Northland to the Bay of Plenty.

*Sicyos* aff. *australis* occurs on islands from the Three Kings to Mayor Island.

Plants present on Raoul Island may represent a third taxon. Close relatives occur in eastern Australia and formerly Lord Howe and Norfolk Islands.

### Threats

Introduced pests and loss of habitat through coastal development are the most likely cause of decline. Plants are susceptible to cucumber mosaic virus and other diseases that affect members of the pumpkin family. Because male and female flowers occur on separate plants, small population sizes can create reproductive problems (e.g., failure to attract pollinators, inbreeding depression, lack of male or female plants in the population).

### Notes

Avoid contact with the prickly fruits.

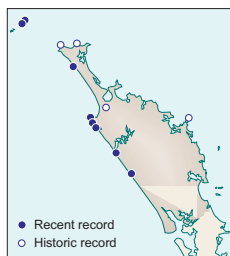


*Sicyos* aff. *australis*.

Photos: (right) P. Cashmore;  
(below left, right)  
C. Delmiglio.



# *Sonchus kirkii*



## Status

Gradual Decline

## Description

An upright simple or branching puha-like herb usually to 0.6 m tall. Leaves are thick, dull, hairless and a waxy, bluish green colour. Lower stem and rosette leaves, are deeply toothed or lobed along their edges while upper stem leaves are narrowly lance-shaped to narrowly oblong. Flowers can be from just a few to many and are dandelion-like, yellow daisies to 20 mm diameter. Flowering occurs from August to April and fruiting from September to June.

## Similar species

None, though young plants and seedlings can look like introduced sow thistle (*Sonchus oleraceus* and *S. asper*) or like lettuce.

## Habitat

Wet, coastal cliffs and talus, rarely on sand or in saltmarshes.

## Distribution

Endemic to New Zealand, occurring on the coast throughout the North, South, Stewart and Chatham Islands.

## Threats

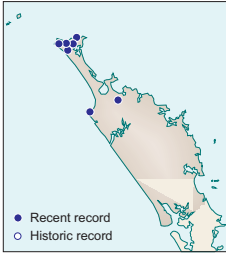
Habitat loss through coastal development and competition with introduced coastal weeds are the main threats.

*Sonch kirkii*.

Photos: (left) L.J. Forester;  
(centre) G.M. Crowcroft;  
(right) L.J. Forester.



# *Thelymitra sanscilia*



## Status

Nationally Critical

## Description

A relatively large sun orchid to about 0.4 m tall. It has a single, strap-like leaf which is V-shaped in cross section. Flowers have six white to mauve, sharply pointed petals and a central column which has few or no hair tufts and sickle-shaped arms. The tip of the column is hooded and sometimes deeply notched. Flowering occurs in October. (Abridged from St George et al. 1996.)

## Similar species

Most other *Thelymitra* species either have two tufts of hairs at the tip of the column, or spotted or striped petals. *Thelymitra carnea* is also hairless but has bright pink to yellow flowers and no hood. (St George et al. 1996; Jones et al. 1999.)

## Habitat

Open areas amongst kanuka scrub.



## Distribution

Endemic to Northland, occurring in hill country east of Te Pahi (Scanlen, pers. comm. 2003), at Ahipara and near Mangonui.

## Threats

Habitat loss through weed invasion (*Hakea sericea*) and natural succession (Scanlen, pers. comm. 2003) and over-collection from orchid enthusiasts.

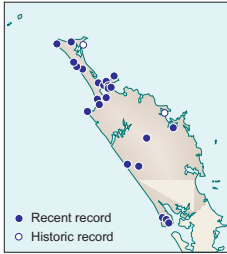
## Comment

Locations of this orchid should be kept confidential as there is a risk that it may be taken by orchid collectors.

*Thelymitra sanscilia*. Photo: I. St George.

# *Thelypteris confluens*

swamp fern



## Status

Gradual Decline

## Description

A fern with long, creeping, scaly stems. Fronds are 100–500 mm long, stiffly erect, with slightly smaller fertile fronds. Frond stems are yellow-brown and bear a few scales; the frond leaf is narrowly elliptic, 150–350 × 50–130 mm, pale green, scaly and hairy. Frond leaflets are in 15–20 pairs, each about 70–120 mm, deeply divided with the basal leaflet about as long as the middle ones. Fertile leaflets are slightly shorter. Sori are round, in one row either side of midrib, away from margins; the sori flaps are kidney-shaped and bear hairs with glands at their tips.



## Similar species

None

## Habitat

Open swampy areas amongst sedges, reeds and grass and damp or light shrubland.

## Distribution

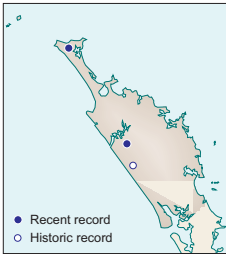
Endemic to the northern North Island from North Cape to the Waitakere Ranges and the Bay of Plenty. In Northland major populations occur at Pouto.

## Threats

Becoming increasingly rare as wetlands are drained.

*Thelypteris confluens*. Photo: P. Anderson.

# *Thismia rodwayi*



## Status

Sparse

## Description

A small, parasitic, red or pinkish-white plant that mostly consists of a branching, underground stem without any green parts. Flowers are lantern-like, orange to red, approximately 15 mm long and appear amongst leaf litter from December. Fruit are fleshy and contain dark brown seeds.

## Similar species

None

## Habitat

Forest; *T. rodwayi* has been found in tawa, kauri, kahikatea and matai forest, and is associated with a saprophytic fungus (Campbell 1968).

## Distribution

Endemic to the northern North Island, from Mt. Ruapehu northwards. Also in Tasmania and Victoria.

## Threats

Unknown. More observations are needed to gain a better understanding of this tiny elusive plant.

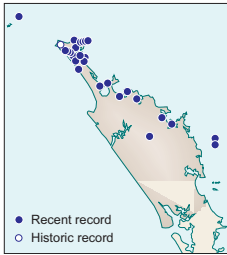


*Thismia rodwayi*.

Photo: J. Bedford.



# *Todea barbara*



## Status

Nationally Endangered

## Description

A fern with a trunk to 1 m tall. Frond stalks 150–600 mm long, yellow-brown with ear-like lobes at base. Frond leaves are egg shaped or elliptic, 250–650 × 120–350 mm, tough, leathery, yellow-green and scented like hay when old. Frond leaflets are narrowly oblong 20–60 × 4–10 mm, pointed at the tips and toothed along the edges. The leathery fronds with sori completely covering the undersides of the lower pinna and yellow-green colour are very characteristic.

## Similar species

None

## Habitat

Coastal and lowland open, sunny situations amongst scrub, gumlands, gullies, swamps or pohutukawa forest.



## Distribution

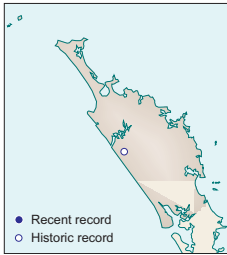
Occurs in the northern North Island. Locally common on the east coast of Northland from Te Pahi to Waitangi; also on the Three Kings and Poor Knights Islands. Also in Tasmania, Australia and South Africa.

## Threats

Competition from weeds and loss of habitat through conversion to forestry or subdivision.

*Todea barbara*. Photo: L.J. Forester.

# *Trilepidea adamsii*



## Status

Extinct

## Description

A shrubby, hemi-parasitic mistletoe up to 1 m in diameter. Parasitic on mamangi (*Coprosma arborea*), wharangi (*Melicope ternata*) and mapou (*Myrsine australis*). Leaves opposite, thick and fleshy, dark green, broadly elliptic or diamond-shaped, with paler green or reddish undersides. The leaf blade is 30–80 × 10–40 mm with a stout, winged stalk up to 5 mm long. Flowers are 30–40 mm long, borne in clusters of 2–4 in the leaf axils and appear from September to November. Flowers are tubular near their base, swollen in the middle with four recurved lobes at their tip; colour is greenish-yellow with red stripes soon fading to a uniform pinkish-red. Fruits are red and fleshy, 8–9 mm long.

## Similar species

*Ileostylus micranthus* looks similar but has tiny, yellow-green flowers, a 'bent' style and yellow fruit. *Tupeia antarctica* also has tiny, green-yellow flowers, but its fruit are white or pink. *Peraxilla tetrapetala* has small diamond-shaped leaves with 'blisters', red flowers and yellow fruit. *Peraxilla colensoi* has scarlet flowers, yellow fruit and only occurs on beech trees.

## Habitat

Semi-parasitic on mamangi, mapou and wharangi probably on lowland forest margins and open, seral shrubland.

## Distribution

Presumed extinct. Endemic to the northern North Island from the Kaipara-Waipoua area to the Waikato and Coromandel Peninsula. In Northland, plants were known from the upper Hotoe River on the Kaipara, the Waipoua River and from near Wellsford. *Trilepidea adamsii* was last recorded in 1954 from Cambridge.

## Threats

Habitat loss, over-collecting and possible possum browse have all been proposed as contributing to the extinction of this species.



### Comments

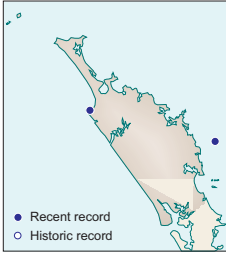
Although classified as Extinct, we have included *Trilepidea* in this guide in the hope that, in the unlikely event that plants are still in existence, they may be rediscovered.



*Trilepidea adamsii*. Painting by F. Osborne, courtesy Auckland War Memorial Museum.

# *Tupeia antarctica*

pirita



## Status

Gradual Decline

## Description

A semi-parasitic shrubby mistletoe to 1 m diameter. Leaves are oppositely arranged, variable in shape, 10–70 × 10–40 mm, slightly fleshy and bright green. Stems are always rounded in cross section near the tips, have pale bark, and downy or hairy branchlets. Flowers are tiny, greenish-yellow and appear from October to December. Fruit are fleshy and white or pink ellipsoid drupes, 5–7 mm diameter, which appear in March.



*Tupeia antarctica*.

Photos: (top) C. Ecroyd;  
(bottom) C.Jones.

## Similar species

*Peraxilla colensoi*, *P. tetrapetala* and *Trilepidea adamsii* all have colourful flowers. *Ileostylus micranthus* has tiny, yellow-green flowers, a ‘bent’ style, yellow fruit and young stems that are squarish in cross-section and multiple attachments to its host. All these species are hairless.

## Habitat

Forest or scrub, where it is parasitic on a wide range of hosts including tarata, karo, *Coprosma* spp., putaputaweta, fivefinger, white maire and native broom.

## Distribution

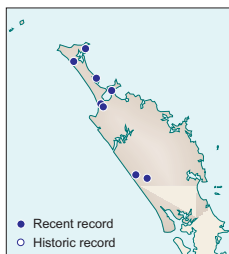
Endemic to the North and South Islands. In Northland, recently recorded from Poor Knights Islands and Ahipara.

## Threats

Possum browse is the primary threat to this species (Sweetapple et al. 2002), Insect browse, habitat destruction, loss of pollinating and seed-dispersing native birds and fungal disease also threaten this species.

# *Utricularia australis*

yellow bladderwort

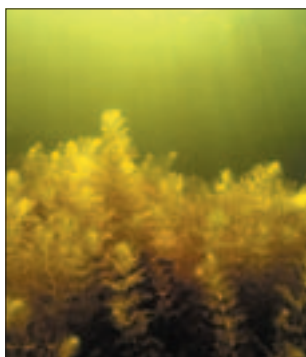


## Status

Gradual Decline

## Description

A small, hairless, aquatic herb with finely divided, feathery leaves and bladders that trap small invertebrates. It is an unattached plant that is free-floating below the water surface. Stems are up to 400 mm long. Leaves are numerous, hair-like, 20–40 mm long. Bladders are attached to the leaf bases, numerous, 1–3 mm in diameter. Yellow or orange-yellow flowers with an orange ‘eye’ are borne in clusters of 3–8 on long stems. Flowers appear from January to March. The seed capsule is round.



## Similar species

*Utricularia lateriflora* is found in northern bogs and gumlands, often on peaty surfaces. It is a terrestrial species with green, strap-like leaves, microscopic bladders and pale lilac-lavender flowers. *Utricularia gibba* is an introduced species that has smaller, less divided floating stems and forms massive floating mats. It is usually always flowering whereas *U. australis* hardly ever flowers.

## Habitat

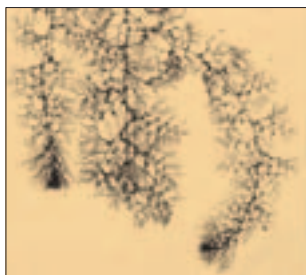
Peat lakes, peaty pools and slow moving streams which drain peat bogs.

## Distribution

Scattered from Northland to Westland. In Northland it is known from Te Pahi, Kaitaia, Houhora and Maitahi (near Dargaville).

## Threats

Modification and drainage of habitats, competition from the introduced bladderwort *U. gibba* which is spreading into Northland from Auckland, eutrophication from fertiliser runoff.



*Utricularia australis*.

Photos: (top) J. Clayton;  
(bottom) A.J. Townsend..

## Comment

This species has been known as *U. protrusa*.

# References

- Allan, H.H. 1961: Flora of New Zealand. Volume I. Government Printer, Wellington. 1085 p.
- Campbell, E.O. 1968: An investigation of *Thibsmia rodwayi* F. Muell. and its associated fungus. *Transactions of the Royal Society of New Zealand* 3: 209–219.
- Cheeseman, T. F. (1914). Illustrations of the New Zealand flora. Vol II. J. Mackay, Govt. Printer, Wellington, N.Z. 251 p.
- Collins, L.; de Lange, P.J. 1998: Threatened plants of the Waikato Conservancy. Department of Conservation, Hamilton. 69 p.
- de Lange, P.J. 1998: *Hebe perbella* (Scrophulariaceae)—a new and threatened species from western Northland, North Island, New Zealand. *New Zealand Journal of Botany* 36: 399–406.
- de Lange, P.J.; Norton, D.A.; Heenan, P.B.; Courtney, S.P.; Molloy, B.P.J.; Ogle, C.C.; Rance, B.D.; Johnson, P.N.; Hitchmough, R. (in press): Threatened and uncommon plants of New Zealand. *New Zealand Journal of Botany*.
- Delmiglio, C.; Pearson, M. 2002: The effects of viruses on *Sicyos australis*. Progress report June 2002. Unpublished report, School of Biological Sciences, University of Auckland. 9 p.
- Hitchmough, R. (Comp.) 2002: New Zealand Threat Classification System lists—2002. *Threatened Species Occasional Publication* 23. Department of Conservation, Wellington. 210 p.
- Jones, D.L.; Wapstra, H.; Tonelli, P.; Harris, S. 1999: The orchids of Tasmania. Melbourne University Press, Victoria, Australia. 317 p.
- Kirk, T. 1870: On the botany of the northern part of the province of Auckland. *Transactions of the New Zealand Institute* 3: 166–177.
- Ogle, C.C. 1987: A rarely seen native grass, *Amphibromus fluitans*. *Wellington Botanical Society Bulletin* 43: 29–32.
- Molloy, J.; Bell, B.D.; Clout, M.; de Lange, P.J.; Gibbs, G.; Given, D.; Norton, D.; Smith, N.; Stephens, T. 2002: Classifying species according to threat of extinction—a system for New Zealand. *Threatened Species Occasional Publication* 22. Department of Conservation, Wellington. 26 p.
- St George, I.; Irwin, B.; Hatch, D. 1996: Fieldguide to the New Zealand orchids. New Zealand Native Orchid Group, Wellington, New Zealand. 122 p.
- Sweetapple, P.J.; Nugent, G.; Whitford, J.; Knightbridge, P.I. 2002: Mistletoe (*Tupeia antarctica*) recovery and decline following possum control in a New Zealand forest. *New Zealand Journal of Botany* 26: 61–71.

# Appendix 1

## THREATENED VASCULAR PLANTS IN NORTHLAND CONSERVANCY

(From Hitchmough 2002; Qualifiers shown in superscript are explained in Appendix 2.)

### Extinct

*Trilepidea adamsii* (Cheeseman)

### Acutely Threatened

#### Nationally Critical

*Alectryon excelsus* subsp. *grandis* <sup>RC HI OL</sup>

*Anzybas carsei* <sup>CD HI RF EF OL</sup>

*Atriplex hollowayi* <sup>CD HI EF</sup>

*Calochilus* aff. *herbaceus* (CHR 65825; Kaimaumu) <sup>SO EF</sup>

*Centipeda minima* subsp. *minima* <sup>SO EF</sup>

*Christella dentata* sensu stricto <sup>CD SO RF OL</sup>

*Cliantbus puniceus* <sup>CD HI OL</sup>

*Coprosma spathulata* subsp. *bikuruana* <sup>CD HI RF OL</sup>

*Crassula bunua* <sup>HI</sup>

*Davallia tasmanii* subsp. *cristata* <sup>CD RF OL</sup>

*Hebe* aff. *bishopiana* (AK 202263; Hikurangi Swamp) <sup>CD HI OL</sup>

*Isoetes* aff. *kirkii* (CHR 247118A; Lake Omapere) <sup>OL</sup>

*Linguella puberula* <sup>HI</sup>

*Mazus novaezeelandiae* subsp. *impolitus* f. *birtus* Heenan <sup>CD HI</sup>

*Metrosideros bartlettii*

*Pennantia baylisiana* <sup>CD RF OL</sup>

*Pterostylis micromega* <sup>CD HI EF</sup>

*Sebaea ovata* (reintroduced)

*Sicyos australis* sensu stricto <sup>CD TO</sup>

*Tecomanthe speciosa* <sup>CD RF OL</sup>

*Thelymitra* (a) (WELT 79140; Ahipara) <sup>CD DP HI EF</sup>

*Thelymitra sanscilia* <sup>DP EF</sup>

*Trichomanes* (AK 252983; Kerikeri) <sup>DP OL</sup>

*Uncinia perplexa* <sup>CD HI OL</sup>

#### Nationally Endangered

*Ackama nubicola* <sup>CD, HI, RF, OL</sup>

*Amphibromus fluitans* <sup>EF</sup>

*Asplenium pauperequitum* <sup>CD, HI, EF</sup>

*Carmichaelia williamsii*  
*Coprosma waima*<sup>CD</sup>  
*Hebe speciosa*<sup>CD, RF</sup>  
*Hibiscus* aff. *trionum* (AK 218967; North Island)  
*Juncus holoschoenus* var. *holoschoenus*<sup>DP, SO</sup>  
*Lepidium oleraceum* sensu stricto<sup>CD, HI, EF</sup>  
*Olearia crebra*<sup>CD</sup>  
*Ophioglossum petiolatum*<sup>CD, SO, HI</sup>  
*Phylloglossum drummondii*<sup>SO, HI, EF</sup>  
*Pittosporum ellipticum* subsp. *serpentinum*<sup>CD, HI, RF</sup>  
*Pomaderris phyllicifolia*<sup>SO</sup>  
*Rorippa divaricata*<sup>CD, EF</sup>  
*Senecio scaberulus*<sup>HI, EF</sup>  
*Todea barbara*

### **Nationally Vulnerable**

*Hebe perbella*  
*Hibiscus diversifolius*<sup>SO</sup>  
*Lycopodiella serpentina*<sup>TO</sup>

### **Chronically Threatened**

#### **Serious decline**

*Brachyglottis kirkii* var. *kirkii*  
*Carex litorosa*<sup>DP, HI</sup>  
*Dactylanthus taylorii*<sup>CD, RF</sup>  
*Daucus glochidiatus*<sup>DP, SO</sup>  
*Euphorbia glauca*<sup>EF</sup>  
*Hydatella inconspicua*<sup>EF</sup>  
*Kunzea ericoides* var. *linearis*  
*Marattia salicina*<sup>CD, SO</sup>  
*Mazus novaezeelandiae* subsp. *impolitus* f. *impolitus*<sup>CD, HI</sup>  
*Pimelea tomentosa* sensu stricto<sup>EF</sup>  
*Pittosporum kirkii*<sup>CD</sup>  
*Plumatochilos tasmanica*<sup>SO, EF</sup>  
*Sicyos* aff. *australis*<sup>HI</sup>

#### **Gradual Decline**

*Anogramma leptophylla*<sup>TO, EF</sup>  
*Austrofestuca littoralis*<sup>CD, SO, HI</sup>  
*Christella* aff. *dentata* (b) (AK 126902; “thermal”)<sup>HI</sup>  
*Colensoa physaloides*  
*Cyclosorus interruptus*<sup>SO</sup>



*Desmoschoenus spiralis*<sup>CD, EF</sup>  
*Doodia squarrosa*  
*Drosera pygmaea*<sup>SO</sup>  
*Eleocharis neozelandica*<sup>EF</sup>  
*Gratiola nana*<sup>SO</sup>  
*Kunzea* aff. *ericoides* (b) (AK ; “sand”)  
*Leptinella rotundata*  
*Mida salicifolia*<sup>RF</sup>  
*Myriophyllum robustum*  
*Pellaea falcata*<sup>SO</sup>  
*Peraxilla tetrapetala*<sup>CD, HI</sup>  
*Pimelea arenaria* sensu stricto<sup>RF</sup>  
*Raukaua edgerleyi*<sup>RF</sup>  
*Teucrium parvifolium*<sup>CD</sup>  
*Thelypteris confluens*<sup>CD, SO</sup>  
*Tupeia antarctica*<sup>CD, HI</sup>  
*Utricularia delicatula*  
*Utricularia australis*<sup>HI</sup>

#### **At Risk**

##### **Sparse**

*Adelopetalum tuberculatum*  
*Anemantbele lessoniana*<sup>DP</sup>  
*Anzybas rotundifolius*  
*Blechnum norfolkianum*<sup>TO</sup>  
*Botrychium australe*<sup>DP, SO</sup>  
*Calochilus paludosus*<sup>SO, EF</sup>  
*Calystegia marginata*<sup>SO, EF</sup>  
*Centrolepis strigosa*<sup>SO, EF</sup>  
*Corunastylis pumilum*<sup>SO, EF</sup>  
*Dianella* aff. *nigra* (b) (CHR ; Kopouatai)  
*Doodia mollis*  
*Fuchsia procumbens*  
*Grammitis rawlingsii*  
*Halocarpus kirkii*<sup>RF</sup>  
*Hebe* aff. *diosmifolia* (AK ; “summer flowering”)  
*Kortbalsella salicornioides*<sup>EF</sup>  
*Lagenifera lanata*  
*Leptinella tenella*<sup>DP</sup>  
*Microlaena carsei*

*Mimulus repens*<sup>DP, SO</sup>  
*Peperomia* aff. *urvilleana* (AK 206056; “purple vein”)<sup>DP</sup>  
*Peperomia tetraphylla*<sup>SO</sup>  
*Pittosporum ellipticum*  
*Pittosporum pimeleoides* subsp. *pimeleoides*  
*Pseudopanax ferox*<sup>CD, RF</sup>  
*Senecio marotiri*  
*Sticberus flabellatus*<sup>SO</sup>  
*Tbelymitra tholiformis*  
*Thismia rodwayi*<sup>DP</sup>  
*Tmesipteris sigmatifolia*  
*Trichomanes strictum*

### **Range Restricted**

*Baumea complanata*<sup>HI</sup>  
*Brachyglottis arborescens*<sup>OL</sup>  
*Brachyglottis myrianthos*  
*Carex elingamita*<sup>RC, OL</sup>  
*Carex opbiolithica*<sup>OL</sup>  
*Cassinia amoena*<sup>OL</sup>  
*Celmisia adamsii* var. *rugulosa*<sup>OL</sup>  
*Chionochoa bromoides*  
*Coprosma* aff. *neglecta* (AK ; Whangaroa)  
*Coprosma obconica* subsp. *distantia*<sup>CD, OL</sup>  
*Coprosma neglecta*  
*Cordyline kaspar*  
*Cyathea kermadecensis*<sup>RC, OL</sup>  
*Dianella* aff. *nigra* (a) (CHR ; Hauturu)  
*Elingamita johnsonii*<sup>OL</sup>  
*Geniostoma ligustrifolium* var. *crassum*<sup>OL</sup>  
*Geniostoma ligustrifolium* var. *maius*  
*Haloragis erecta* subsp. *cartilaginea*<sup>OL</sup>  
*Hebe adamsii*<sup>OL</sup>  
*Hebe* aff. *ligustrifolia* (AK 207101; Surville Cliffs)  
*Hebe brevifolia*<sup>OL</sup>  
*Hebe insularis*  
*Helicbrysum* aff. *aggregatum* (AK 54473; Surville Cliffs)<sup>CD, OL</sup>  
*Hoheria equitum*  
*Ipomoea pes-caprae* ssp. *brasiliensis*<sup>SO</sup>  
*Kirkianella novae-zelandiae* f. *glauca*<sup>ST, HI</sup>  
*Leucopogon* aff. *parviflorus* (AK 130914; Surville Cliffs)<sup>OL</sup>

*Macropiper excelsum* ssp. *peltatum* f. *peltatum*  
*Macropiper excelsum* subsp. *peltatum* f. *delangei* <sup>OL</sup>  
*Macropiper melchior* <sup>OL</sup>  
*Melicytus ramiflorus* ssp. (a) (AK 207155, Three Kings)  
*Meryta sinclairii*  
*Myosotis matthewsii* <sup>DP, EF</sup>  
*Myrsine* aff. *divaricata* (AK 228797 ; Poor Knights)  
*Myrsine oliveri* <sup>RC, OL</sup>  
*Parsonsia praeruptis* <sup>CD, OL</sup>  
*Petalochilus alatus* <sup>DP, TO</sup>  
*Phyllocladus* aff. *trichomanoides* (AK 138493; Surville Cliffs) <sup>OL</sup>  
*Pimelea* (b) (AK ; Mt Manaia) <sup>ST</sup>  
*Pimelea* aff. *tomentosa* (b) (CHR ; Surville cliffs) <sup>OL</sup>  
*Pimelea* aff. *tomentosa* (c) (CHR ; Three Kings) <sup>OL</sup>  
*Pittosporum fairchildii* <sup>OL</sup>  
*Pittosporum pimeleoides* subsp. *maius* <sup>CD, OL</sup>  
*Pomaderris paniculosa* subsp. *novae-zelandiae*  
*Pseudopanax* aff. *lessonii* (CHR ; Surville cliffs) <sup>CD</sup>  
*Pseudopanax gilliesii*  
*Stellaria* aff. *parviflora* (AK ; Poor Knights)  
*Streblus smithii*  
*Thelymitra* (b) (CHR ; “darkie”) <sup>EF</sup>  
*Thelymitra* (c) (CHR ; “rough leaf”) <sup>EF</sup>  
*Xeronema callistemon* f. *bracteosa* <sup>OL</sup>  
*Xeronema callistemon* f. *callistemon*

#### **Data Deficient**

*Centipeda aotearoana*  
*Cortaderia* aff. *fulvida* (CHR 477325; Puketi)  
*Epilobium hirtigerum* <sup>DP, SO, HI</sup>  
*Hebe acutiflora* (Benth.) Cockayne (AK 107720)  
*Hebe* aff. *brevifolia* (AK 235669; Surville Cliffs) <sup>OL</sup>  
*Libertia* aff. *ixioides* (a) (CHR 469712; “large capsule”)  
*Libertia* aff. *ixioides* (b) (CHR ; Omaha )  
*Nematoceras* aff. *rivularis* (CHR 518025; Kaimai)  
*Nematoceras* aff. *rivularis* (CHR 518313; “whiskers”)  
*Nematoceras rivularis*  
*Olearia angulata*  
*Pimelea* (f) (AK 189577; Maunganui Bluff) <sup>OL</sup>  
*Spiranthes* aff. *novae-zelandiae* (CHR 518297; Motutangi) <sup>HI, EF</sup>

# Appendix 2

## QUALIFIERS

These provide additional information about the nature of the threat, conservation management and global status of the listed taxon. The list of the qualifiers and their meanings is from Molloy et al. 2002.

QUALIFIER	STANDS FOR	DEFINITION
EW	Extinct in the wild	Exists only in cultivation or in captivity
CD	Conservation dependent	Likely to move to a higher threat category if current management ceases
DP	Data poor	Confidence in the listing is low due to the poor data available for assessment
RC	Recovering	Total population showing a sustained recovery
ST	Stable	Total population stable
SO	Secure overseas	Secure in other parts of its natural range outside New Zealand
TO	Threatened overseas	Threatened in those parts of its range outside New Zealand
HI	Human induced	Present distribution is a result of direct or indirect human activity
RF	Recruitment failure	Current population may appear stable but the age structure is such that catastrophic declines are likely in the future
EF	Extreme fluctuations	Extreme unnatural population fluctuations, or natural fluctuations overlaying human-induced declines, that increase the threat or extinction
OL	One location	

# Appendix 3

## COMMON NAMES USED IN THE TEXT AND CORRESPONDING SCIENTIFIC NAMES

beech	<i>Nothofagus</i> spp.
centaury	<i>Centaureum erythraea</i>
fireweeds	<i>Senecio</i> spp.
fivefinger	<i>Pseudopanax arboreus</i>
introduced broom	<i>Cytisus scoparius</i>
karo	<i>Pittosporum crassifolium</i>
lancewood	<i>Pseudopanax crassifolius</i>
mamangi	<i>Coprosma arborea</i>
mapou	<i>Myrsine australis</i>
marram grass	<i>Ammophila arenaria</i>
Mexican devil	<i>Ageratina adenophora</i>
mistflower	<i>Ageratina riparia</i>
native broom	<i>Carmichaelia</i> spp.
ngaio	<i>Myoporum laetum</i>
pampas grasses	<i>Cortaderia jubata</i> ; <i>Cortaderia selloana</i>
pate	<i>Schefflera digitata</i>
pohutukawa	<i>Metrosideros excelsa</i>
putaputaweta	<i>Carpodetus serratus</i>
rohutu	<i>Lophomyrtus obcordata</i>
tarata	<i>Pittosporum eugenioides</i>
towai	<i>Weinmannia silvicola</i>
tree lupin	<i>Lupinus arboreus</i>
weeping mapou	<i>Myrsine divaricata</i>
wharangi	<i>Melicope ternata</i>
white maire	<i>Nestegis cunninghamii</i>
yellow wort	<i>Blackstonia perfoliata</i>

# Appendix 4

## GLOSSARY OF TERMS

<b>aff.</b>	With affinities (related) to
<b>capsule</b>	Dry fruit that opens when mature
<b>divaricate</b>	Spreading at a very wide angle; used especially of shrubs with stiff, interlaced stems
<b>endemic</b>	Native only to a particular country or region and not found elsewhere
<b>frond</b>	Leaf, used especially of ferns
<b>semi-parasitic</b>	Plant attached to and deriving part of its nourishment from another living plant
<b>herb</b>	Plant which is not woody
<b>indigenous</b>	Native to a particular area, not introduced
<b>inflorescence</b>	General term for a collection of flowering parts, or for the arrangement of the flowers
<b>labellum</b>	Lip; in an orchid flower a well differentiated petal, that usually lies in front of the flower
<b>leaf axil</b>	Upper angle between the stem and the leaf stalk
<b>leaf blade</b>	Expanded part of the leaf
<b>leaf sheath</b>	Tubular structure that surrounds the base of the stem
<b>node</b>	Place on a stem marked by the attachment of a leaf (or leaves)
<b>parasite</b>	Plant attached to and deriving nourishment from another plant
<b>perennial</b>	With a life-span of more than 2 years
<b>petiole</b>	Stalk of a leaf
<b>pinna</b>	Segment of a divided leaf blade
<b>rhizome</b>	Underground stem
<b>sori</b>	Cluster of capsules containing spores on the margin or undersides of the leaves, usually having a characteristic shape
<b>spore</b>	Single-celled reproductive unit (equivalent of a seed in flowering plants)
<b>stamen</b>	Pollen-bearing organ
<b>sterile</b>	Not producing seed, spores, or pollen capable of germination



**stigma**  
**style**  
**subsp.**

Part of the flower that is receptive to pollen  
Elongated part of the flower that bears the stigma  
Subspecies