Sagina diemensis

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Photographs: P. Black.

FAMILY: CARYOPHYLLACEAE

BOTANICAL NAME: *Sagina diemensis* L.G.Adams, *Muelleria* 9: 64 (1996)

COMMON NAME: Pearlwort

COMMONWEALTH STATUS: (*EPBC Act)* Endangered

TASMANIAN STATUS: (*TSP Act*) endangered

Description

Sagina diemensis is a cushion-forming, perennial herb that is covered with oily hairs. This species grows from fibrous roots that often sprout from the stem joints (nodes). **Stems:** The stems are flexible, often bending over to touch the ground (where they form roots). They are up to 10 cm long and much branched. **Leaves:** The leaves are slightly fleshy, stalkless, linear-shaped with a pointed tip that can be short and sharp. They are between 2-25 mm long and are usually covered with tiny, oily hairs that are rough to the touch. The leaf margins are narrow, thin, dry and transparent. **Flowers:** The white flowers are up to 10 mm in diameter and have purple colouring on the leafy structures that surround the petals (sepals) as the buds open. There are 4 petals and 4 sepals. The male parts (stamen) protrude from the flower. **Fruit:** The fruit is an oval capsule between 2.5-2.75 mm long. The seeds are matt or scarcely glossy and dark reddish-brown in colour. They are kidney-shaped and between 0.5-0.7 mm long. Herbarium specimens have been collected between December and March. **Confusing species:** *Sagina diemensis* is distinguished from other *Sagina* species by its strongly hairy (and oily) foliage and flowers, the persistent basal-leaf rosette and its conspicuous white flower (description from Adams 1996, Gilfedder 1989).

Distribution and Habitat

This species is endemic to Tasmania and is known only from Mount Anne and the Weld River in the State's southwest. *Sagina diemensis* inhabits crevices within dolomite at Mount Anne and has been recorded in association with *Danthonia diemenica*, *Isolepis* sp., *Oreomyrrhis gunnii* and *Oreoporanthera petalifera* (Adams 1996, Gilfedder 1989). At the Weld River site, the species is found on ledges below dolomite cliffs in association with *Cardamine* sp., *Galium australe, Senecio leptocarpus, Australina pusilla* subsp. *pusilla, Lachnagrostis* sp.,

Carex brevifolius, Poa sp. and *Craspedia* sp. (J. Balmer pers. comm.).

Key Sites and Populations

Sagina diemensis is restricted to dolomite substrates in the Mount Anne region and is locally rare. Surveys of the Mount Anne area in January 2005 recorded a total of 24 mature individuals from 7 sites spread over about 1 km. Most of these were in flower and sending out runners that were rooting at the nodes (P. Black, pers. comm.). There is still potential for more plants to occur in the area due to the rugged nature of the terrain, with estimates of 50–100 likely.

At Weld River Arch, surveys in January 2005 recorded 10 mature and about 90 immature plants over a distance of 10 m (Threatened Species Unit 2006).

Known Reserves

Reserved within Southwest National Park, part of the Tasmanian Wilderness World Heritage Area.

Ecology and Management

Sagina diemensis has been recorded from a high altitude, sub-alpine karst community and also at a lower altitude site. Species known only from one or two small sites are extremely vulnerable to extinction through chance events (known as stochastic risk). Any local event, such as wildfire or landslip, may impact or destroy the entire population. Wildfire in dry periods is believed to pose the greatest risk to the species, as *Sagina diemensis* occurs in fire sensitive vegetation communities. At the Weld River Arch, the two sites were subject to walker trampling. Visitor numbers to the area fluctuate, but are at least in recent years have been quite low, between 8 and 51 per year (J. Balmer pers. comm.).

Given the limited range of *Sagina diemensis* compared with the suitable habitat that it could potentially inhabit, it is likely that this species may occur as a relict population already impacted on by the effects of the changing global climate, and possibly by increased fire regimes resulting from human disturbance. The trend towards a warmer drier climate may therefore further threaten the species (loss of climatic habitat caused by anthropogenic emissions of greenhouse gases). Climate change is a threatening process listed on the *Environment Protection and Biodiversity Conservation Act 1999*.

Extension surveys for this species have been carried out in other potential habitat in the area, however, no other population have been located.

Attempts by the Australian National Herbarium to propagate this species from cuttings and seed in 1990 were unsuccessful. *Ex situ* holdings were provided to the Royal Tasmanian Botanical Gardens in January 2005.

Sagina diemensis is included in the *Alpine Karst Flora Recovery Plan: 2006–2010* (Threatened Species Unit 2006).

Conservation Status Assessment

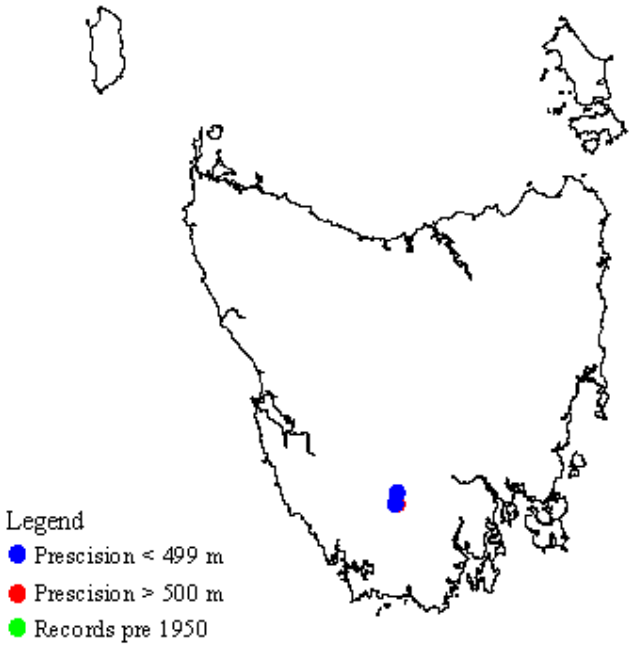
There is no immediate need for reassessment of *Sagina diemensis* at the State level. The species was downlisted from Critically Endangered to Endangered on the EPBC Act in November 2008 following a review of its status as part of a Species Information Partnership between the Australian and Tasmanian Governments.

Further Information

- Adams, L.G. (1996). Two new endemic species of *Sagina* L. (Caryophyllaceae) from Australia. *Muelleria* 9: 63–66.
- Gilfedder, L. (1989). *Five Rare Southwest Tasmanian Endemic Plant Species*. Department of Lands, Parks and Wildlife Report, Hobart.
- Threatened Species Section (2006). *Flora Recovery Plan: Threatened Alpine Karst Flora:* Oreoporanthera petalifera *and* Sagina diemensis *2006–2010.* Department of Primary Industries and Water, Hobart.

Tasmanian Distribution

(As per Threatened Species Section records, December 2008)



1:25 000 Map Sheets

Anne, Bowes.

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View

http://www.dpiw.tas.gov.au/threatenedspecieslists

Contact details

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Permit

It is an offence to collect, disturb, damage or destroy this species unless under permit.