

# THREATENED SPECIES LISTING STATEMENT



ORCHID

Firth's midge orchid

*Corunastylis firthii* (L. Cady) D.L. Jones & M.A. Clem. 2002

## Status

Tasmanian *Threatened Species Protection Act 1995*

.....endangered

Commonwealth *Environment Protection and Biodiversity*

*Conservation Act 1999*.....Critically Endangered



David Jones



## Description

Firth's midge orchid belongs to a group of orchids commonly known as midge orchids because of their insect-like appearance. They were previously included in the genus *Prasophyllum* but they are readily distinguished by their short flowers, which have a hinged labellum (lip). *Corunastylis* species are deciduous terrestrials with a round, fleshy tuber partly enclosed by a persistent fibrous sheath, and a single thin cylindrical leaf. The upside-down flowers of *Corunastylis* species are crowded in a dense terminal spike. When in flower, midge orchids are short and often hidden among grasses, rushes and heathy shrubs. They are most commonly seen in places that have been recently burnt or spots that are regularly mown or slashed such as areas beside tracks and on road verges. Reproduction is solely from seed.

The leaf of Firth's midge orchid is green and very slender, closely sheathing and ending well below the flower spike. It is 50 to 80 mm long, the free part 5 to 10 mm long. The species flowers from January to March, and in flower, the plants are 8 to 10 cm tall ending in an uncrowded spike 10 to 15 mm long with 1 to 6 flowers. The flowers are about 3 mm wide, nodding, not widely open and are yellowish green or red and yellowish with a red labellum. The dorsal sepal, at the base of the flower, is about 3 mm long and 2.4 mm wide, the apex with a rudimentary gland. The two lateral sepals at the top of the flower are about 4 mm long and 1.2 mm wide, parallel or slightly divergent and an apex with a gland or rudimentary gland. The two petals are about 2 mm long and 1.2 mm wide, the apex extending as a long point. The dorsal sepal is hooded over the column which has deeply to shallowly notched wings, the lobes unequal and

pointed and the front lobe longer and hooked inwards. The labellum, above the column, is about 2.3 mm long and 1.5 mm wide with slightly irregular margins and a pointed apex. It has a slightly thickened but not fleshy callus extending nearly to the apex of the labellum.

*Corunastylis firthii* was previously known as *Genoplesium firthii* which was, until recently considered synonymous with *Genoplesium brachystachyum* (now known as *Corunastylis brachystachya*), but the species are distinct. It is similar to *Corunastylis tasmanica* with which it grows but is shorter and has fewer smaller flowers. An earlier name for *Corunastylis firthii* was *Prasophyllum firthii*.

### Important Locations

	Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number of mature plants
1	Percy Street, Coles Bay Cosgrove Street, Coles Bay Roadside nature strip	Coles Bay Coles Bay	1999 1989	0.1 Possibly extinct	12
2	<i>Friendly Beaches Road</i>	Friendly/Lodi	1973	Probably extinct	

### Threats, Limiting Factors and Management Issues

Firth's midge orchid has a very high risk of becoming extinct. As well as only being known from a small area and with only about a dozen plants in total making it susceptible to loss from chance events, the population is located on a roadside nature strip in the Coles Bay township where many urban activities threaten its existence. These activities include mowing or slashing at the critical period when the plants are flowering or fruiting, road or cable works, application of fertilisers (native orchids are intolerant of fertilisers), weed invasion, parking etc. Until about 5 years ago, a local resident kept an eye on the site in order to prevent accidental damage, reducing risks to the population for a while. He has now left the area. A number of other orchid species including *Corunastylis tasmanica* are also found at this site. A colony of Firth's midge orchid in a nearby side street has not emerged for over 10 years, probably due to invasion by introduced grasses and damage by car parking.

Firth's midge orchid has undergone a decline as it has not been relocated from where it was first collected along the Friendly Beaches Road, despite regular dedicated searches. This population was last seen in 1973 and is likely to be lost, possibly due to an inappropriate fire regime. Some firing or slashing when the plants are not flowering or fruiting, appears to be beneficial by keeping the habitat open.

### Distribution and Habitat

Firth's midge orchid is endemic to Tasmania and is currently known from only one population at Coles Bay and previously from about 14 kilometres further north in the Friendly Beaches area. It occupies only about 0.1 hectares in total. At Coles Bay, Firth's midge orchid is found on an almost bare roadside strip on sandy soil and in the Friendly Beaches area, it was found in tall open banksia shrubland with heathy and sedgy ground cover, growing on a well-drained rise in sand derived from granite.

### Conservation Assessment

#### Population Estimate

There is probably only one extant population of Firth's midge orchid. Another population has not been relocated since 1973 despite regular dedicated searches and is probably extinct. One patch of the extant population, previously known to consist of only a small number of plants, has not emerged for over 10 years and may also be lost. This leaves the total number of mature individuals of Firth's midge orchid in existence at approximately 12. These plants emerge only sporadically, depending on suitable conditions. It is unlikely that new populations will be found, given regular dedicated searches in suitable habitat in past years.

#### Reservation Status

Firth's midge orchid is not represented in a reserve.

#### Assessment Criteria

Firth's midge orchid meets the criteria for listing as endangered on the Tasmanian *Threatened Species Protection Act 1995* because

- there are less than 250 mature individuals in total
- it is severely restricted, extending over an area of less than 500 square kilometres and occupying less than 10 hectares
- it occurs in 1 or possibly 2 populations only
- there is a continuing decline

It qualifies as Critically Endangered using the 1994 IUCN (World Conservation Union) Red List criteria.

## Recovery Program

### Objectives

- prevent the loss or degradation of known populations
- increase the number of known populations through survey

### Existing Management

Firth's midge orchid is included in a project to manage and recover threatened Tasmanian orchids. The project commenced in late 2001.

### Actions Needed

- pursue management options with landowners/managers to protect populations of Firth's midge orchid against possible changes in land use that would be detrimental to the species
- prepare management guidelines for the Council for the Percy Street population
- monitor nature strip activities at the Percy Street site to prevent accidental damage, or mowing or slashing when plants are flowering and fruiting
- continue searches in the Friendly Beaches area in suitable years to relocate the type population
- establish a mechanism to ensure management intervention when required
- further survey

### Information Needed

- determine whether there are any more populations in existence

## Management Advice

### For the land owner/land manager

- do not mow or slash from mid-November to April to allow plants to emerge, flower and set seed
- in the absence of fire, slash to maintain openness between April and October when plants are not flowering or seeding
- if you own land on which Firth's midge orchid grows, consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

### For everyone

- if you live in the Coles Bay area, keep an eye on the nature strip site to ensure that it is not accidentally damaged, or mown or slashed from mid-November to April

- search for new populations from late February to mid-March, the peak flowering period
- help us to monitor known populations, particularly at flowering time

## Further Information

**Contact details:** Threatened Species Unit, Department of Primary Industries, Water and Environment, GPO Box 44 Hobart Tasmania Australia 7001. Ph (03) 6233 6556 fax (03) 6233 3477.

**Specialist Advice:** Hans and Annie Wapstra, Howden (contact via the Threatened Species Unit)

## Source Material

### Bibliography

Jones, D. Wapstra, H., Tonelli, P. and Harris, S. 1999. *The Orchids of Tasmania*. Melbourne University Press.

Jones, D.L. 1998. Contributions to Tasmanian Orchidology –5: A Taxonomic Review of *Genoplesium* R. Br. in Tasmania, *Australian Orchid Research* 3: 86-93.

Jones, D.L., Clements, M.A., Sharma, I., Mackenzie, A. and Malloy, B. 2002. Nomenclatural notes arising from studies into the tribe Diuideae (Orchidaceae), *The Orchadian* 13: 437-468.

**Statement Prepared:** November 2001 (name updated 2003)

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**Review Date:** 2007 or as new information is received.

**Cite as:** Threatened Species Unit 2002. Listing Statement Firth's midge orchid *Corunastylis firthii*. Department of Primary Industries, Water and Environment, Tasmania.

**View:** <http://www.dpiwe.tas.gov.au>

& follow the links to Natural Environment, Threatened Species, then List of Threatened Species.

**Permit:** It is an offence to collect, possess or disturb this species unless under permit.

