



THREATENED SPECIES LISTING STATEMENT

ORCHID

Paterson's spider orchid

Caladenia patersonii R.Br., Prodr. 324 (1810)

Status

Tasmanian *Threatened Species Protection Act 1995*

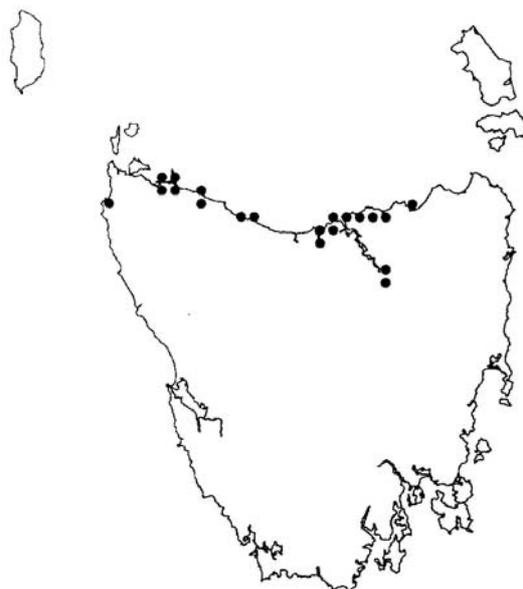
.....vulnerable

Commonwealth *Environment Protection and Biodiversity*

Conservation Act 1999.....Not listed



Hans & Annie Wapstra



Description

Paterson's spider orchid belongs to the genus *Caladenia*. All species are deciduous and die back after flowering to small subterranean tubers enclosed by a fibrous sheath or tunic. Plants have a single narrow basal leaf that appears above ground in late autumn or early winter following rains. The flowers have a labellum (lip) which is hinged at the base and bears rows of conspicuous, variously shaped and coloured calli on the upper surface. The labellum margins often also bear calli or may be deeply lobed or toothed. Members of this genus have hairs on most above-ground organs.

Spider orchids have large flowers with long, tapered or filamentous segments. They are mostly pollinated by male thynnine wasps that attempt to mate with the labellum. The wasps are attracted by

the scents resembling pheromones of the female wasps that are produced by glands on the flowers. A few spider orchids may also be pollinated by native bees.

The leaf of the Paterson's spider orchid is densely hairy with a red to purple blotched base and is 8 to 15 cm long and 10 to 15 mm wide. It flowers from September to November and in flower the plants are 25 to 35 cm tall with a wiry and densely hairy stalk bearing one or two flowers. The flower is up to 10 cm across and is commonly creamy white, otherwise pale yellowish or pinkish, with darker red lines and reddish brown tail-like extensions. The dorsal sepal is 60 to 80 mm long and 2.5 to 3.5 mm wide, the lateral (lowermost) sepals are 40 to 60 mm long and 3.5 to 5.5 mm wide and the petals are 40 to 60 mm long and 3 to 4 mm wide. The

labellum is wholly white to cream, sometimes with a maroon apex. It has reddish calli and the column behind the labellum is translucent with reddish markings.

Caladenia patersonii is part of the *Caladenia patersonii* complex and can be confused with *Caladenia dienema*, *Caladenia anthracina* and *Caladenia echidnachila*. It can be distinguished from these species by its mostly creamy white to creamy yellow flowers. It can be distinguished from *Caladenia dienema* and *Caladenia anthracina* by

its taller stature and larger flowers. *Caladenia patersonii* was previously known as *Arachnorchis patersonii*.

Distribution and Habitat

In Tasmania, Paterson's spider orchid favours coastal and near coastal areas in the north from south of Marrawah to Bridport, occupying about 5 hectares in total. It occurs in low shrubby heathland in moist to well-drained sandy and clay loam. It also occurs in southern Victoria.

Important Locations

Locality	1:25,000 mapsheet	Year last seen	Area (ha)	Number
Black Bull Scrub Arthur-Pieman Conservation Area	Marrawah	1998	0.01	2
Anthony Beach 2 sites Private land	Stanley	1998 1998	3 to 4	300 to 400
Rocky Cape Rocky Cape National Park	Rocky Cape	1998	1	10
Lulworth Tip	Tam O'Shanter/ Weymouth	1990	0.25	10
Bridport	Bridport	1992		
Carr Villa Private Wildlife Sanctuary	Prospect	1991		
Unconfirmed sites (included on map on cover page)	Smithton, Mawbanna, Burnie, Harford, Port Sorell, Greens Beach, Low Head, Bell Bay	pre 1990		

Threats, Limiting Factors and Management Issues

Even though there are more than 50 older records of *Caladenia patersonii* (the previous name for this species), some of these may belong to other species. In addition, much of the former habit has been lost to agriculture and urbanisation. As a result, the known distribution of this species is very patchy with only 7 confirmed records since 1990.

Paterson's spider orchid is threatened by habitat conversion, trampling and grazing, and inappropriate fire management. While fire may be required at some sites to prevent the habitat from becoming overgrown for the species, the Lulworth site is probably burnt too frequently due to escapes of tip fires. It is also at risk of enrichment, rubbish being dumped and blown in, and degradation by vehicles. The Anthony Beach site is private land with a beneficial fire management (frequent small fires in mosaic pattern, touching much of the land at 5 to 10 year intervals). However, it is also subject to cattle grazing and some degradation due to vehicles. The patchy distribution presented above is considered a reasonable representation of modern reality with

many potentially suitable areas in the coastal strip between these sites having been destroyed or degraded by agriculture, coastal development and recreational activities, factors which continue to be at work.

Conservation Assessment

Population Estimate

In the past *Caladenia patersonii* (the previous name for this species) has been a botanical dumping ground for a number of large spider orchids. The "true" species has in recent times proven to be very rare with only 7 populations confirmed since 1990. Paterson's spider orchid is not known to be present in large colonies or numbers at any site, except one of the sites at Anthony Beach where 300 to 400 plants were observed in 1990, over 3 to 4 hectares. The other sites are believed to be no more than 3 to 30 plants each, and very small in extent. The estimate of plant numbers is confounded by promotion of flowering by summer fires. Flowering was observed to be abundant in the season following a fire at one site but no plants could be found 3 years later. Plants are difficult to locate when not in flower. The total number of individuals has been estimated to be about 500.

Reservation Status

Paterson's spider orchid occurs in the Rocky Cape National Park and in less secure reserves including the Arthur-Pieman Conservation Area and the Carr Villa Wildlife Sanctuary. In all, the species is considered to be poorly reserved.

Assessment Criteria

Paterson's spider orchid meets the criteria for listing as vulnerable on the Tasmanian *Threatened Species Protection Act 1995* because

- there are less than 1000 mature individuals in total
- it is severely restricted, occupying less than 50 hectares
- it occurs in 10 or less populations
- there is a continuing decline

Recovery Program

Objectives

- prevent the loss or degradation of known populations
- increase the number of known populations through verification of old records and further survey

Existing Management

Paterson's spider orchid was included in a project to manage and recover Tasmanian grassland orchids. Some survey work was carried out in 1998 -1999.

Actions Needed

- pursue management options with landowners/managers to protect populations of Paterson's spider orchid 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 and verification of older records

Information Needed

- determine whether populations not seen in recent years are still in existence
- determine whether there are any more populations in existence

Management Advice

For the land owner/land manager

- consider summer fires to prevent sites from becoming overgrown, particularly if plants in the population have not flowered for several seasons

- do not overgraze or burn too frequently
- restrict off road vehicle use to prevent damage to populations
- consider some form of long-term protection, e.g. private nature reserve, management agreement, covenant, etc.

For everyone

- search for old and new populations from September to November 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.

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 –2: A Taxonomic Review of *Caladenia* R. Br. in Tasmania, *Australian Orchid Research* 3: 16-60.

Jones, D.L., Clements, M.A., Sharma, I. and Mackenzie, A. 2001. A new classification of *Caladenia* R.Br. (Orchidaceae), *The Orchadian* 13: 389-412.

Statement Prepared: January 2001 (name updated 2003 and 2006)

Prepared by: Wendy Potts and Hans Wapstra

Review Date: 2006 or as new information is received.

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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.