

Teucrium parvifolium

VERBENACEAE

Status

Gradual Decline

Description

A small-leaved shrub to 2 m. Young stems are orange or brown, square in cross-section and finely hairy. Leaves are in opposite pairs, round, dull green or brown-green; up to 12 mm long on stalks of equal length. Flowers are small (8 mm diameter), white (rarely bluish) with 5 irregular petal lobes. Fruit is a group of 4 seeds held within a persistent calyx. Flowering occurs from October to January; fruiting from December to March.

Similar species

Small, round-leaved *Coprosma* species are similar, but easily distinguished by their round or oval stems, leaf domatia (or pits in the leaf near the midrib) and a small, pointed 'stipule' running across the stem between each leaf pair. *Neomyrtus pedunculata* has square stems, but they are hairless while the leaves are shiny and gland-dotted.

Habitat

Along stream sides and river terraces in lowland dry forest and podocarp-hardwood forest; occasionally on forest margins and amongst scrub.

Distribution

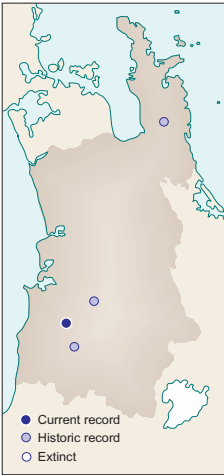
Endemic to New Zealand, occurring sporadically from Northland to Southland, but commoner in the east of both islands. In the Waikato, it occurs in several forest remnants around Waitomo.

Threats

Forest clearance, rural development, stock and feral animal browse, invasive weeds.

Teucrium parvifolium.

Photos: (above left) J.D. Sawyer; (left) S.P. Courtney.



Trilepidea adamsii

Adams mistletoe



LORANTHACEAE

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 4 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 flattened young branchlets that are almost square in cross-section, the leaves are broader and uniformly green or yellow-green, while the tiny flowers are yellow-green, borne in the leaf axils, and possess a 'bent' style. The fruit in this species is yellow. *Tupeia antarctica* also has tiny, green-yellow flowers, but its fruits are white or pink and greyish-white branchlets are covered in short, soft hairs. *Peraxilla tetrapetala* has small diamond-shaped leaves with characteristic 'blisters', red flowers and yellow fruit. *Peraxilla colensoi* has scarlet flowers, yellow fruit and only occurs on beech trees.

Habitat

Semi-parasitic on mamangi and other *Coprosma* species, red mapou, and wharangi, probably restricted to coastal and lowland kauri forest margins and associated open, seral shrubland.

Distribution

Endemic to the northern North Island from Waipoua to the Waikato and Coromandel Peninsula. Historic records indicate that this species was never common. In the Waikato, plants are known historically from the Coromandel Peninsula (Te Moehau, Kauaeranga Valley and Thames) and near Cambridge (which is the last known sighting in 1954).

Threats

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

Comments

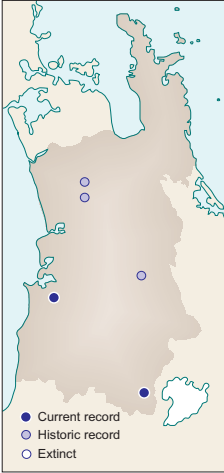
Although classified as Extinct, we have included *Trilepidea* in this guide in the hope that, in the unlikely event that plants are still in existence, they may be rediscovered.



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

Tupeia antarctica

taapia, pirita, white mistletoe



LORANTHACEAE

Status

Gradual Decline

Description

A shrubby semi-parasite 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 white to grey bark, and downy or hairy branchlets. Flowers are tiny, greenish-yellow and appear from October to December. Fruit are fleshy, white to pink, 5–7 mm diameter, they appear from December to March.

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 have 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* species, putaputaweta, fivefinger, white maire and broom.

Distribution

Endemic to the North and South Islands. In the Waikato, it is known to occur in the Awaroa Scenic Reserve and in the Waihaha area. It is known historically from Maungatautiri, the Hakarimata Range and Lake Waahi.

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, collectors, vandalism and fungal disease also threaten this species.



Tupeia antarctica.

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

Utricularia australis

yellow bladderwort

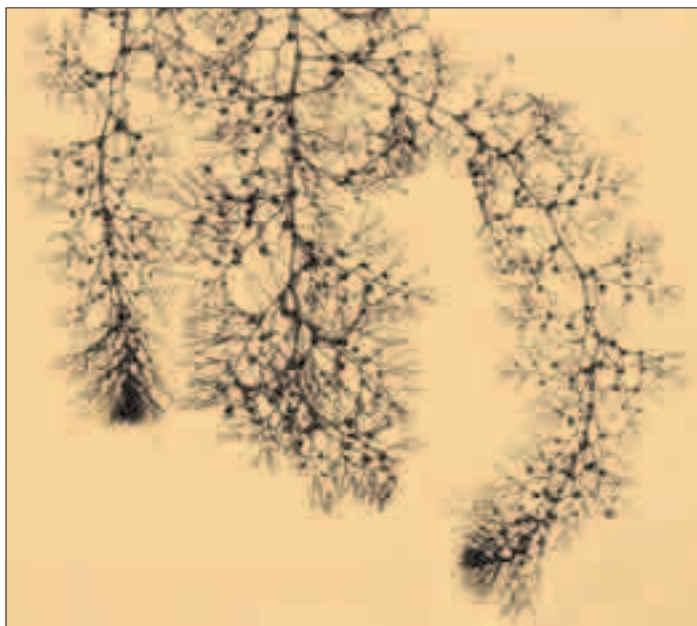
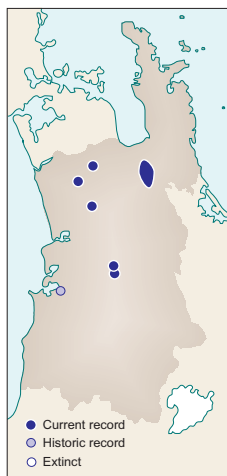
LENTIBULARIACEAE

Status

Gradual Decline

Description

A small, hairless, submerged 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 up to 400 mm long. Leaves numerous, hair-like, 20–40 mm long. Bladders attached to leaf bases, numerous, 1–3 mm in diameter. Three to eight yellow or orange-yellow flowers sparingly produced. Flowers, December–March, though some populations may never flower. The seed capsule is round.



Utricularia australis.

Photo: A.J. Townsend.

Similar species

Utricularia gibba is an introduced species that has smaller, less divided floating stems. *U. gibba* forms massive floating mats and is usually always flowering while *U. australis* produces feathery floating stems and is more sporadic in flowering.

Habitat

Peat lakes, peaty pools and slow-moving streams draining peat bogs.

Distribution

Scattered from Northland to Westland. In the Waikato it is known to occur in several peat lakes, the Whangamarino, Kopouatai, near Kawhia and at Waihaha.

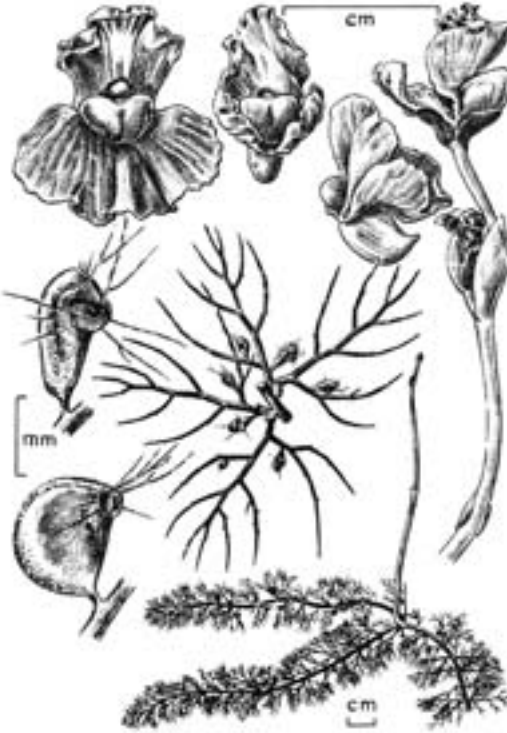
Threats

Competition from *U. gibba* and other aquatic weeds; habitat loss through modification and drainage.

Comment

Some of the northern Waikato plants of yellow bladderwort are larger than is usual for the species. These plants, along with similar ones seen near Bethel's Swamp, west Auckland, appear to be another allied species. Further research is required.

Utricularia australis. Illustration by J.B. Irwin.



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Appendix 1

THREATENED PLANTS IN THE WAIKATO CONSERVANCY

(from de Lange et al. in press. Qualifiers shown in superscript are explained in Appendix 2.)

Extinct

Trilepidea adamsii

Acutely Threatened

Nationally Critical

Anzybas carsei^{CD, HI, RF, EF, OL}

Centipeda minima subsp. *minima*^{SO, EF}

Christella dentata^{CD, SO, RF, OL, HI}

Linguella puberula^{HI, EF}

Pomaderris apetala subsp. *maritima*^{CD, SO, RF}

Pterostylis micromega^{CD, HI, EF}

Sicyos australis^{CD, TO}

Nationally Endangered

Amphibromus fluitans^{EF, TO}

Carmichaelia williamsii^{HI}

Epacris sinclairii^{RC}

Hebe speciosa^{CD, RF, HI}

Lepidium oleraceum s.s.^{CD, HI, EF}

Myosotis petiolata var. *pansa*^{EF}

Olearia pachyphylla^{HI}

Opbioglossum petiolatum^{CD, SO, HI}

Phylloglossum drummondii^{SO, HI, EF}

Picris burbridgei^{SO}

Pittosporum turneri^{CD, RC}

Pomaderris phyllicifolia^{SO, HI}

Rorippa divaricata^{CD, EF}

Senecio scaberulus^{HI, EF}

Nationally Vulnerable

Hebe scopulorum^{CD}

Lepidium flexicaule^{CD, SO, EF}

Lycopodiella serpentina ^{TO}
Prasophyllum aff. *patens* ^{CD, DP}

Chronically Threatened

Serious Decline

Brachyglottis kirkii var. *kirkii* ^{CD}
Carex litorosa ^{DP, HI}
Dactylanthus taylorii ^{CD, RF}
Euphorbia glauca ^{EF}
Kunzea ericoides var. *linearis* ^{HI}
Marattia salicina ^{CD, SO}
Mazus novaezeelandiae subsp. *impolitus* ^{CD, HI}
Mazus novaezeelandiae subsp. *novaezeelandiae* ^{CD, HI}
Pimelea tomentosa ^{EF}
Pittosporum kirkii ^{CD}
Plumatochilus tasmanica ^{SO, HI, EF}
Pterostylis paludosa ^{EF}
Sicyos aff. *australis* ^{HI}

Gradual Decline

Austrofestuca littoralis ^{CD, SO, HI}
Carex cirrhosa ^{DP, HI}
Cyclosorus interruptus ^{SO}
Deschampsia cespitosa ^{SO, HI}
Desmoschoenus spiralis ^{CD, EF}
Doodia squarrosa
Epilobium chionanthum ^{DP}
Gratiola nana ^{SO, HI}
Isolepis fluitans ^{SO, HI}
Libertia peregrinans ^{CD, HI}
Melicytus flexuosus ^{RF}
Mida salicifolia ^{RF}
Myriophyllum robustum ^{CD}
Paspalum orbiculare ^{SO, HI}
Pellaea falcata ^{SO, HI}
Peraxilla tetrapetala ^{CD, HI}
Pimelea arenaria ^{HI, RF}
Potamogeton pectinatus ^{DP}
Pseudopanax laetus ^{RF}
Ranunculus limosella ^{HI}

Ranunculus macropus^{HI}
Raukaua edgerleyi^{CD, RF}
Schoenus carsei^{SO, HI}
Sonchus kirkii^{HI, EF}
Sophora fulvida
Teucrium parvifolium^{CD}
Tupeia antarctica^{CD, HI}
Utricularia australis^{HI}
Utricularia delicatula^{HI}

At Risk

Sparse

Adelopetalum tuberculatum
Anemanthele lessoniana^{DP}
Asplenium cimmeriorum
Blechnum norfolkianum^{TO}
Botrychium australe^{DP, SO, EF}
Calochilus paludosus^{SO, EF}
Calochilus robertsonii^{SO, EF}
Calystegia marginata^{SO, EF}
Corunastylis nuda^{SO, EF}
Corunastylis pumilum^{SO, EF}
Crassula ruamahanga
Dianella aff. *nigra* (Kopouatai)^{DP}
Doodia mollis
Fimbristylis velata^{SO}
Fuchsia procumbens
Grammitis rawlingsii
Halocarpus kirkii^{RF}
Hymenophyllum atrovirens
Hymenophyllum aff. *flexuosum* (Mount Burnett)
Kortbalsella salicornioides^{EF}
Lachnagrostis elata^{DP}
Leptinella tenella
Libocedrus plumosa
Lindsaea viridis
Microsorium novae-zelandiae
Mimulus repens^{DP, SO}
Myosotis spathulata var. *spathulata*^{DP}
Pisonia brunoniana^{SO, HI}

Pittosporum ellipticum
Pittosporum virgatum
Pomaderris hamiltonii^{RC}
Schizaea dichotoma^{SO}
Senecio marotiri
Senecio repangae subsp. *repangae*^{EF}
Stegostyla atradenia
Streblus banksii
Tetragonia tetragonoides^{EF}
Thelymitra tholiformis^{EF}
Thelymitra aff. *ixioides*^{DP, SO, EF}
Thismia rodwayi^{DP, SO, EF}
Tmesipteris sigmatifolia
Trichomanes colensoi^{DP}

Range Restricted

Baumea complanata^{HI}
Brachyglottis myrianthos
Celmisia adamsii var. *adamsii*
Deyeuxia aff. *quadriseta*
Dracophyllum patens
Pomaderris rugosa
Sporadanthus ferrugineus^{CD, ST, HI}
Stellaria aff. *parviflora*

Coloniser

Plectranthus parviflorus^{SO}

Data Deficient

Centipeda aotearoana
Epilobium hirtigerum^{DP, SO, HI}
Galium trilobum
Lepilaena bilocularis^{SO}
Nematoceras aff. *rivularis* (“whiskers”)
Nematoceras aff. *rivularis* (Kaimai)
Nematoceras aff. *trilobus* (“pygmy”)
Olearia angulata
Polygonum plebeium^{SO}
Pterostylis porrecta
Pterostylis aff. *graminea* (“sphagnum”)

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 Hitchmough 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.
broom	<i>Cytisus scoparius</i>
creeping bent	<i>Agrostis stolonifera</i>
fivefinger	<i>Pseudopanax arboreus</i>
jointed rush	<i>Apodasmia similis</i>
karo	<i>Pittosporum crassifolium</i>
kneed foxtail	<i>Alopecurus geniculatus</i>
kowhai	<i>Sophora</i> spp.
mamangi	<i>Coprosma arborea</i>
Mexican devil	<i>Ageratina adenophora</i>
pohutukawa	<i>Metrosideros excelsa</i>
pokaka	<i>Elaeocarpus bookerianus</i>
putaputaweta	<i>Carpodetus serratus</i>
red mapou	<i>Myrsine australis</i>
sweetgrasses	<i>Glyceria</i> spp.
tall fescue	<i>Schedonorus arundinacea</i>
tarata	<i>Pittosporum eugenioides</i>
wharangi	<i>Melicope ternata</i>
white maire	<i>Nestegis lanceolatus</i>

Appendix 4

GLOSSARY OF TERMS

aff.	With affinities (related) to
Berry	Fleshy fruit containing several to many seeds (not a stone)
Bulbil	Bud produced vegetatively on a frond or stem, capable of becoming a new plant
Calcareous	Of high calcium content e.g. limestone or marble
Callus	Thickened, usually hardened part
Capsule	Dry fruit that opens when mature
Divaricate	Spreading at a very wide angle; used especially of shrubs with stiff, interlaced stems
Domatia	Small pits on the leaves of some species
Endemic	Native only to a particular country or region and not found elsewhere
Ephemeral	Short-lived
Epiphyte	Plant growing on another but not organically connected with it
Frond	Leaf, used especially of ferns
Hemi-parasite	Plant attached to and deriving part of its nourishment from another living plant
Herb	Plant which is not woody
Indigenous	Native to a particular area, not introduced
Inflorescence	General term for a collection of flowering parts, or for the arrangement of the flowers
Involucre	One or more whorls of bracts surrounding an aggregation of flowers
Keel	Sharp central ridge
Labellum	Lip; in an orchid flower a well differentiated petal, that usually lies in front of the flower
Leaf axil	Upper angle between the stem and the leaf stalk
Leaf blade	Expanded part of the leaf
Leaf sheath	Tubular structure that surrounds the base of the stem
Lenticel	Corky spot on young bark functioning as a pore
Node	Place on a stem marked by the attachment of a leaf (or leaves)

Pakihi	Open or barren land
Parasite	Plant attached to and deriving nourishment from another plant
Perennial	With a life-span of more than 2 years
Petiole	Stalk of a leaf
Phyllary	Individual bract of an involucre
Pinna	Segment of a divided leaf blade
Raceme	Unbranched inflorescence with stalked flowers, with those at the base being older
Replum	Frame-like placenta from which the valves fall away when the fruit matures
Rhizome	Underground stem
Silique	Capsule bearing seeds (silicle - a small silique)
Sorus	Cluster of capsules containing spores on the margin or undersides of the leaves, usually having a characteristic shape (plural: sori)
Spore	Single-celled reproductive unit (equivalent of a seed in flowering plants)
Stamen	Pollen-bearing organ
Sterile	Not producing seed, spores, or pollen capable of germination
Stigma	Part of the flower that is receptive to pollen
Stipule	One of a pair of scale-like appendages at the base of a petiole
Style	Elongated part of the flower that bears the stigma
subsp.	Subspecies
Valve	Door-like, often separable part