



THREATENED SPECIES LISTING STATEMENT

ORCHID

Chestnut leek orchid

Prasophyllum castaneum D. L. Jones 1998

Status

Tasmanian *Threatened Species Protection Act 1995*

.....endangered

Commonwealth *Environment Protection and Biodiversity*

Conservation Act 1999.....Critically Endangered



Hans & Annie Wapstra



Description

Chestnut leek orchid belongs to a group of orchids commonly known as leek orchids because the erect hollow leaf has some resemblance to that of a leek. *Prasophyllum* species are deciduous terrestrials with small, fleshy, round or oval tubers and a few fleshy, irregular roots. Most species are dormant over summer and autumn and begin growth in early winter. The single leaf is reddish at the base as opposed to green as in onion orchids (*Microtis*). The flower spike emerges through the side of the leaf above the middle, with the portion of leaf above the point of emergence being free and often withered by the time the flowers open. The flower spike bears many flowers that are held upside-down and are often fragrant. The labellum, often with prominent wavy or frilly margins, produces quantities of nectar on which a wide range of

insects feed. Some of these, particularly native bees, wasps and beetles, are effective pollinators.

The leaf of the chestnut leek orchid is green with a dark purplish red base, the free part 10 to 16 cm long. It flowers from late November to January and in flower, the plants are 10 to 50 cm tall. They have 10 to 20 flowers in a narrow moderately crowded spike 8 to 12 cm long. The ovary is brownish. The flowers are slightly fragrant, 14 to 17 mm long and 7 to 8 mm wide and are chestnut to dark brown or rarely greenish. The lateral sepals are not united. The petals are 7 to 8 mm long and 1.4 mm wide. The labellum is stalked and abruptly recurved at right angles above the middle, the apex not reaching the lateral sepals. It has irregularly crinkled margins. The shiny dark brownish green callus is thickened and extends nearly to the apex of the labellum.

Prasophyllum castaneum is a distinctive leek orchid, not easily confused with other non-white-lipped leek orchids in Tasmania.

Distribution and Habitat

Chestnut leek orchid is endemic to Tasmania and is known from two locations in south-eastern

Tasmania. On Bruny Island it is found in damp shrubby and sedgy heath on sandy loam, but on Mt Brown it occurs in damp skeletal soil under the protection of rocks and tea-tree and banksia scrub dwarfed by continual exposure to strong sea winds. In total, the chestnut leek orchid occupies an area of 3 to 4 hectares.

Important Locations

Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number
Pineapple Rocks Track, Labillardiere Peninsula South Bruny National Park	Cloudy	1995	0.025	25 to 30
Mt Brown, Tasman Peninsula Tasman National Park	Raoul	1998	3 to 4	15

Threats, Limiting Factors and Management Issues

Both populations of the chestnut leek orchid occur in National Parks. Inappropriate fire management is a potential threat. On the extremely exposed plateau on the top of Mt Brown, the plants were absent from open exposed areas, and were typically confined to spots protected from extreme winds. These spots also appeared to retain soil moisture better. A hot summer fire in this locality could be devastating, as it would take some years for the wind-pruned vegetation to recover to the extent that shelter from wind was re-established. The soil over much of this site is extremely thin and mostly confined to cracks and hollows. On Bruny Island, the colony is in a disturbed area associated with an old 4WD track now used as a walking track. As vehicles no longer use the track, adjacent thick scrubby vegetation may swamp the site unless a suitable fire or slashing regime can be put in place.

The chestnut leek orchid is subject to stochastic risks given that less than 50 plants are known to exist and these only occur in two small localities. It is not known whether the current rarity of the species is the result of a past decline.

Conservation Assessment

Population Estimate

There are two known populations of the chestnut leek orchid. The total number of mature individuals has been estimated to be less than 50 with only about 25 to 30 plants in the largest population. The flowering of many leek orchids is strongly dependent on hot summer fires or other disturbance, with large numbers of flowering plants often being produced a year later but few or none in subsequent years. It is therefore difficult to estimate the numbers

of plants in populations and finding populations is often a matter of chance. The species was only recently discovered in 1995. Nevertheless, searches have failed to locate additional populations in large areas of damp coastal heath in the vicinity of Mt Brown on the Tasman Peninsula and on the Labillardiere Peninsula on Bruny Island as well as Southport Lagoon (only a short distance from the Bruny Island site). Populations of other leek orchids were found at these sites.

Reservation Status

Chestnut leek orchid is reserved in the Tasman National Park and the South Bruny National Park.

Assessment Criteria

Chestnut leek 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 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

Draft management plans have been prepared for the Tasman and South Bruny National Parks, which contain both populations of the chestnut leek orchid.

Actions Needed

- maintain an appropriate burning or slashing regime to maintain an open habitat at the Bruny Island site
- prevent the spread of hot summer fires on the Mt Brown plateau
- 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

- burn or slash habitat if it becomes overgrown, taking care to allow plants to seed before taking action

For everyone

- search for new populations from late November to January, 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 –6: A Taxonomic Review of *Prasophyllum* R. Br. in Tasmania, *Australian Orchid Research* 3: 94-134.

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Prepared by: Wendy Potts and Hans Wapstra

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