

Australian gypsywort

Lycopus australis

TASMANIAN THREATENED FLORA LISTING STATEMENT



All images by Richard Schahinger

Scientific name: *Lycopus australis* R.Br., *Prodr.* 500 (1810)

Common name: australian gypsywort (Wapstra *et al.* 2005)

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

Status: *Threatened Species Protection Act 1995:* **endangered**

Environment Protection and Biodiversity Conservation Act 1999: **Not Listed**

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

Tasmanian NRM Region: **Cradle Coast, North & South (?)**

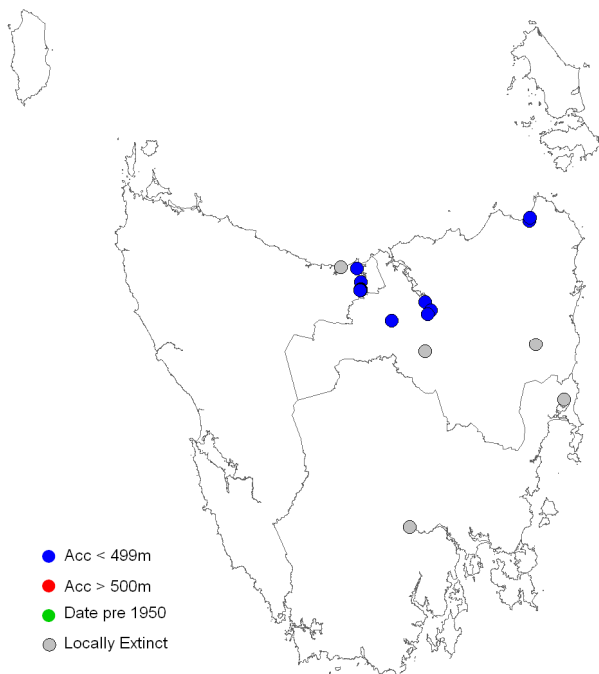


Figure 1. Distribution of *Lycopus australis* in Tasmania



Plate 1. *Lycopus australis* flowering stems

IDENTIFICATION & ECOLOGY

Lycopus australis is a leafy erect semi-aquatic herb in the Lamiaceae family. It grows to 1 to 1.5 m high with clumps of stems developed from an underground rhizome. The species is most easily identified when in flower from January to March, though it can be identified from its distinctive foliage until June before the stems die back for winter.

Description

Lycopus australis is a perennial herb with erect stems to 1.5 m high. The stems are 4-angular and grooved. Leaves are lance-shaped and grooved. Leaves are lance-shaped and arranged opposite each other along the stem, with successive pairs at right angles to each other. The leaves are lime green, coarsely toothed and 6 to 12 cm long, and have an aromatic fragrance. Flowers are small, white and four-lobed, and are arranged in dense clusters in the leaf axils (Plate 1). The fruit is a nutlet 1.5 mm long with a smooth outer surface (Curtis 1967, Conn 1999).

Confusing Species

Lycopus australis is the only known member of the genus native to Australia, and is unlikely to be confused with any other species.

DISTRIBUTION & HABITAT

On the mainland *Lycopus australis* occurs in South Australia, Victoria, New South Wales and Queensland (Curtis 1967, Conn 1999).

Curtis (1967) described the distribution of *Lycopus australis* in Tasmania as 'occasional but widespread in moist shaded places'. Extant subpopulations are known in the north of the State at the following locations: the floodplains of the Ringarooma River, the west side of the Tamar River near Launceston, the South Esk River downstream of Trevallyn Dam, Meander River near Westbury, and along Rubicon River and Panatana Rivulet near Port Sorell. There are also nineteenth century collections from 'Near Fingal', 'Pardoe Beach' (near Devonport), 'Apsley', and 'Glen Leith' (near New Norfolk in the State's south), though there is a possibility that the 'Glen Leith' collection was from cultivated plants.

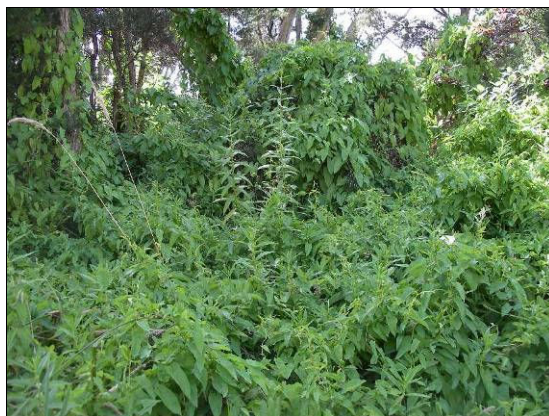


Plate 2. West Tamar habitat: *Melaleuca ericifolia* swamp forest with *Calystegia sepium* prominent.



Plate 3. Tamar Island habitat: *Phragmites australis* reedbeds



Plate 4. Meander River habitat: dolerite boulders at the margins of riparian scrub

Table 1. Population summary for *Lycopus australis* in Tasmania

	Site	Tenure	NRM Region *	1:25000 mapsheet	Year last (first) seen	Area occupied (ha)	Number of stems
1	Panatana Rivulet	Private & Latrobe Council	Cradle Coast	Port Sorell	2008 (2004)	0.0005 2 patches 400 m apart	10–15 #
2	Rubicon River	Private & Crown Land *	Cradle Coast	Harford & West Frankford	2008 (2008)	0.5–1 12 patches spread over 7.3 km	600 #
3	Meander River	Crown land *	North	Westbury	2010 (2010)	0.5–1 10 patches spread over 0.9 km	200–250 #
4	South Esk River (Deadmans Hollow)	Crown land	North	Launceston & Prospect	2010 (2010)	0.0001 2 patches 1.8 km apart	13 #
5	West Tamar Fitness Trail	Launceston City Council	North	Launceston	2010 (2002)	0.1 5 patches within 120 m	500–600 #
6	Tamar Island Wildlife Sanctuary	Tamar Conservation Area	North	Launceston	2010 (2002)	0.0001 0.01	1 # 50–100 #
7	Ringarooma Marshes 1. Boobyalla Plains 2. Shantys lagoon	Crown land * Cameron Regional Reserve	North	Tomahawk	2000 (2000) 2006 (2000)	? ?	50+ 50
8	Cressy	?	North	Cressy	1943	Presumed extinct	
9	Near Fingal	?	North	?	1893	Presumed extinct	
10	Pardoe Beach (Devonport)	?	North	Devonport	1887	Presumed extinct	
11	Apsley	?	South	?	1800s	Presumed extinct	
12	Glen Leith	?	South	?	1841	Presumed extinct	

* = recommended for Conservation Area and Regional Reserve status under the Tasmanian *Nature Conservation Act 2002* (CLAC Project Team 2006a, 2006b & 2006c); # = estimates from Threatened Species Section surveys 2002–2010.

The linear range of extant subpopulations is 123 km, the extent of occurrence 2900 km², and an area of occupancy c. 2 ha (Table 1).

Habitat for *Lycopus australis* includes lacustrine herbland, disturbed areas within *Melaleuca ericifolia* swamp forest, *Phragmites australis* reed beds, and rocky (dolerite) riverbeds fringed by riparian scrub (Plates 2–4).

Co-occurring threatened plants include *Alternanthera denticulata* (lesser joyweed), *Calystegia sepium* (swamp bindweed), *Gynatrix pulchella* (fragrant hempbush), *Lythrum salicaria* (purple loosestrife), *Mentha australis* (river mint), *Persicaria decipiens* (slender waterpepper) and *Persicaria subsessilis* (bristly waterpepper).

POPULATION ESTIMATE

There are seven known subpopulations of *Lycopus australis* in Tasmania, though the species' rhizomatous growth habit makes any estimates of plant numbers problematic. Plants may form dense patches covering areas up to 50 to 100 m², with hundreds of erect stems in each patch (Table 1).

Three of the seven subpopulations have been discovered in the past three years, indicating that there is a reasonable likelihood of additional subpopulations being found given a targeted survey effort in areas of potential habitat.

RESERVATION STATUS

The species is reserved in Cameron Regional Reserve and Tamar Conservation Area.

CONSERVATION ASSESSMENT

Lycopus australis was listed as presumed extinct in the original schedules of the Tasmanian *Threatened Species Protection Act 1995*, and was downlisted to endangered in 2002 following its 'rediscovery' at Ringarooma Marshes. At that time the species satisfied the following criterion:

- B. Area of occupancy less than 10 hectares and
1. Known to exist at no more than five locations;
 2. Continuing decline observed or projected in area and quality of habitat.

THREATS, LIMITING FACTORS & MANAGEMENT ISSUES

Lycopus australis is under threat from weed invasion, stock browsing and trampling, and stochastic events.

Weed encroachment: The majority of sites are infested with weeds to varying degrees: Meander River, gorse (*Ulex europaeus*) and willow (*Salix* sp.) (Plate 4); South Esk River, willow; West Tamar Fitness Trail, ivy (*Hedera helix*), japanese honeysuckle (*Lonicera japonica*), wandering creeper (*Tradescantia albiflora*) and willow; Panatana Rivulet, blackberry (*Rubus*

fruticosus) and exotic grasses; Rubicon River, birdsfoot-trefoil (*Lotus corniculatus*) and willow.

Stock access: The Crown land that supports the Ringarooma subpopulation is subject to a grazing licence. Cattle have the potential to impact negatively on the species via browsing and physical damage to the species' habitat. Most plants seen at the site in 2000 appeared to have been subject to browsing, with only a few in flower.

Stochastic risk. The small size of some subpopulations exposes them to a stochastic risk of extinction. Excavations associated with bridge works along Panatana Rivulet in 2009 destroyed a small patch of plants, while inappropriate track management poses a risk to the Tamar Island subpopulation (Plate 3).

MANAGEMENT STRATEGY

What has been done?

Weed works. The Launceston City Council has undertaken weed works along the West Tamar Fitness Trail in recent years, targeting species such as *Cordyline australis*.

Extension surveys. The Threatened Species Section conducted extension surveys of potential habitat in the Port Sorell area during the species' 2008 flowering season (as part of an NRM-funded threatened flora recovery project), resulting in the discovery of the Rubicon River subpopulation. Additional surveys in 2010 resulted in the discovery of the Meander River and South Esk River subpopulations.

Seed collection. Seed has been collected from the West Tamar and Rubicon River sites for long-term conservation storage as part of the Millennium Seedbank (SeedSafe) Conservation Project, a joint project between Kew Gardens, the Royal Tasmanian Botanical Gardens, the Tasmanian Herbarium and the Department of Primary Industries, Parks, Water and Environment.

Management Objectives

The main objective for the recovery of *Lycopus australis* is to prevent the inadvertent destruction of subpopulations, maintain the viability of existing subpopulations, and

promote conditions for its successful recruitment.

What is needed?

Recovery actions necessary to decrease the extinction risk to *Lycopus australis* include the following:

- provision of information and extension support to relevant Natural Resource Management Committees, Local Councils, Government Agencies and the local community on the locality, significance and management of known *Lycopus australis* subpopulations and areas of potential habitat;
- formal reservation of areas of Crown land supporting the Rubicon River, Meander River and Ringarooma Marsh subpopulations, with a review of the conditions associated with the grazing licence for the latter site;
- ongoing weed works at known sites;
- liaison with the Tasmanian Parks and Wildlife Service to ensure that track management within Tamar Conservation Area is not detrimental to the species (any slashing of vegetation adjacent to the boardwalks through the *Phragmites* reedbeds should be undertaken after the species has flowered and set seed);
- monitoring of known sites to determine the response of *Lycopus australis* to a range of disturbances, and to better understand its reproductive characteristics; and
- extension surveys during the species' flowering period to determine its full extent — target areas should include the Meander River, Ringarooma Marshes (Newall & Lloyd 2008), Tamar Conservation Area and Apsley Marshes.

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Prepared in 2008 under the provisions of the Tasmanian *Threatened Species Protection Act 1995*. Reviewed April 2010.

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View:

www.dpipww.tas.gov.au/threatenedspecieslists

Contact details: Threatened Species Section, Department of Primary Industries, Parks, Water & 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.