



# THREATENED SPECIES LISTING STATEMENT

ORCHID

Liawenee greenhood

*Pterostylis pratensis* D. L. Jones 1998

## Status

Tasmanian *Threatened Species Protection Act 1995*

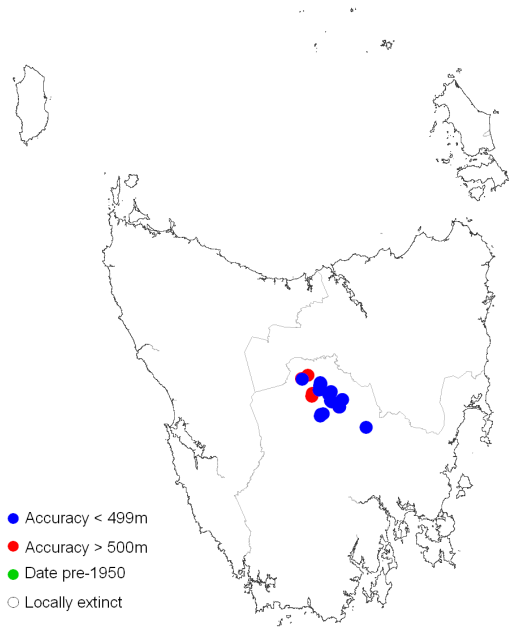
.....vulnerable

Commonwealth *Environment Protection and Biodiversity*

*Conservation Act 1999*.....Vulnerable



Hans & Annie Wapstra



## Description

*Pterostylis pratensis* 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 *Pterostylis pratensis* encircles the base of the flower stem. The 4 to 8 rosette leaves are dark green, crowded, and oval to circular shaped with the broadest part in the middle, 25 to 35 mm long and 14 to 22 mm wide. *Pterostylis pratensis* flowers from mid-November to mid-

December. In flower, the plants are 7 to 15 cm tall, with many closely sheathing stem leaves. They have 2 to 12 densely crowded white flowers with dark green stripes. The hood apex curves down abruptly and terminates with a short tip. The two lateral sepals hang down and are fused to form a pouch below the labellum though the tips may remain free. The labellum, which also hangs down, is whitish green, oblong with a shallowly notched tip and has an appendage that points out with a dark green, knob-like apex with a short, broad, blunt beak about 0.5 mm long. In all, the flowers are 7 to 8.5 mm long and 4.5 mm wide.

Its darker green and white flowers and larger leaves can distinguish *Pterostylis pratensis*, which grows in montane and subalpine regions on the Central Plateau from another similar greenhood, *Pterostylis ziegeleeri*, a greenhood of lowland areas. The dark

green apex on the appendage of the labellum of *Pterostylis pratensis* is also broader and blunter than that of *Pterostylis ziegeleri*. A similar greenhood found below Table Mountain needs further investigation.

## Distribution and Habitat

*Pterostylis pratensis* is endemic to Tasmania and is known only from the Central Highlands at an

altitude of 850 to 1,100 m. It extends over an area of approximately 400 square kilometres, occupying an area of 20 or more hectares in total. It grows in subalpine *Poa labillardierei* tussock grassland which is very exposed, low and open, with patches of often stunted *Olearia algida* and *Hakea microcarpa* scrub on red-brown loamy to clay soils derived from basalt.

## Important Locations

Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number
<b>Liawenee Moor</b> Private land	Miena	1997	15	500
<b>Christmas Bay</b> Private land	Miena	1994		few
<b>Little Pine Lagoon</b> –possibly 2 sites Private land	Miena, Monpeelyata	1993 1975		few
<b>Todds Corner</b> Private land	Arthurs Lake	1997	0.5	10
<b>Barren Plains</b> Private land	Arthurs Lake	1997	1	30
<b>St Patricks Plains</b> –2 sites Private land	Wihareja	1997 1984	2	60
<b>Lake Augusta and Lake Botsford</b> –1 or 2 sites Central Plateau Conservation Area, World Heritage Area	Split Rock, Ada	1978 1993		few

## Threats, Limiting Factors and Management Issues

The main population of *Pterostylis pratensis* on Liawenee Moor is outside the World Heritage Area, and has been subject to grazing and frequent burning. These factors have probably maintained an open grassy habitat for the species. The St Patricks Plains colonies are on private land used for grazing. They are confined to a rocky basalt exposure which has not been ploughed or fertilised, unlike adjacent similar habitat where the species could not be found. Cultivation and fertilisers are the main threats to any other colonies that may occur on private land in the district. Colonies in the World Heritage Area should be safe long term, provided *Poa* tussocks are occasionally burnt. Checks in apparently suitable habitat along the Lake Highway have shown *Pterostylis pratensis* to be very patchy in distribution, suggesting that stochastic risks are a relevant consideration.

## Conservation Assessment

### Population Estimate

There are 7 to 10 known populations of *Pterostylis pratensis* in existence. Estimating the size of populations of terrestrial orchids is often difficult

unless conditions are favourable for flowering. The largest population, on Liawenee Moor, has a maximum of 500 plants that are loosely clumped, with clumps consisting of 5 or 6 plants over 3 to 4 square metres. The total number of *Pterostylis pratensis* in existence has been estimated to be at least 600.

### Reservation Status

*Pterostylis pratensis* is poorly reserved, with all but one or two known populations occurring on private land. The Lake Augusta/Lake Botsford sites are in the Central Plateau Conservation Area, which is included in the Tasmanian Wilderness World Heritage Area.

### Assessment Criteria

*Pterostylis pratensis* was up-listed on the Tasmanian *Threatened Species Protection Act 1995* from rare to **vulnerable** in early 2008 as part of the Act's 5-year review. The species qualifies for vulnerable under criterion D:

- population estimated to number less than 1000 mature individuals.

The species is listed as **Vulnerable** on the Commonwealth *Environment Protection and*

*Biodiversity Conservation Act 1999* for similar reasons.

## Recovery Program

### Objectives

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

### Existing Management

*Pterostylis pratensis* is not actively managed at present.

### Actions Needed

- pursue management options with landowners/managers to protect populations of *Pterostylis pratensis* against possible changes in land use that would be detrimental to the species, particularly regarding ploughing and fertilising of pastures
- ensure *Poa* tussock grasslands in the vicinity of populations remain open through occasional burning or grazing
- monitor known populations for threats and declines
- establish a mechanism to ensure management intervention when required
- verify older records and further survey
- investigate similar greenhoods at Table Mountain

### Information Needed

- determine appropriate grazing regimes for *Pterostylis pratensis*
- determine appropriate fire regimes required to keep the habitat of *Pterostylis pratensis* open
- determine whether there are any more populations in existence

### Management Advice

#### For the land owner/land manager

- do not overgraze from November to January to avoid damaging colonies and to allow plants to set seed

- do not plough or fertilise in the vicinity of *Pterostylis pratensis* populations
- if you own land on which *Pterostylis pratensis* grows, consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

#### For everyone

- search for new populations from mid-November to mid-December when the plants are in flower
- help us to monitor known populations, particularly at flowering time

### Further Information

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

### 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.

**Prepared** in 2000 under the provisions of the Tasmanian *Threatened Species Protection Act 1995*. Reviewed in 2008.

**Cite as:** Threatened Species Unit 2008. Listing Statement Liawenee greenhood *Pterostylis pratensis*. Department of Primary Industries & Water, Tasmania.

#### View:

<http://www.dpiw.tas.gov.au/threatenedspecieslists>

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