

Ruppia tuberosa



Image by Andrew North

FAMILY: RUPPIACEAE

BOTANICAL NAME: *Ruppia tuberosa*
J.S.Davis & Toml., *J. Arnold Arbor.* 55: 60
(1974)

COMMON NAME: tuberous seatassel

COMMONWEALTH STATUS (EPBC Act):
Not Listed

TASMANIAN STATUS (TSP Act): rare

Description

Ruppia tuberosa is an annual or short-lived perennial aquatic herb, with 0.4 to 0.6 mm diameter rhizomes. The stems are up to 2 cm long. Leaves are thread-like, 5 to 10 cm long and 0.1 to 0.3 mm wide, with rounded or pointed tips; ligule absent. The inflorescence is a two-flowered spike held at the end of a stalk up to 30 cm long. Each flower may produce 4 to 16 fruiting bodies (carpels), which are sessile or subsessile. Mature fruit are about 2 mm long, compressed and oval in shape, with a short, broad beak. Flowering may occur from September to November. (Description from Brock 1982a, Curtis & Morris 1994, Walsh & Entwisle 1994.) **Confusing species:** The other two species of *Ruppia* in Tasmania, *Ruppia megacarpa* and *Ruppia polycarpa*, have fruiting carpels with stalks that are always longer than the carpels. *Stuckenia pectinata* (fennel pondweed) is vegetatively similar to *Ruppia tuberosa*, but it has a prominent ligule.

Distribution and Habitat

Ruppia tuberosa occurs in South Australia, Victoria and Western Australia (Walsh & Entwisle 1994). In Tasmania the species has been recorded from the State's southeast at Ralphs Bay, Blackman Bay and Marion Bay, where it occurs in holes and channels in salt marsh (Curtis & Morris 1994). Associated species include *Lepilaena* sp. and filamentous algae, with surrounding salt marshes dominated by the succulents *Sarcocornia quinqueflora* and *Tecticornia arbuscula*.

Key Sites and Populations

Lauderdale, Boomer Marsh, Marion Bay.

Known Reserves

The subpopulation near Marion Bay occurs on private property covered by a conservation covenant under the *Tasmanian Nature Conservation Act 2002*.

Ecology and Management

Ruppia tuberosa reproduces via seed and turions (sickle-shaped perennating organs), which allows the species to survive drying and desiccation in temporary habitats. The turions may be of two types (Brock 1982a): (1) a swelling at the leaf base, and (2) at the rhizome tip (*Ruppia megacarpa* has neither, while *Ruppia polycarpa* purportedly has the first type only). Brock (1982a) notes that although ‘... lateral spread by rhizomes is important in the [species’] short growing season, it is not a means by which these species maintain themselves from year to year’. Salinity levels may affect the species’ mode of reproduction: as levels rise the proportion of flowering material decreases and the proportion of turions increase, eventually to the point where levels are toxic to the plant (Kim 2012). The experience from South Australia’s Coorong suggests *Ruppia tuberosa* has a preference for water 0.1 to 0.4 m deep (Brock 1982a). Flowers are held at the water surface at maturity and after pollination are retracted under water by the tight coiling of the axis (see image below).

The species’ salt marsh habitat is at risk from drainage and land reclamation, eutrophication, mechanical disturbance and, in the longer term, from rising sea levels associated with climate change.



Left: *Ruppia tuberosa* habitat: pools and channels in succulent saltmarsh near Lauderdale (October 2016); **top right:** turions; **bottom right:** fruiting plant with coiled flower stalk (the white spherical swellings are galls, possibly a pathological response to a fungus (Brock 1982b)) (images by Richard Schahinger)

Conservation Status Assessment

Ruppia tuberosa was described in 1974, but its presence was not recognised in Tasmania until 1993 with the redetermination of three collections held at the Tasmanian Herbarium, viz., South Arm, Dorans Road (Lauderdale) and Boomer Marsh near Dunalley (Curtis & Somerville 1947), with the most recent record from 1977. The next record dates to October 2016 when targeted surveys led to two of these original sites being relocated: the species was found to be locally common at the Dorans Road site (with fruiting material and turions), but was very rare at Boomer

Marsh (with only turions present). A new site was discovered near Marion Bay in the same period, again with fruiting material and turions.

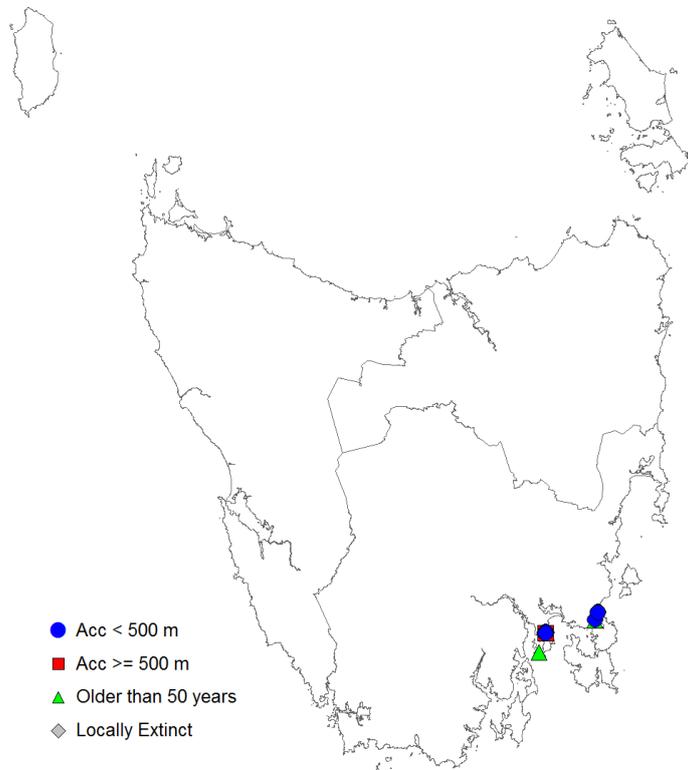
The apparent rarity of *Ruppia tuberosa* in Tasmania may be linked in part with its very short identification window and, perhaps — given its belated recognition — in part to a lack of awareness amongst the botanical community. The recent discovery of the Marion Bay site suggests there is a reasonable chance of additional sites being uncovered in Tasmania's southeast given targeted surveys of potential habitat at the appropriate time of year (October). A re-assessment of the species' status on the TSP Act may be warranted following such surveys.

Further Information

- Brock, M. A. (1982a). Biology of the salinity tolerant genus *Ruppia* L. in saline lakes in South Australia. I. Morphological variation within and between species and ecophysiology. *Aquatic Botany* 13: 219–248.
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- Curtis, W.M., & Morris, D.I. (1994). *The Student's Flora of Tasmania, Part 4B*. Printing Authority of Tasmania, Hobart.
- Curtis, W.M., & Somerville, J. (1947). Boomer Marsh – a preliminary botanical and historical survey. *Papers and Proceedings of the Royal Society of Tasmania*, 151–157.
- Jacobs, S.W.L. & Brock, M.A. (1982). A revision of the genus *Ruppia* (Potamogetonaceae) in Australia. *Aquatic Botany* 14: 325–337.
- Kim, D. H. (2012). The influence of salinity on various life stages of *Ruppia tuberosa* and implications for its distribution in the Coorong, South Australia. Ph.D. thesis, School of Earth and Environmental Sciences, University of Adelaide.
- Walsh, N.G., & Entwisle, T.J. (1994). *Flora of Victoria, Volume 2. Ferns and allied plants, conifers and monocotyledons*. Inkata Press, Melbourne.

Tasmanian Distribution

(As per Threatened Species Section records, March 2017)



1:25 000 Map sheets

Blackmans Bay, Cremorne, Dunalley, Tarroona.

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View

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.