Botrychium australe

Botrychium australe.
Tasmanian Herbarium specimen.

FAMILY: OPHIOGLOSSACEAE

BOTANICAL NAME: *Botrychium australe*, R.Br., *Prodr*. 164 (1810)

COMMON NAME: Parsley fern

COMMONWEALTH STATUS: (*EPBC Act*) Not Listed

TASMANIAN STATUS: (*TSP Act*) presumed extinct

Description

A sparse fern with a fertile leaf (frond) at the top of the plant and a sterile frond on the lower part of the stem. The stem is short and thick and shared by both the sterile and fertile parts of the plant. The underground stems (rhizomes) are short and coarse, with thick and fleshy roots. This species is interesting as it is mycorrhizal (has mutually beneficial associations with fungi) and is more similar to orchids in habit than other ferns. The sterile leaf (frond) is erect, fleshy, parsley like (between 10-40 cm tall) and broadly triangular. The fertile structure is narrower and much branched on a long, erect and fleshy stalk. The spores are round (approximately 1 mm in diameter) and borne on the fertile leaf in clusters that resemble a bunch of grapes (description from Isaac & Duncan 1986, Kirkpatrick 1988). **This species was previously known as *Botrychium ternatum* (*sensu* Rodway 1903).**

Distribution and Habitat

On the mainland this species occurs in Victoria, New South Wales and Queensland. *Botrychium australe* has also been recorded from New Zealand and South Africa. Although it was found in South Australia late last century, this species is now considered to be extinct from that part of Australia, which also appears to be the case in Tasmania. *Botrychium australe* is known from a wide range of habitats from lowland forest and scrubland to subalpine grassland. It requires adequate moisture and can be found in grassy woodland, well-drained plains, near streams in subalpine regions and in mossy soils (Isaac & Duncan 1986).

Key Sites and Populations

The only Tasmanian records of *Botrychium australe* were collected by Ronald Campbell Gunn in 1847. The site was near Marlborough, where it was apparently locally abundant (Garrett 1996).

Known Reserves
This species is not currently known from any reserve.

Ecology and Management
Botrychium australe sometimes occurs in areas subject to above ground disturbance such as fire and light grazing. It is suggested that the contractile root development (which pulls the underground stems well under the surface of the ground) and the capacity of the roots to store starch may aid survival of this species, particularly in exposed sites. Also, this species has little or no potential to spread vegetatively, therefore each plant stays in one spot and produces one frond per year. It has been demonstrated that plants in deep shade rarely produce fertile spikes and those in full light do not thrive either. As previously mentioned, this plant appears to obtain nutrients through mycorrhizal associations and therefore is not totally dependent on its own food resources (Kelly 1994).

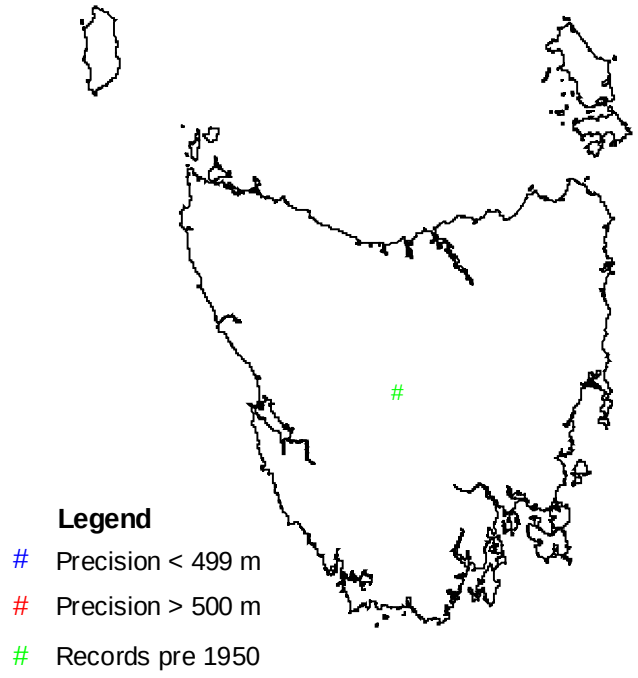
Conservation Status Assessment
There is no immediate need for reassessment of *Botrychium australe.*

Further Information

- Duncan, BD & Isaac, G 1986, *Ferns and Allied Plants of Victoria, Tasmania and South Australia,* Melbourne University Press, Melbourne.
- Garrett, M 1996, *The ferns of Tasmania, Their Ecology and Distribution,* Tasmanian Forest Research Council, Hobart.
- Kelly, D 1994, 'Demography and Conservation of *Botrychium australe*, a Peculiar, Sparse Mycorrhizal Fern', *New Zealand Journal of Botany,* vol.32, pp.393-400.
- Kirkpatrick, JB, Gilfedder L & Fensham RJ 1988, *City Parks and Cemeteries: Tasmania's Remnant Grasslands and Grassy Woodlands*, Tasmanian Conservation Trust, Hobart.

Tasmanian Distribution

(As per Threatened Species Unit records, June 2003)



1:25 000 Map Sheets

Bronte.

Date last modified: 02/09/03