Image by Richard Schahinger

Persicaria subsessilis

bristly waterpepper

TASMANIAN THREATENED SPECIES LISTING STATEMENT

Scientific name: ***Persicaria subsessilis*** (R.Br.) K.L.Wilson, *Telopea* 3: 180 (1988)
Common name: bristly waterpepper (Wapstra et al. 2005)
Group: vascular plant, dicotyledon, family **Polygonaceae**
Name history: *Polygonum subsessile*

Status: *Threatened Species Protection Act 1995*: **endangered**
Environment Protection and Biodiversity Conservation Act 1999: **Not listed**

Distribution: Endemic: **Not endemic to Tasmania**
Tasmanian NRM Region: **North**

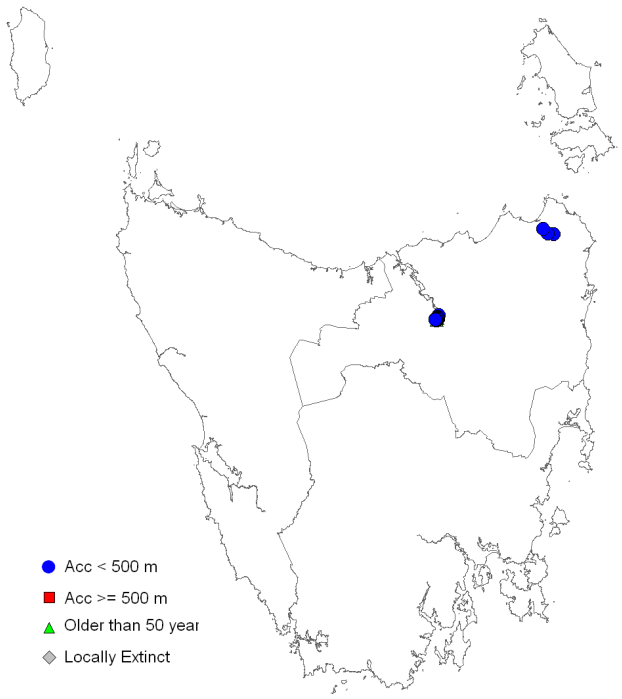

Figure 1. Distribution of *Persicaria subsessilis* in Tasmania

Plate 1. *Persicaria subsessilis* and habit (image by Richard Schahinger)

IDENTIFICATION AND ECOLOGY

Persicaria subsessilis is a coarsely hairy scrambling annual or perennial herb in the Polygonaceae family. It is known in Tasmania from just a few locations in the State's north and northeast, where it occurs at the margins of rivers or on alluvial flats. Little is known of its ecology, though recruitment is believed to be mainly from seed. The species appear to regrow from the rootstock following winter flood damage.

Survey techniques

The species is best identified during its main flowering period, January to April, as flood events may cause loss of above ground parts in winter. However, the species' distinctive leaf sheaths (Plate 2) means that it can be identified in the absence of flowers.

Plate 2. *Persicaria subsessilis*: ochrea & inflorescence (image by Richard Schahinger)

Description

Persicaria subsessilis is a sparingly branched rhizomatous herb with ascending to erect stems to about 1 m high (Plate 1). Its leaves are lance-shaped, very shortly-stalked, and have an acute tip. They are 6 to 15 cm long by 5 to 15 mm wide, and are sparsely to densely covered with coarse appressed hairs. The sheathing outgrowths at the base of the leaf stalks (ochreas) are 1 to 1.5 cm long and are covered with stiff, erect bristle-like hairs with a ciliate apex (Plate 2). Flowers are borne on long stalks at the ends of the branches, with dense to rather loose cylindric spikes 3 to 8 cm long by 4 to 10 mm diameter (Plates 1 & 2). Individual flowers are about 3 mm long and are white to pale pink. The fruit is a nut, 2.5 to 3 mm long, smooth, shining and blackish.

[description based on Curtis 1967, Walsh & Entwisle 1996]

Confusing species

There are no confusing species in Tasmania.

DISTRIBUTION AND HABITAT

Persicaria subsessilis occurs in Tasmania, Victoria, New South Wales, Queensland and Western Australia (Walsh & Entwisle 1996). The species was first recorded from Tasmania in 1866 at 'Cataract Rocks, Launceston', and was described by Curtis (1967) as being '… local on margins of streams and rivers in the north of the State'. It is known to be extant along the lower reaches of the South Esk River downstream of Deadmans Hollow, where it occurs in patches over a 4.3 km stretch of river; a site along the West Tamar about 800 m downstream of the mouth of the South Esk River; and three discrete sites along the Ringarooma River near Gladstone, spanning a 14 km stretch of river.

The species has been recorded from rocky (dolerite) river margins (Plates 1 & 3), where it co-occurs with the more frequent *Persicaria hydropiper* (green waterpepper); disturbed *Melaleuca ericifolia* (coast paperbark) swamp forest and lagoon margins (Plate 4); *Cyperus lucidus* (leafy flatsedge) sedgeland with the allied *Persicaria praetermissa* (arrow waterpepper) prominent; and within openings in riparian scrub on alluvium.

The linear range of extant sites in Tasmania is 96 km, the extent of occurrence about 410 km^2, and area of occupancy 5 to 10 ha.

Co-occurring threatened species include *Alternanthera denticulata* (lesser joyweed), *Calystegia sepium* (swamp bindweed), *Lythrum salicaria* (purple loosestrife), *Mentha australis* (river mint) and *Persicaria decipiens* (slender waterpepper).

Table 1. Population summary for *Persicaria subsessilis* in Tasmania

	Subpopulation	Tenure	NRM region	1:25 000 mapsheet	Year last (first) seen	Area occupied (ha)	Number of mature plants
1	South Esk River (Deadmans Hollow – First Basin)	Trevallyn Nature Recreation Area, Crown land* & Launceston City Council	North	Prospect, Launceston	2010 (1866)	5–10	500–1000
2	West Tamar	Launceston City Council	North	Launceston	2010 (2002)	0.1	100
3a	Ringarooma River (Bells Bridge)	Cameron Regional Reserve	North	Gladstone	2010 (1999)	0.1	20
3b	Ringarooma River (3 km WNW of Gladstone)	Cameron Regional Reserve	North	Gladstone	2010	0.4	500–1000
3c	Ringarooma River (east of Hardwickes Lagoon)	Cameron Regional Reserve	North	Monarch	2010	0.05	10

* recommended for Conservation Area status under the *Nature Conservation Act 2002* (CLAC Project Team 2006)

Plate 3. Habitat of *Persicaria subsessilis* on lower reaches of the South Esk River with willows in the left foreground (image by Richard Schahinger)

Plate 4. *Persicaria subsessilis* emerging from a *Juncus* clump (in a lagoon beside the Ringarooma River) (image by Richard Schahinger)

POPULATION ESTIMATE

There are three extant subpopulations of *Persicaria subsessilis* in Tasmania, with about 2000 mature plants (Table 1), though the full extent of the Ringarooma River subpopulation has yet to be determined.

RESERVATION STATUS

Persicaria subsessilis is reserved within Trevallyn Nature Recreation Area and Cameron Regional Reserve. Parts of the South Esk River subpopulation are on Crown land that has been recommended for Conservation Area status (CLAC Project Team 2006).

CONSERVATION ASSESSMENT

Persicaria subsessilis was listed as endangered on the schedules of the Tasmanian *Threatened Species Protection Act 1995* when the Act came into being. It qualifies for listing under the following criterion:

B. Extent of occurrence estimated to be less than 500 km^2 or area of occupancy less than 10 ha, and

1. known to exist at no more than five locations;
2. a continuing decline observed or projected in the area, extent and/or quality of habitat.

THREATS, LIMITING FACTORS AND MANAGEMENT ISSUES

Inundation and regulated flow regimes: The South Esk River subpopulation occurs downstream of Trevallyn Dam, which was constructed in the 1950s. *Persicaria subsessilis* was first recorded from the area in the 1860s, and is now known to occur in patches along the bouldery river margins from Deadmans Hollow to below First Basin. The current regulated flow regime would appear to favour *Persicaria subsessilis* (as well as the endangered species, *Alternanthera denticulata* and *Mentha australis*), though the species may be at risk in the longer-term from a range of weeds encouraged by the same flow regime. Any changes to the current regulated flows have the potential to impact profoundly on the species (North Barker & Associates 2001).

Weed invasion: The species' habitat along the South Esk River is infested with a diverse range of weeds that serve to limit recruitment opportunities for the species, a consequence of a catchment that encompasses large tracts of agricultural land, a regulated flow regime and an adjacent urban environment. Willow (*Salix* spp.), gorse (*Ulex europaeus*), and blackberry (*Rubus* spp.) are all prominent (North Barker & Associates 2001). Additional weeds of note include umbrella sedge (*Cyperus eragrostis*), red valerian (*Centranthus ruber*) and birdsfoot-trefoil (*Lotus corniculatus*). The West Tamar site is similarly weed-infested, with species such as ivy (*Hedera helix*), japanese honeysuckle (*Lonicera japonica*), wandering creeper (*Tradescantia albiflora*) and willow. Willow and broom pose a risk to plants at the Bells Bridge site along the Ringarooma River.

Stochastic risks: A number of the known subpopulations occur in small localised patches (Table 1), and in consequence are at risk from local extinctions due to unforeseen human activities or stochastic events.

MANAGEMENT STRATEGY

What has been done?

Surveys: Surveys of the species' riparian habitat along the lower South Esk River between Trevallyn Dam and the First Basin were undertaken in 2001 by North Barker & Associates (2001), and again in 2010 by Threatened Species Section personnel who also conducted extension surveys further upstream at Hadspen and Westbury. Extension surveys of the Ringarooma River area, also undertaken in 2010 by Threatened Species Section personnel, resulted in the discovery of two new sites within the Cameron Regional Reserve.

Weed management: Limited weed control has been undertaken along the lower reaches of the South Esk River, with willow being targeted in the area between Duck Reach and Second Basin (North Barker & Associates 2001; PWS 2008), and Launceston City Council have been active in the Cataract Gorge Reserve and the West Tamar site.

Seed banking: Seed has been collected from the West Tamar subpopulation for long-term storage at the Tasmanian Seed Conservation Centre.

Management objectives

The main objectives for the recovery of *Persicaria subsessilis* are to minimise the probability of extinction of the wild population by ensuring habitat protection, and to secure all key subpopulations under effective management regimes within the next five years.

What is needed?

- formally reserve areas of Crown land that support parts of the South Esk River subpopulation (CLAC 2006);
- prepare and implement a weed management plan for Trevallyn Nature Recreation Area and Launceston City Council's Cataract Gorge Reserve to ensure that works along the South Esk River downstream of Trevallyn Dam are undertaken in a strategic manner;
- conduct extension surveys to determine the species' full extent along the Ringarooma River, and identify relevant management issues;
- liaise with Hydro Tasmania to ensure that any changes to the current flow regime along the South Esk River downstream of

Trevallyn Dam are documented and their impact on the species monitored;

- establish permanent plots for the species at key sites and monitor at two-year intervals to determine trends and any new threats;
- provide information and extension support to the Northern Natural Resource Management committee, local councils, government agencies, development proponents and the local community on the locality, significance and management of known subpopulations and areas of potential habitat.

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Prepared in 2010 under the provisions of the Tasmanian *Threatened Species Protection Act 1995*. Approved by the Secretary and published in November 2010.

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View:
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.