Desmodium gunnii

Image by Richard Schahinger

FAMILY: FABACEAE

BOTANICAL NAME: *Desmodium gunnii* Benth. ex Hook.f., *Fl. Tasm.* 1: 101 (1856)

COMMON NAME: southern ticktrefoil

COMMONWEALTH STATUS (EPBC Act): Not Listed

TASMANIAN STATUS (TSP Act): vulnerable

Description

Desmodium gunnii is a sprawling or somewhat ascending perennial herb, with slender, terete branches that are glabrous or with a few appressed hairs. The leaves are clover-like with three leaflets, the terminal leaflet up to 20 mm long by 20 mm wide and cuneiform or occasionally obovate to orbicular in shape; the leaflet surfaces have sparse, short hairs on both surfaces, though on the lower surface they are mostly on the veins; petioles up to 35 mm long. The inflorescence consists of very small pea flowers arranged singly or in pairs on terminal, unbranched stems up to 16 cm long; the corolla is pink or lavender and about 3.5 mm long. The fruit is a flattened pod covered in minute hooked hairs; pods constricted on both sides, the constrictions separating single-seeded 'articles'; each article (there may be up to five) is 4 to 5 mm long by 2 to 2.5 mm wide (Pedley 1999, Walsh & Entwisle 1996). Flowering occurs from September to March, with fruit developing from about December.

Confusing species: *Desmodium gunnii* may be distinguished from the allied *D. varians* by a combination of leaf and fruit characters. The leaflets of *D. gunnii* are similar in shape throughout (Figure 1), whereas those of *D. varians* range from orbicular or obovate in the early growth stages (or when recovering from browsing), to oblong to narrowly elliptic. The rachis of the terminal leaflet is minute for *D. gunnii*, whereas it is from 1 to 4 mm long for *D. varians* leading to a pinnate appearance. In addition, the pods of *D. gunnii* are constricted between the articles from both sides leading to a sinuous appearance (Hooker 1860), whereas for *D. varians* they are constricted on one side only (quite deeply) with a thickened suture on the other (Figure 2).

Figure 1. *Desmodium gunnii* growing on limestone at Dogs Head Hill (image by Richard Schahinger)

Figure 2. *Desmodium* fruit (not to scale). Left: *D. gunnii;* Right: *D. varians*.

Distribution and Habitat

On the mainland, *Desmodium gunnii* occurs in Victoria, New South Wales and Queensland (Pedley 1999). In Tasmania the species occurs in the north and northeast (subcoastal areas only for the latter), with 'outlying' populations in the far northwest at Woolnorth. It grows on a variety of substrates, mostly in dampish sclerophyll forest and woodland (Lynch 1993), where it typically co-occurs with another leguminous species, the vulnerable *Glycine microphylla*.

Key Sites and Populations

Woolnorth, Dogs Head Hill, Gog Range, Hermitage Road, Bicheno, Apsley waterhole and Rosedale Road, Mt Paul, Cape Lodi, Little Beach Creek, and Nicks Hill near Binalong Bay.

Known Reserves

Dogs Head Hill Forest Reserve, Douglas Apsley National Park, Freycinet National Park, German Town Forest Reserve, Humbug Point Nature Recreation Area, Little Beach State Reserve and St Helens Conservation Area. It also occurs on two private properties covered by conservation covenants under the Tasmanian *Nature Conservation Act 2002*.

Ecology and Management

This species is sensitive to grazing and will not tolerate pasture improvement. Recruitment after fire is from a soil-stored seedbank, and plants may also resprout from a woody rootstock after fire, drought or browsing. Lynch (1993) noted that *Desmodium* species will not tolerate frequent firing, intervals of say less than 8 to 9 years, but suggested they may tolerate (limited) soil disturbance.

Bees are the most likely pollination vector for this species (A. Hingston pers. comm.).

Conservation Status Assessment

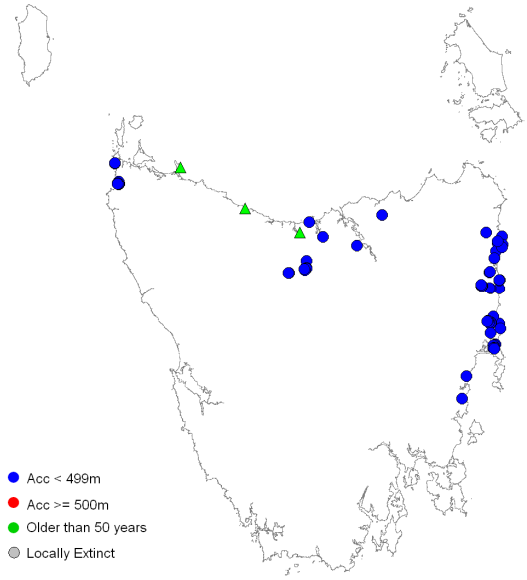
Desmodium gunnii was listed as vulnerable on the TSP Act in 1995, at which time there were thought to be seven or eight extant sites in Tasmania, with an unknown number of plants (Lynch 1993). Nearly thirty additional sites have been recorded in the interim, a third of them within formal reserves (albeit mostly in low numbers). In consequence, a re-assessment of the conservation status of the species is required.

Further Information

- Hooker, J.D. (1860). *The Antarctic Voyage of H.M. Discovery ships Erebus and Terror, in the years 1839–1843. The Botany: Part III. Flora Tasmaniae*. Lovell Reeve, London.
- Lynch, A.J.J. (1993). *Conservation Biology and Management of 16 Rare or Threatened Fabaceae Species in Tasmania*. Australian National Parks and Wildlife Service, Endangered Species Program Project No. 4, Parks and Wildlife Service, Hobart.
- Pedley, L. (1999). *Desmodium* Desv. (Fabaceae) and related genera in Australia: a taxonomic revision. *Austrobaileya* 5(2): 209–261.
- Walsh, N.G. & Entwisle, T.J. (1996). *Flora of Victoria, Volume 3. Dicotyledons: Winteraceae to Myrtaceae.* Inkata Press, Melbourne.

Tasmanian Distribution

(As per Threatened Species Section records, October 2012)



1:25 000 Map Sheets

Beaumaris, Bicheno, Binalong, Burnie (?), Blue Tier, Cameron, Devonport, Dublin Town, Exeter, Falmouth, Friendly, Gog, Harford, Henry, Ironhouse, Latrobe (?), Lodi, Mayfield, Ravensdale, Retreat, Sheffield, Stanley (?), St Helens, St Marys, Studland (reported from Schouten Island in December 2011: site not shown pending confirmation).

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View

http://www.dpipwe.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.