

# A survey of Butterfly spyridium (*Spyridium coactilifolium*) in the TocH Bushland, Victor Harbor

August 2010

## Introduction

A population survey for the nationally vulnerable Butterfly spyridium (*Spyridium coactilifolium*) was undertaken at TocH on the 16<sup>th</sup> of August 2010. TocH is a well managed dormitory campsite with a natural setting near Victor Harbor. The property contains important bushland with a high diversity of native plant, birds and reptiles, and provides opportunities for schools and other groups to study nature.

*Spyridium coactilifolium* is a perennial shrub species with a very restricted distribution, being endemic to a small area of < 100 km<sup>2</sup> on the southern Fleurieu Peninsula. The species is listed as vulnerable for Australia, South Australia, and the southern Mount Lofty Ranges (Davies 1986, Florlist 2008, Wilson & Bignall 2009). Threats to *Spyridium coactilifolium* include weed competition (e.g. Bridal Creeper); grazing by livestock, rabbits, & kangaroos; and human impacts such as residential development and roadworks (Davies 1986, TSSC 2008, Wilson & Bignall 2009).

A population of *Spyridium coactilifolium* occurs at TocH (Possingham 1996), and is mentioned in the properties bushland management plan (Vonow *et al.* 1997). This survey of *Spyridium coactilifolium* at TocH was undertaken by Tim Jury (TPAG) with assistance from Royden Ellison, in order to obtain updated population data for informing the land manager and others with an interest in the status and conservation of this threatened plant species.

## Method

A systematic search of the TocH bushland was undertaken to detect individuals of *S. coactilifolium*. Encountered individuals were enumerated using the 'direct' or 'total' counts methods (Cropper 1993), and individual plant life stages were recorded. Coloured flagging tape was used temporarily to ensure individual plants were only counted once. The entire bushland remnant was searched until no further individuals could be located.

## Results

The surveyed population totalled **132** individuals, including 111 mature plants, 19 juvenile or smaller plants, and 2 seedlings. Five senescing or dead plants were also observed. The area occupied by the population spanned approximately 1.5 hectares with most individuals occurring in more open areas around and north of the boardwalk, often close to foot tracks. This population was previously estimated at 200+ individuals (Vonow *et al.* 1997), and so may have declined in size since 1997.

Other plant species of conservation significance were also observed including Fringed pseudanthus (*Pseudanthus micranthus*) - Rare for South Australia, and Sandhill bitter pea (*Daviesia arenaria*). The abundance of these species was comparable with 1997 estimates. A small population of spider orchids (*Arachnorchis* sp.) was also found and shown to the property manager. The following native plant species not included on previous lists for the TocH bushland were observed.

Botanical name	Common name	Conservation status		
		AUS	SA	SL
<i>Acianthus</i> sp	Mosquito orchid			
<i>Arachnorchis</i> sp. (syn. <i>Caladenia</i> sp.)	Spider orchid			
<i>Cotula australis</i>	Common Cotula			
<i>Chrysocephalum baxteri</i>	White everlasting			
<i>Crassula decumbens</i> var. <i>decumbens</i>	Spreading crassula			
<i>Corybas</i> sp.	Helmet orchid			
<i>Leucopogon rufus</i>	Ruddy beard-heath			R
<i>Pelargonium</i> sp.	Native pelargonium			
<i>Pultenaea involucreata</i>	Mount Lofty bush-pea			U
<i>Senecio picridioides</i>	Purple-leaf groundsel			

(R: Rare; U: Uncommon)

Several weed species not listed for TocH were also found including: Bluebell creeper (*Sollya heterophylla*); Bridal veil (*Asparagus declinatus*); Myrtle-leaf Milkwort (*Polygala myrtifolia*), Bulbil watsonia (*Watsonia meriana* var. *bulbillifera*); Radiata pine (*Pinus radiata*); and Horehound (*Marrubium vulgare*).

## Discussion & recommendations

Ongoing monitoring of the *Spyridium coactilifolium* population is required to track its status and trends. Demographic sub-sampling of the population is also recommended should resources permit. While small in size the population should be relatively secure if threats such as weed invasion and foot traffic are managed.

Aside from some old tracks, the native vegetation around the boardwalk is well managed and in good condition. Further away from the boardwalk, particularly downslope and toward remnant edges the bushland becomes more invaded by a number of environmental weeds including: Sallow wattle (*Acacia longifolia* var. *longifolia*); Boneseed (*Chrysanthemoides monilifera*); Sweet pittosporum (*Pittosporum undulatum*); Bluebell creeper (*Sollya heterophylla*); Bridal creeper (*Asparagus asparagoides*); and Bridal veil (*Asparagus declinatus*). Other observed weeds of lower abundance but with potential for future spread include Myrtle-leaf Milkwort, and Bulbil watsonia. Assistance for TocH is needed for the control of weed invasion and Tim Parkinson from the Adelaide & Mount Lofty Ranges Natural Resource Management Board has expressed a readiness to support such work. Any contract weed control needs to be coordinated with TocH managers and should only be undertaken by specialist bushcare contractors with a good duty of care, sound plant recognition skills, and who are committed to avoiding off-target damage to native species. For Sallow wattle further away from the boardwalk, ring-barking is recommended to lessen disturbance to bushland and soils that could occur with felling and removal of cut material. Please see Robertson (2005) for further guidelines on undertaking weed control in bushland. TPAG are able to provide assistance with plant population monitoring and weed control.

The approved Conservation Advice for *Spyridium coactilifolium*, recommends the following management and threat abatement actions to support the species recovery (TSSC 2008).

- Monitor known populations to identify key threats.
- Monitor the progress of recovery and effectiveness of management actions
- Investigate formal conservation agreements or covenants on private land and investigate inclusion in reserve tenure where possible.
- Ensure development involving substrate or vegetation disturbance doesn't adversely impact known populations.
- Control access routes to suitably constrain public access to known populations.
- Identify and remove weeds which may become a threat to *S. coactilifolium*, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could threaten the species, using appropriate methods.
- Ensure chemicals or methods to control weeds don't have an adverse impact on *S. coactilifolium*.

**Acknowledgements:** Thanks to Roydon Ellison & Ashley (TocH), and to Tim Parkinson (AMLR NRM) for assistance

## References

Cropper, S. (1993) *Management of Endangered Plants*. CSIRO, Canberra.

Davies R, J-P () *Threatened plant species of the Mount Lofty Ranges and Kangaroo Island Regions of South Australia*. Conservation Council of South Australia, Adelaide.

Possingham, H. (1996) *The biodiversity values of the TocH block of native vegetation and priority management actions*. Unpublished report.

Robertson, M. (2005) *Stop Bushland Weeds: A guide to successful weeding in South Australia's bushland*. 2<sup>nd</sup> Edition. Nature Conservation Society of South Australia, Adelaide.

TSSC (2008). Commonwealth Conservation Advice on *Spyridium coactilifolium*. [Online]. Department of the Environment, Water, Heritage and the Arts. Threatened Species Scientific Committee. Available from: <http://www.environment.gov.au/biodiversity/threatened/species/pubs/6572-conservation-advice.pdf>.

Vonow H., C. Boyd & R. Mead (1997) *TocH Camp and Remnant Bushland Management Plan*. Department of Environmental Science & Management, Roseworthy Campus, University of Adelaide.

Wilson, A. & J. Bignall (2009) *Regional Recovery Plan for Threatened Species and Ecological Communities of Adelaide and the Mount Lofty Ranges, South Australia*. Department for Environment and Heritage, South Australia.

Tim Jury  
Threatened Plant Action Group Coordinator  
Nature Conservation Society of South Australia  
260 Franklin Street, Adelaide SA 5000  
08 7127 4166, [tpag@ncssa.asn.au](mailto:tpag@ncssa.asn.au)