

Austrocynoglossum latifolium

forest houndstongue

TASMANIAN THREATENED SPECIES LISTING STATEMENT

Image by Mark Wapstra

Scientific name: *Austrocynoglossum latifolium* (R.Br.) R.R.Mill, *Notes Roy. Bot. Gard. Edinburgh* 46: 44 (1989)

Common name: forest houndstongue (Wapstra et al. 2005)

Group: vascular plant, dicotyledon, family **Boraginaceae**

Name history: *Cynoglossum latifolium*

Status: *Threatened Species Protection Act 1995: Rare*

Environment Protection and Biodiversity Conservation Act 1999: Not listed

Distribution: Endemic status: **Not endemic to Tasmania**

Tasmanian NRM Region: **Cradle Coast, North, South**

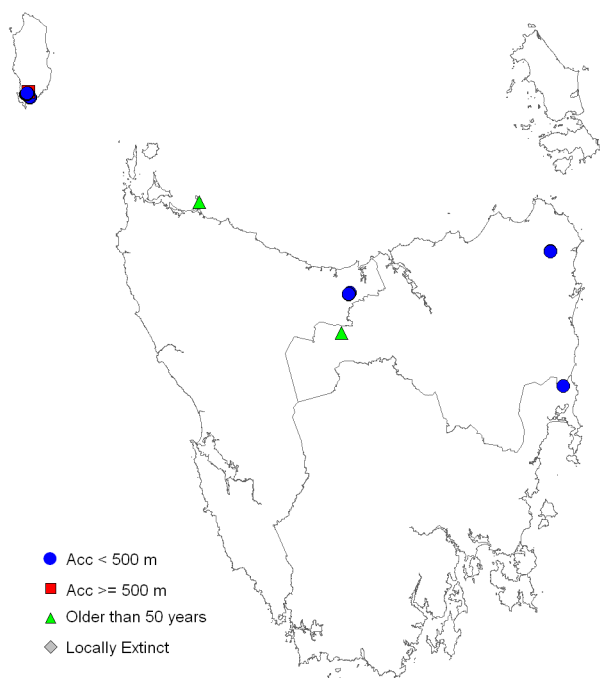


Figure 1. Distribution of *Austrocynoglossum latifolium* in Tasmania



Plate 1. *Austrocynoglossum latifolium* habit (image by Richard Schahinger)

IDENTIFICATION AND ECOLOGY

Austrocynoglossum latifolium is a perennial herb in the Boraginaceae family (Jeanes 1999). Despite a seemingly good dispersal strategy, it is now known in Tasmania from only four locations in the State's north, including King Island, where it grows in shaded places along creeks and rivers. The species, a known coloniser of disturbed sites, has a disturbance-based ecology. It recruits from seed. Its fruit are heavily barbed and are likely to be distributed by native animals, stock and humans. The species flowers in spring to summer.

Survey techniques

Surveys for the species can be undertaken at any time of year due to its distinctive rough-textured foliage (Plate 1).

Description

Austrocynoglossum latifolium is a trailing perennial herb, with stems to about 100 cm long that are sparsely covered with small prickly-like hairs. Its leaves are ovate. The lower leaves are 4 to 5 cm long and have distinct stalks, whereas the upper leaves are smaller and almost stalkless. The upper surface of the leaves are scattered with small blunt projections giving them a rough texture, and the younger leaves have short blunt hairs. The under-surface of the leaves have similar hairs along the five prominent veins. The flowers are small and white, pale blue or mauve. They are on 1 to 1.5 cm long thread-like stalks which arise from beside or below the leaf stalks. The outer floral parts (sepals) are divided nearly to the base, with lance-shaped lobes that are 2.5 mm long, the outer surface being scattered with short hairs that are rough to the touch. The petals are shorter than the sepals and the floral tube is 1 to 1.5 mm long with rounded lobes about as long as the tube. The fruit is a nutlet 2 to 3.5 mm long. It is egg-shaped and covered with barbed spines.

[description based on Curtis 1967, Jeanes 1999]

Confusing species

Austrocynoglossum is a monotypic genus endemic to Australia (Jeanes 1999). *Austrocynoglossum*

latifolium was formerly included in the closely-allied genus *Cynoglossum*, of which there are two species in Tasmania: *Cynoglossum australe* and *Cynoglossum suaveolens* (Buchanan 2007). *Cynoglossum* species bear flowers in terminal scorpioid cymes, whereas the flowers of *Austrocynoglossum latifolium* are mostly solitary and borne below the leaves (Plate 1). In addition, the *Cynoglossum* species have longer and narrower leaves than *Austrocynoglossum latifolium*, and tend to grow in drier habitats.

DISTRIBUTION AND HABITAT

Austrocynoglossum latifolium occurs in New South Wales, Queensland, South Australia, Victoria and Tasmania (Jeanes 1999). Within Tasmania the species is known to be extant at four widely-separated locations (Figure 1): Seal River on King Island, Parramatta Creek near Railton, the Rosedale Road area northwest of Bicheno, and along the Great Musselroe River near Pioneer. There are historic records from the Circular Head and Mole Creek areas (Table 1). The linear range of the species' known extant sites in Tasmania is 410 km and the extent of occurrence about 19,000 km² (which includes large areas of sea). The area of occupancy is in the order of 20 to 25 ha.



Plate 2. *Austrocynoglossum latifolium* growing within paperbark swamp forest along the Seal River (image by Richard Schahinger)

Recorded habitat for *Austrocynoglossum latifolium* in Tasmania includes damp eucalypt forest along creeklines and rivers, and *Melaleuca ericifolia* swamp forest (Plate 2).

Table 1. Population summary for *Austrocynoglossum latifolium* in Tasmania

	Subpopulation	Tenure	NRM region	1:25 000 mapsheet	Year last (first) observed	Area of occupancy (ha)	Number of plants
1	Saggy Creek near Bicheno	private land	South	Henry	2008 (2006)	0.1	25–30
2	Great Musselroe River	State forest	North	Lanka	2010 (2008)	12	10,000+
3	Parramatta Creek near Railton	State forest, private land	Cradle Coast	Railton	2007 (2004)	c. 1	100s
4	Seal River, King Island	private land, Crown land *	Cradle Coast	Stokes, Pearshape	2009 (1966)	c. 10	10,000s
5	Mole Creek	unknown	North	unknown	1912	presumed extinct	
6	Circular Head	unknown	Cradle Coast	unknown	1836	presumed extinct	

NRM=Natural Resource Management region

* Recommended for Conservation Area status (CLAC Project Team 2005)

Along the middle and lower reaches of the Seal River the species occupies rocky stream beds and banks where it forms extensive patches, as well as on adjacent stream banks and minor flood plains where it is found scrambling between grasses, ferns and coarse woody debris (Wapstra et al. 2007). The vegetation at this location consists of mature *Eucalyptus globulus*–*Eucalyptus brookeriana* wet forest and *Melaleuca ericifolia* swamp forest. Along the Great Musselroe River the species grows on riparian flats within wet *Eucalyptus obliqua* and *Eucalyptus ovata* forests, while at Parramatta Creek and the Bicheno sites shrubby *Eucalyptus amygdalina* forest and riparian shrubberies prevail (ECOtas 2007, Schahinger 2008).

Geology at the known sites is variable, including Precambrian quartzitic sequences, Permian sediments, Jurassic dolerite, Devonian granite and Quaternary alluvium; the altitude range is 5 to 140 m above sea level.

Austrocynoglossum latifolium co-occurs with the threatened flora species *Hedycarya angustifolia* (australian mulberry), *Hypolepis muelleri* (harsh groundfern) and *Pimelea axiflora* subsp. *axiflora* (bootlace bush) along the Seal River, and *Hypolepis muelleri* along the Great Musselroe River. It grows within a number of vegetation communities listed as threatened under the

Tasmanian *Nature Conservation Act 2002*, including *Eucalyptus globulus* King Island forest, *Eucalyptus ovata* forest and woodland, and *Melaleuca ericifolia* swamp forest.

POPULATION ESTIMATE

Austrocynoglossum latifolium is now known from four subpopulations in Tasmania, with the total number of plants in the tens of thousands (Table 1). Absolute counts are problematic due to the species' scrambling thicket-forming habit (Plate 2). There is no information available to indicate population trends.

Austrocynoglossum latifolium is a very distinctive species and a known coloniser of disturbed areas, with no apparent shortage of suitable habitat in Tasmania. In consequence the paucity of records is somewhat puzzling. Given the discovery of three new subpopulations in the past decade it is considered likely that additional sites will emerge, though not necessarily through targeted surveys (ECOtas 2007). Several rivers in northeastern Tasmania have been surveyed in the past few years during the course of feasibility studies for an irrigation scheme, including the Great Forester, Great Musselroe, Ringarooma and Tomahawk, with only the Great Musselroe found to support the species.

RESERVATION STATUS

The species is not known from any formal reserve. A substantial proportion of the Seal River population is on Crown Land that has been flagged for proclamation as a Conservation Area (CLAC Project Team 2005).

CONSERVATION ASSESSMENT

Austrocynoglossum latifolium was listed as rare on the Tasmanian *Threatened Species Protection Act 1995* when the Act came into being (under the name *Cynoglossum latifolium*). At that time the taxon was known in Tasmania from just three collections: Circular Head (1836), Mole Creek (1912) and Seal River on King Island (1966), with no information as to the status or size of the subpopulations.

The species continues to meet the criteria for rare under criterion B:

2. 90% of mature individuals occur in 15 or fewer subpopulations or locations and no more than 5 of these occur in an area that is free from sudden processes capable of causing largely irreversible loss of individuals or habitat.

THREATS, LIMITING FACTORS AND MANAGEMENT ISSUES

The greatest threat to the species in Tasmania is inundation of plants and habitat due to dam construction. Other threats include land clearance, hydrological changes, weed invasion, stock and stochastic events.

Inundation: The subpopulation along the Great Musselroe River in northeastern Tasmanian is in an area that would be inundated by a dam proposed for North East Irrigation Scheme.

Land clearance & hydrological changes: Clearance of vegetation adjoining the species' creekline/riparian habitat may jeopardise its chances of survival, as would any hydrological changes. Little remaining suitable habitat exists for the species in the Circular Head area.

Stock & weeds: Cattle have had access to sections of the Seal River site on King Island that support the species but to date appear to have had little impact on its distribution or

abundance (Wapstra et al. 2009). Blackberry (*Rubus fruticosus*) is known to be present at three of the four sites, but in the medium term at least is not considered a significant threat.

Stochastic events: The small size of two of the three mainland Tasmanian subpopulations exposes them to a risk of extinction due to chance events.

MANAGEMENT STRATEGY

What has been done?

- Targeted surveys have been undertaken of the subpopulations at Parramatta Creek (ECOtas 2007), Bicheno (Schahinger 2008), and Seal River (Wapstra et al. 2009), and sections of the Great Musselroe River were surveyed in 2008 and 2010 during the course of feasibility studies for an irrigation scheme in Tasmania's North East (North Barker Ecosystem Services 2010).
- The State forest section of the Parramatta Creek subpopulation is in a flora Special Management Zone under Forestry Tasmania's Management Decision Classification system (Orr & Gerrand 1998).
- Seed has been collected from the Seal River subpopulation and lodged for long-term conservation storage at the Tasmanian Seed Conservation Centre at the Royal Tasmanian Botanical Gardens.
- The species is listed as a priority for management in the *Draft King Island Biodiversity Management Plan* (TSS 2010).

Management objectives

The main objectives for the recovery of *Austrocynoglossum latifolium* are to prevent the loss or degradation of known subpopulations, identify new subpopulations within the range of the species and gain a better understanding of habitat requirements and ecology of the species.

What is needed?

- encourage the formal reservation of areas of Crown land that support the species (CLAC Project Team 2005);

- recommend that the Great Musselroe subpopulation is included in a flora Special Management Zone under Forestry Tasmania's Management Decision Classification system;
- encourage landholders to consider protection of habitat through a vegetation management agreement or conservation covenant under the *Tasmanian Nature Conservation Act 2002*;
- monitor known subpopulations for health and recruitment, and gauge their response to disturbance;
- undertake extension surveys of potential habitat within the species' known range, particularly in the Mole Creek area;
- provide information and extension support to relevant Natural Resource Management Committees, local councils, government agencies, development proponents and the local community on the locality, significance and management of the known subpopulations and potential habitat;
- finalise and implement the *Draft King Island Biodiversity Management Plan* (TSS 2010).

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www.dpipwe.tas.gov.au/threatenedspecieslists

Contact details: Threatened Species Section, Department of Primary Industries, Parks, Water and Environment, GPO Box 44, Hobart, Tasmania, Australia, 7001. Ph (03) 6233 6556; fax (03) 6233 3477.

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