

THREATENED SPECIES LISTING STATEMENT



ORCHID

Midland greenhood

Pterostylis commutata D. L. Jones 1994

Status

Tasmanian *Threatened Species Protection Act 1995*

.....endangered

Commonwealth *Environment Protection and Biodiversity*

Conservation Act 1999.....Critically Endangered



Hans & Annie Wapstra



Description

Midland 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 the Midland greenhood encircles the base of the flower stem. The 6 to 10 rosette leaves are elliptical to narrowly oval shaped, 18 to 32 mm long and 5 to 8 mm wide. The rosette usually withers by flowering time. Midland greenhood flowers in December and January. In flower, the

plants are 12 to 22 cm tall. They have 1 to 5 erect shiny green flowers with translucent markings on the hood. The hood apex curves down strongly and terminates with an apical point 15 to 20 mm long. The two lateral sepals are green with dark green lines and transparent areas. They hang down and are joined together leaving the 25 to 30 mm long points free and parted by 6 to 10 mm at the tips. The labellum, which also hangs down, is dark green with a turned up tip and has an irregularly wavy margin with short white bristles. Two longer bristles arise from near the base. In all, the flowers are 42 to 50 mm long and 6 to 8 mm wide.

Midland greenhood has a distinctive flower shape and is not easily confused with other Tasmanian greenhoods. It is a recently described orchid, previously thought to be *Pterostylis biseta*, which is confined to the mainland.

A taxonomic review of the greenhoods has split *Pterostylis* into several new genera. This species has been renamed *Oligochaetochilus commutatus*. 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

Midland greenhood is endemic to Tasmania and is confined to a 75 square kilometre area near

Tunbridge and Ross. It grows in native grassland and *Eucalyptus pauciflora* grassy woodland on well-drained sandy soils and basalt loams and occurs in small, loose colonies. This species occurs in one of the driest regions in the State, with less than 500 mm average annual rainfall and has large tubers for the storage of water, an adaptation to its dry environment. In total, the Midland greenhood occupies an area of approximately one hectare.

Important Locations

Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number
North of Tunbridge Private land	Tunbridge	1999	0.5	17
Township Lagoon Township Lagoon Nature Reserve	Tunbridge	1999	0.0001	3
Ross Cemetery and adjacent roadside and private land	Ross	2000	0.25	10-20+
Northeast of Ross Private land	Ross	1993	0.05	6
South of Ross Private land	Ross	1992	0.0002	6

Threats, Limiting Factors and Management Issues

Midland greenhood occurs in remnant habitat that is in itself threatened (grassland on basalt soils and grassy woodlands). Most populations are on private land and are at risk of being cleared for agricultural activities. Many native pastures have also been cropped in the past and, as orchids are extremely sensitive to ploughing and fertilising, it is likely that this has caused the distribution to become fragmented and reduced to small colonies within much larger units of apparently natural and unchanged grasslands. Extensive surveys of Midlands basalt grasslands and grassy woodlands in 1999 produced only one new population. Some sites are subject to grazing and, in prolonged drought, there is a real danger of habitat deterioration or direct damage to colonies through overgrazing. Thanks to a sympathetic landowner, one population was recently saved from having a stock route being placed over it. The stock route is now 20 m away.

The Ross Cemetery site has for years suffered from slashing at the wrong time causing the loss of flowering plants. This threat can probably be managed, but the unexpected removal in 1999 of a row of ancient pines appears to have resulted in the drying out of the site to such a degree that no rosettes appeared. Whether plants will re-emerge in better seasons remains to be seen. The largest colony of about 10 plants in the cemetery appears to have

been lost due to spraying of weeds while the orchid was above ground. An associated site across the road is on a small private block, infested with gorse, and heavily overgrazed especially in dry years. The 6-10 plants known from there have not been seen the last 3 seasons. Three plants occur on the roadside strip nearby in a patch of native grassland containing a number of other threatened plants. It is maintained by the Northern Midlands Council. All populations are quite small in number, in itself a risk factor, as the loss of even a small number of plants can mean the extinction of the species from the site. Fires tend to be quite frequent in the Midland greenhood habitat and are probably beneficial because they prevent the grass cover becoming too dense.

Conservation Assessment

Population Estimate

There are five known populations of Midland greenhood, the largest population with only 17 plants. Estimating the size of populations of terrestrial orchids is often difficult unless conditions are favourable for flowering. Although the species is well adapted to low rainfall and is able to produce flowers even in severe drought years, this appears to be correlated to site conditions. For instance, the 17 plants of the new colony mentioned above were robust and healthy in 1999, yet the 3 plants at nearby Township Lagoon Nature Reserve formed a rosette and early flower spike, but then aborted and withered, a known phenomenon in this group. Where

there used to be more than 20 plants at the Ross Cemetery site, none emerged in 1998 and 1999, presumably due to drought. The total number of the Midland greenhood in existence has been estimated to be approximately 50.

Reservation Status

Midland greenhood is poorly reserved with only 3 plants that struggle to flower in most seasons, occurring in the Township Lagoon Nature Reserve.

Assessment Criteria

Midland 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, extending over an area of less than 500 square kilometres and occupying less than 10 hectares
- it occurs in 5 or less populations
- 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

Midland greenhood was included in a project to manage and recover Tasmanian grassland orchids. Survey work was carried out in 1998 -1999.

Actions Needed

- pursue management options with landowners/managers to protect populations of the Midland greenhood against possible changes in land use that would be detrimental to the species
- prepare management guidelines for the Ross Cemetery site
- prepare management guidelines for the Ross Cemetery roadside site particularly for a slashing regime and gorse control
- monitor known populations for threats and declines
- 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

- grassland colonies require some grazing, slashing or fire to keep the grass cover open
- do not slash or graze between October and February to avoid trampling and allow plants to flower and set seed
- do not plough or fertilise in the vicinity of Midland greenhood populations
- if you own land on which the Midland greenhood grows, consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

For everyone

- search for new populations, particularly in non-drought years from late December to mid January, the peak flowering time.
- help us to monitor known populations, particularly at peak 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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& 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.