



THREATENED SPECIES LISTING STATEMENT

ORCHID

Tunstall's greenhood

Pterostylis tunstallii D. L. Jones & M. A. Clem. 1989

Status

Tasmanian *Threatened Species Protection Act 1995*

.....endangered

Commonwealth *Environment Protection and Biodiversity*

Conservation Act 1999.....Not listed



Hans & Annie Wapstra



Description

Tunstall's greenhood belongs to a group of orchids commonly known as greenhoods because the dorsal sepal and petals are united to form a predominantly green, hood-like structure that dominates the flower. When triggered by touch, the labellum flips inwards towards the column, trapping any insect inside the flower, thereby aiding pollination as the insect struggles to escape. Greenhoods are deciduous terrestrials that have fleshy tubers, which are replaced annually. At some stage in their life cycle all greenhoods produce a rosette of leaves.

The rosette of Tunstall's greenhood can only be found on non-flowering plants. Tunstall's greenhood flowers from July to September. In flower, the plants are 25 to 50 cm tall with 5 or 6 dark green stem leaves, 25 to 60 mm long and 3 to 5 mm wide with a short, sharp point at the tips.

They have 4 to 10 shiny, translucent green flowers. The hood is erect and has a wide, unobstructed opening. The two lateral sepals hang down, generally curving back towards the stem, and are fused with the tips remaining free for about 3 mm. The oblong labellum, which also hangs down, is dark brown with a blackish basal mound sloping backwards. The tip of the labellum is notched and curves upwards. In all, the flowers are 7 to 10 mm long and 5 to 7 mm wide.

Pterostylis tunstallii is a recently described species from a group of species known as the *Pterostylis longifolia* complex. It can be distinguished from the similar and closely related *Pterostylis williamsonii*, which has longer flowers, an ovate to oblong labellum that is prominently thickened at the base and has a shallowly notched apical tooth on the labellum. It is easily distinguishable from two other

greenhoods in this complex which have much longer labella. The labellum is deep green with a dark green central stripe in *Pterostylis stenochila* and yellowish to brown with a dark brown or black stripe in *Pterostylis melagramma*.

A taxonomic review of the greenhoods has split *Pterostylis* into several new genera. This species has been renamed *Bunochilus tunstallii*. Until this change becomes widely accepted, for management purposes the Threatened Species Unit has chosen to

continue dealing with this species as part of the *Pterostylis* genus.

Distribution and Habitat

In Tasmania, Tunstall's greenhood is so far known only from the eastern Bass Strait Islands, occupying an area of approximately 2 hectares in total. It grows in open forest and woodland, often in accumulated litter, on granite-derived gravelly and loamy soils. It also occurs in New South Wales and Victoria.

Important Locations

Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number
Start of Strzelecki walking track, Flinders Island Private land and Strzelecki National Park	Loccota	1999	2	50
Lady Barron, Flinders Island	Fisher	1969	Possibly extinct	
Great Dog Island Aboriginal land	Fisher	1992	0.16	18
Vansittart Island Private land	Fisher	1973	Possibly extinct	
Swan Island Private land	Lyme Regis	1979		few

Threats, Limiting Factors and Management Issues

The only substantial known population of Tunstall's greenhood occurs at the start of the Strzelecki walking track. Most of the occurrence here is actually just outside the park boundary, on private land subject to grazing, in the vicinity of the right-of-way to give access to the park. Further up the walking track inside the boundary, the species tends to diminish and peter out after about 500 m. Grazing and inappropriate fire regimes are identifiable threats, but on the whole this population appears safe. The Strzelecki National Park management plan recommends the purchase of private land at the start of the Strzelecki walking track. This would place the whole population of Tunstall's greenhood in the park and facilitate management.

Tunstall's greenhood was recorded at Lady Barron on Flinders Island in 1969, but searches in suitable habitat on the Lady Barron foreshore and nearby Vinegar Hill in 1999 failed to locate the species here, although numerous specimens of the somewhat similar *Pterostylis melagramma* were located. The Lady Barron foreshore is a narrow strip, with adjacent housing and is heavily used by people, subject to rubbish dumping and infested with weeds. When the population on private land on Vansittart Island was discovered in 1973, it was in a remnant of scrub among ploughed land due to be developed further that year. If it still persists, clearing,

ploughing and fertilisers are significant threats. Little is known about the occurrence on Swan Island.

Conservation Assessment

Population Estimate

Tunstall's greenhood has been confirmed from only 3 sites in recent years. Only one of these, at the start of the Strzelecki walking track on Flinders Island, could be described as a substantial population, with approximately 50 plants occurring in small loose groups over about 2 hectares.

Reservation Status

Tunstall's greenhood occurs in the Strzelecki National Park, although most plants in the population are found just outside the park boundary on private land in the vicinity of the right-of-way giving access to the park.

Assessment Criteria

Tunstall's greenhood 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, occupying less than 10 hectares
- it occurs in 5 or less populations
- there is a continuing decline

Recovery Program

Objectives

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

Existing Management

A draft management plan has been prepared for the Strzelecki National Park. The plan recommends the purchase of private land at the start of the Strzelecki walking track. This would place the whole population of Tunstall's greenhood in the park and facilitate management.

Actions Needed

- pursue management options with landowners/managers to protect populations of Tunstall's greenhood against possible changes in land use that would be detrimental to the species
- monitor known populations for threats and declines
- establish a mechanism to ensure management intervention when required
- further survey

Information Needed

- determine appropriate fire regimes for Tunstall's greenhood
- determine whether there are any more populations in existence

Management Advice

For the land owner/land manager

- protect open scrubland with Tunstall's greenhood from being grazed by stock
- if you own land on which the Tunstall's greenhood grows, consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

For everyone

- search for new populations from July to September when the plants are in flower
- 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 Wapstra, Vegetation Section, Department of Primary Industries, Water and Environment

Source Material

References

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 –7: A Taxonomic Review of *Pterostylis* R. Br. in Tasmania, *Australian Orchid Research* 3: 135-177.

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Prepared by: Wendy Potts and Hans Wapstra

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& 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.