

THREATENED SPECIES LISTING STATEMENT



ORCHID

Large golden moths
Diuris lanceolata Lindl. 1840

Status

Tasmanian *Threatened Species Protection Act 1995*

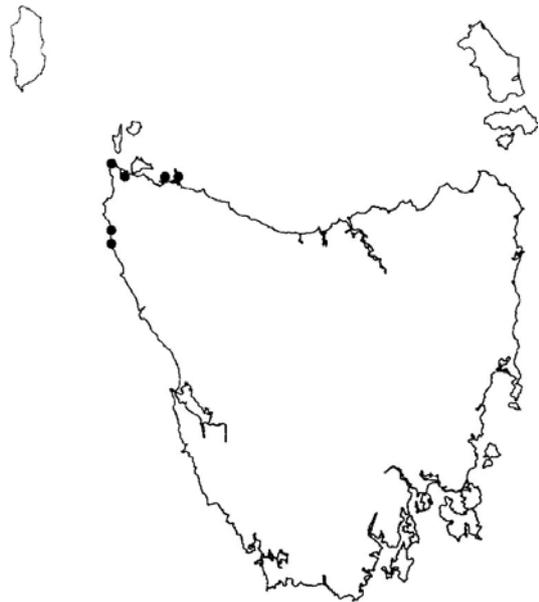
.....endangered

Commonwealth *Environment Protection and Biodiversity*

Conservation Act 1999.....Endangered



Peter Tonelli



Description

Large golden moths is an orchid belonging to a group commonly known as double tails (referring to the paired lateral sepals that point downwards). They are also known as donkey orchids because the two erect petals of some species resemble the ears of a donkey. *Diuris* species are terrestrial orchids that die back to fleshy tubers after flowering. Large golden moths has 2 to 4, narrow, grass-like leaves that are 5 to 18 cm long and are semi-erect in a loose tuft. The leaves are fully developed by flowering time. The species flowers from November to January. In flower, the plants are 6 to 25 cm tall. They have 1 to 3 large deep golden to orange-yellow nodding flowers, 25 to 40 mm across, with a few short, dark markings on the labellum (lip) and base of the dorsal sepal.

Diuris lanceolata occurs in north-western coastal lowland localities and differs from the more widespread, highland growing, *Diuris monticola*, in having larger deep golden to orange-yellow as opposed to bright yellow flowers. It also differs from *Diuris chryseopsis*, which is light lemon-yellow in colour and flowers from late August to October. The latter is confined to lowlands in the eastern half of the state.

Diuris lanceolata was previously thought to be a widespread species extending in Tasmania from the coast to the Central Highlands and also present in mainland states. Populations from the far north-west were quite distinct and proved to be a good match for the original specimens collected by Gunn from Circular Head in the 19th century. Populations from other parts of Tasmania and on the mainland were demonstrated to belong to the new species

Diuris monticola (highlands) or *Diuris chryseopsis* (lowlands).

Distribution and Habitat

Large golden moths is endemic to Tasmania and is confined to a 1,220 square kilometre area in the north-west corner of the state. However, its

distribution is localised in the Arthur River region and between Stanley and Smithton. It is found in coastal scrub and windswept coastal grassland and heathland among dwarfed shrubs and sedges on moist to well-drained sandy and clay loam, sometimes on rocky outcrops. In total, the species occupies an area of approximately 10 hectares.

Important Locations

Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number
Anthony Beach Private land	Stanley	1997	4-5	200-250
Rebecca Lagoon Arthur-Pieman Conservation Area	Temma	1999	5-6	200-250
Sundown Point Arthur-Pieman Conservation Area	Sundown	1992		few
Nelson Bay Arthur-Pieman Conservation Area	Sundown	1992		few
Harcus River Road Private land	Studland	1976	Possibly extinct	
Woolnorth	Grim	1837	Probably extinct	
Circular Head	Stanley	1837	Extinct	0

Threats, Limiting Factors and Management Issues

There are only two substantial populations of large golden moths, with very few other records, each involving only few plants. Clearing, draining and pasture development are believed to have eliminated the species from much of its historical distribution. Renewed clearing, ploughing and pasture development on Woolnorth and adjacent private property to the south along Harcus River Road continue to be a threat to any populations that may exist in this area.

The major population at Anthony Beach is on private land grazed by cattle and subject to periodic patch burning. It is doing well, but trampling in wet years is a risk to individual plants. The future of this population depends on management of the land. The other major population at Rebecca Lagoon appears to be doing well, but the effect of significant cattle trampling in wet years is of concern. The site is near a cattle yard, and the swampy area is much favoured by cattle. Much of the area is heavily and deeply trampled, with the orchid confined to the edges of scrub and some other more grassy patches away from the wettest spots. The sites at Sundown Point and Nelson Bay are not subject to known threats. The Sundown Point and Nelson Bay populations are small due to a restricted area of suitable habitat present at each site.

Conservation Assessment

Population Estimate

Estimating the size of populations of terrestrial orchids is often difficult unless conditions are favourable for flowering. In a good flowering year, the estimate of the total number of mature large golden moths is between 500 to 800, with 200 to 250 in each of the two largest populations at Anthony Beach and Rebecca Lagoon. There are six known populations, though two of these, at Woolnorth and Harcus River Road, are now likely to be extinct due to ongoing agricultural activities. The Sundown Point and Nelson Bay populations are small, with few plants in each, due to a restricted area of suitable habitat at each site. The type locality at Circular Head is believed to be extinct.

Reservation Status

The species is not represented in a secure reserve. One large population at Rebecca Lagoon and two small populations at Sundown Point and Nelson Bay occur in the Arthur-Pieman Conservation Area.

Assessment Criteria

Large golden moths meets the criteria for listing as endangered on the Tasmanian *Threatened Species Protection Act 1995* because

- there are less than 2500 mature individuals in total
- no population has more than 250 mature individuals

- there is a continuing decline

It also qualifies as Endangered using the 1994 IUCN (World Conservation Union) Red List criteria for the same reasons.

Recovery Program

Objectives

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

Existing Management

Large golden moths was included in a project to manage and recover Tasmanian grassland orchids. Some survey work was carried out in 1998 -1999. Three populations of large golden moths occur in the Arthur-Pieman Conservation Area. A draft management plan has been prepared for this area.

Actions Needed

- pursue management options with landowners/managers particularly with respect to excessive cattle trampling in wet years and protection 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 optimal cattle grazing regimes given that cattle grazing may be beneficial to prevent suitable habitat from becoming overgrown but excessive trampling may cause declines, particularly in wet years
- determine whether there are any more populations in existence

Management Advice

For the land owner/land manager

- restrict cattle in wet years to prevent excessive trampling
- allow plants to set seed by limiting grazing from November to February
- do not allow sites to become overgrown
- do not plough or fertilise in the vicinity of populations of large golden moths

- if you own land on which large golden moths grow, consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

For everyone

- search for new populations in November, the peak flowering time
- 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 -4: A Taxonomic Review of *Diuris* Smith in Tasmania, *Australian Orchid Research* 3: 72-85.

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Prepared by: Wendy Potts and Hans Wapstra

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View: <http://www.dpiwe.tas.gov.au>

& 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.