



THREATENED SPECIES LISTING STATEMENT

ORCHID

Knocklofty leek orchid

Prasophyllum perangustum 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

Knocklofty 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 Knocklofty leek orchid is dark green with a reddish base, the free part 8 to 12 cm long. It flowers in November and December and in flower, the plants are 15 to 40 cm tall. They have 7 to 15 flowers in a narrow, loose spike 6 to 10 cm long. The ovary is green. The flowers are lightly fragrant, 12 to 14 mm long and 6 to 8 mm wide and have greenish or light reddish green sepals and petals, the petals with a red-brown central line, and a white or pinkish labellum. The lateral sepals are not united. The petals are 5 to 6 mm long and 1.2 mm wide.

The labellum is abruptly recurved at right angles near the middle, the apex often curved back through the lateral sepals. It is covered with small elongate papillae and has margins that become slightly irregular towards the apex. The fleshy green callus on the labellum is also covered with small papillae. It is broadly channelled and extends nearly to the apex of the labellum.

Prasophyllum perangustum is a distinctive leek orchid, not easily confused with others in Tasmania. Old herbarium specimens of this orchid were

named *Prasophyllum rogersii*, though this species does not extend to Tasmania.

Distribution and Habitat

Knocklofty leek orchid is endemic to Tasmania and is known only from a 0.2 hectare area at Knocklofty Park in the foothills of Mt. Wellington at an altitude of about 350 m. It is found in grassy *Eucalyptus pulchella* forest on well-drained clay loam and skeletal clay loam derived from dolerite.

Important Locations

Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number
Knocklofty Knocklofty Park (Hobart City Council reserve)	Hobart	1993	0.02	6

Threats, Limiting Factors and Management Issues

Knocklofty leek orchid occurs in a Council Reserve on Knocklofty. A community group, Friends of Knocklofty, is involved in gorse control, and management and monitoring of the orchid. An inappropriate fire regime is a threat to this species, which probably requires a fire at about 10 year intervals, possibly more frequently, to allow it to flower and disperse seed. The population is so small that accidental loss is a serious possibility. Track development, activities associated with power lines (a major area cleared beneath power lines is less than 50 m away) and recreational activities could impact on new colonies trying to establish. The spread of gorse in the locality is a threat that is being addressed, but will remain a threat until all gorse in the general area has been permanently eradicated.

Conservation Assessment

Population Estimate

There is only one known population of the Knocklofty leek orchid. It only flowers after fire. The species was thought to have become extinct but was rediscovered in 1993 following a fire. This caused somewhat of a sensation amongst orchid enthusiasts and Knocklofty was scoured for more colonies without success. Only 6 plants were found in 1993 despite large numbers of another leek orchid (*Prasophyllum brevilabre*) with a similar response to fire being found. Neither orchid could be found at the site in subsequent seasons. Older records are all from Knocklofty and it is unlikely to occur elsewhere. The need for a photograph of the Knocklofty leek orchid has stimulated many searches in recent years in potential habitat following fire without success.

Reservation Status

The Knocklofty leek orchid is not represented in a secure reserve.

Assessment Criteria

Knocklofty 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

The Knocklofty leek orchid was included in a recovery plan for threatened forest orchids under the name *Prasophyllum* aff. *fitzgeraldii* (Ziegeler 1997). This plan has not been implemented.

Objectives

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

Existing Management

Management guidelines have been prepared for the Knocklofty leek orchid (Ziegeler 1997). It occurs in a reserve managed by the Hobart City Council on Knocklofty and will benefit from a fire management plan taking the needs of this species into account. Knocklofty leek orchid 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 Knocklofty leek orchid against possible changes in land use that would be detrimental to the species
- maintain an appropriate fire regime to allow the species to emerge and disperse seed periodically
- eradicate gorse from the area
- monitor the known population 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

- consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

For everyone

- participate in the efforts of the Friends of Knocklofty to eradicate gorse and manage Knocklofty Park
- search for new populations in November and December following fire when the plants are likely to flower. Other grassy eucalypt forest on dolerite around Hobart should also be searched.
- help us to monitor known populations, particularly at flowering time following fire

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.

Ziegeler, D. 1997. *A recovery plan and management guidelines for threatened orchids in Tasmanian forests*. Report to the Tasmanian Regional Forest Agreement Environment and Heritage Technical Committee.

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