Threatened plants of Waikato Conservancy

Department of Conservation
Te Papa Atawhai

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Introduction

From an indigenous plant perspective, the Waikato Region (Fig. 1) is not especially floristically diverse, nor is it rich in endemic plants. Currently most botanists accept two endemic plants for the region: Adam's mountain daisy—*Celmisia adamsii* var. *adamsii*, which is primarily found in rocky sites on the Coromandel Peninsula, and the recently described Awaroa koromiko—*Hebe scopulorum* (Bayly et al. 2002), which is restricted to limestone outcrops south of the Kawhia Harbour. Nevertheless, what the region lacks in floristic diversity is well compensated for by the breadth and range of ecosystems which encompass sand dunes, nearly land-locked harbours with their associated extensive estuaries, unique *Sporadanthus*-dominated raised peat bogs, freshwater lakes, frost flats, podocarp forest, extensive areas of coastal and lowland karst, and upland cloud forest. It is the diversity of these habitats which makes the flora of the Waikato so interesting.

Within the region, 130 taxa that occur or have occurred in the Waikato Conservancy are listed as threatened or at risk (de Lange et al. in press; Table 1, Appendix 1). Of these, one species, Adams mistletoe—*Trilepidea adamsii* is now assumed to be nationally extinct. This mistletoe was last seen in 1954 at Sanatorium Hill (Maungakawa) near Cambridge. Other plants such as the coastal cress—*Lepidium flexicaule* and the tufted hair-grass—*Deschampsia cespitosa* are now considered extirpated (i.e., locally extinct) in the Waikato, though they still occur locally elsewhere in New Zealand. At another level there are species such as the Nationally Critical swamp helmet orchid—*Anzybas carsei* which are now confined to the Waikato, though they once occurred elsewhere in the country.

Advocacy

This book is a field guide covering a selection of threatened or at risk plants that occur within the Waikato. Its purpose is to raise public awareness about these plants and in doing so highlight the importance of protecting the communities these plants occupy. It also provides a resource to assist with the identification of these plants. Most of these species are so threatened or in such serious decline in New Zealand that it is uncertain whether they will continue to survive in the wild. New information about the distribution of threatened plants may be

sent to the Waikato Conservancy Office of the Department of Conservation (18 London Street, Hamilton).

None of the plants identified in this book should be collected in the wild.

Figure 1. Location and spatial extent of Waikato Conservancy.

Threat classification

To the best of our abilities, all indigenous New Zealand biota have been assessed using the system of Molloy et al. (2002), and lists of assessed taxa are provided by de Lange et al. (in press). Those vascular plant listings relevant to the Waikato Conservancy, and rated by threat, are provided in Table 1. A full list is provided in Appendix 1, and qualifiers are explained in Appendix 2.

TABLE 1. NUMBER OF THREATENED PLANT TAXA IN WAIKATO CONSERVANCY, BY THREAT CATEGORY.

THREAT CATEGORY	PLANT TAXA
Extinct	1
Acutely Threatened	
Nationally Critical	7
Nationally Endangered	14
Nationally Vulnerable	4
Chronically Threatened	
Serious Decline	13
Gradual Decline	29
At Risk	
Range Restricted	8
Sparse	42
Non Resident Native	
Coloniser	1
Data Deficient	11
TOTAL	130

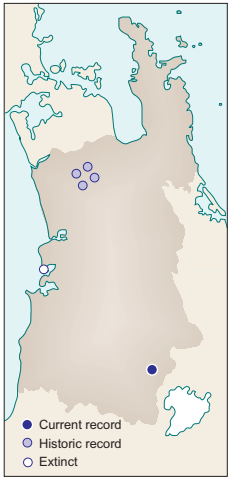
Appendix 3 matches the common names used in the text to scientific names; Appendix 4 contains a glossary of technical terms used in the text.

Species profiles

Information about each plant species is presented along with photographs and illustrations to aid identification. Distributions have been mapped to show where current populations exist, where they have been known to occur historically and when thought to be extirpated, i.e. extinct at a site. To declare a population extirpated is always risky; plants are easily overlooked and one can never be certain. The definition of an extirpated/extinct population for the purposes of this guide is when it has not been seen in more than 50 years. In some cases, plants have been seen more recently than the 50 year mark, but recent searches have found the habitat has been destroyed and/or the population has undoubtedly gone. For example, *Trilepidea adamsii* was last seen in 1954: it was a very distinctive plant and is very likely to be extirpated in the Waikato. Records are indicated as historic where the species has not been seen for at least 10 years.

Amphibromus fluitans

water brome



POACEAE

Status
Nationally Endangered

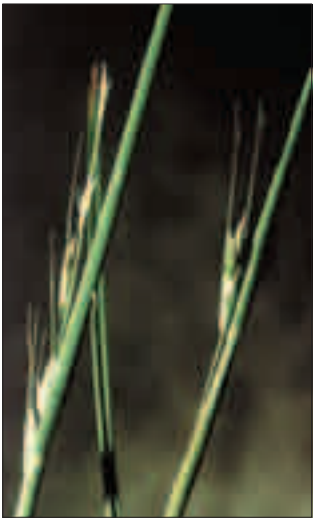
Description
A perennial, semi-aquatic grass that forms loose grey-green, tufted mats not usually more than 150 mm tall (can reach 400 mm). Leaf blades are slightly rough to the touch, can be either flat, or slightly in-rolled and generally narrower than the leaf sheath. The blue-grey barley-like flowers are borne on short, slightly rough stems with dark nodes, and are often partially enclosed within the leaf sheath. The inconspicuous inflorescences of this species are produced year round.

Similar species
The identification of water brome without flowers is extremely difficult. Sterile specimens of creeping bent (*Agrostis stolonifera*) are most likely to be misidentified as water brome (*Amphibromus fluitans*) as this species often grows in the same habitat. Creeping bent has fleshy leaves and the leaf blade tends to be wider than the sheath. Kneed foxtail (*Alopecurus genicuatus*) is also similar in the vegetative state, however it is larger and coarser than *Amphibromus fluitans*. Sweetgrasses (*Glyceria* species) have long thin (often blue-green coloured) leaves with cross-veinlets and they tend to float on water.

Amphibromus fluitans habit.
Photo: A. Brandon.

Habitat

Moderately fertile, seasonally dry wetlands (Ogle 1987) and along the edges of shallow lakes and lagoons. Occasionally plants may be found in montane wetland habitats.



Distribution

Australia, New Zealand, both North and South Islands from Ninety Mile Beach and Karikari Peninsula to Maher's Swamp and Lake Tekapo (Edgar & Connor 2000; Gardner 2000). In the Waikato, this includes wetlands along the Waikato River, sub-montane and coastal lagoons.

Right: *Amphibromus fluitans* inflorescence. Photo: C.C. Ogle.

Threats

Habitat loss through wetland drainage, stock grazing and competition from weeds.

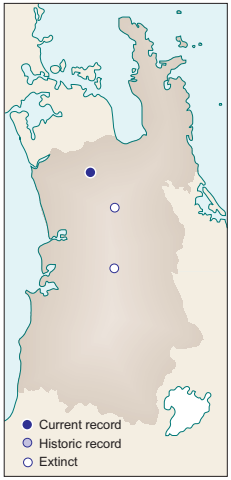
Comment

This species exists in habitats dependent on alternating flood/drought cycles so it can be absent from a known site for many years before reappearing. It is thought that plants are unable to survive rapid inundation and water levels of over 1 metre. Once water levels have dropped sufficiently, new plants appear, probably from a large, long-lived seed bank.

Amphibromus fluitans Illustration by T. Galloway.

Anzybas carsei

swamp helmet orchid



ORCHIDACEAE

Status
Nationally Critical

Description
An inconspicuous orchid to 30 mm tall when flowering. It has a small heart-shaped leaf about the size of a finger nail. The tubular, 8–10 mm long maroon-purple flowers are usually solitary. The hood of the flower is deeply cleft and the lower lip (labellum) is raised to show butted, rather than overlapped, edges. Flowering occurs in mid to late spring. The leaf is present from February to December.

Similar species
Anzybas (*Corybas*) *rotundifolius,* though similar, rarely grows in bogs. It is a mid-winter flowering species which possesses a larger flower whose tubular lips overlap and whose hood has no cleft. The orchid more likely to be confused with *Anzybas* (*Corybas*) *carsei* is *Singularlybas* (*Corybas*) *oblongus,* as it also grows in bogs. However, the flowers are quite different: the labellum is fringed with long-hair-like teeth, and the petals of *S. oblongus* form long, thin 'spider'-like projections. It has a thin, textured, oblong leaf with reddish veins on the underside.

Habitat
At present known only from one site where it grows in open *Schoenus/Empodisma* sedge/wirerush vegetation, though it was formerly more common in several, now drained, *Sporadanthus*-dominated bogs.

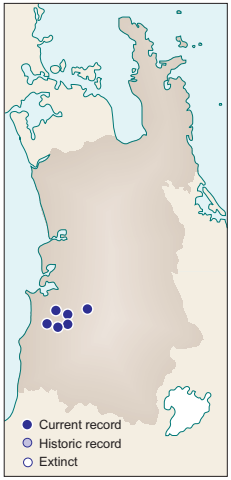
Distribution
Whangamarino Wetland. Formerly known from Moanatuatua and near Tauhei in the Waikato and from swamps bordering Lake Tangonge, Kaitaia.

Threats
Wetland drainage and plant collectors have contributed to the decline of this species in the past. The single remaining population is now mainly at risk through natural succession.

Anzybas carsei.
Photo: E.A. Scanlen.

Asplenium cimmeriorum

cave spleenwort



ASPLENIACEAE

Status
Sparse

Description
A small, creeping, somewhat tufted and dark green to blue-green fern, which often forms small colonies just at the threshold of light within limestone cave entrances. The small, fleshy 20–100 mm long, moderately to finely divided fronds are usually narrowly triangular in outline, and unlike the related hen-and-chickens fern (*Asplenium bulbiferum*), never possess 'chickens' (bulbils).

Similar species
It can be distinguished from *Asplenium bulbiferum* by its smaller size, shortly creeping rhizomes, narrowly triangular fronds and lack of bulbils.

Asplenium cimmeriorum. Photo: J.C. Smith-Dodsworth.

Habitat
Primarily confined to heavily shaded, calcareous rocks in high-rainfall areas, especially cave entrances and archways. In the Waikato, plants are usually found growing underneath taller ferns such as *Blechnum chambersii* and *Asplenium lyallii*, and the moisture-loving herb parataniwha (*Elatostema rugosum*).

Distribution
New Zealand endemic. In the North Island known only from the cave entrances and limestone areas in the Waitomo area. The species is more common in the western South Island, where it has been recorded from Karamea south to Punakaiki.

Threats
Restricted distribution, browse and collection.