Image by Richard Schahinger

Vittadinia australasica var. *oricola*

coast new-holland-daisy

TASMANIAN THREATENED SPECIES LISTING STATEMENT

Scientific name: ***Vittadinia australasica* var. *oricola*** N.T.Burb., *Brunonia* 5: 44 (1982)

Common name: coast new-holland-daisy (Wapstra et al. 2005)

Group: Vascular plant, dicotyledon, family **Asteraceae**

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

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

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

Tasmanian NRM Regions: **Cradle Coast**

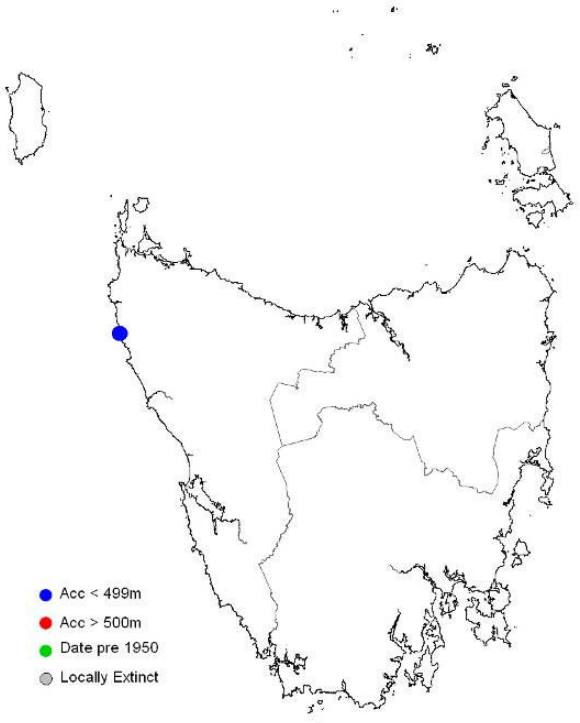

Figure 1. Distribution of *Vittadinia australasica* var. *oricola* in Tasmania

Plate 1. *Vittadinia australasica* var. *oricola* (image by Richard Schahinger)

IDENTIFICATION AND ECOLOGY

Vittadinia australasica var. *oricola* is a perennial sub-shrub in the Asteraceae (daisy) family, with weakly ascending branches, spoon-shaped leaves and small mauve flowers (Plate 1). The species was presumed extinct in Tasmania until 2001 when a subpopulation was discovered on near-coastal dunes in the State's northwest (Gray & Rozefelds 2005).

The species favours disturbed ground, recruits from seed, and may also resprout from a perennating rootstock. The longevity of its soil-stored seed is unknown. Insects are the most likely pollination vector. The species is best identified during its flowering period, November to January.

Description

Vittadinia australasica var. *oricola* is a stout herb with a woody rootstock. Its stems are ascending to decumbent, 15 to 30 cm long. Younger stems have septate hairs interspersed with smaller glandular hairs, whereas the older stems are usually naked. The leaves are arranged alternately along the stems, are 1 to 4 cm long, spoon-shaped, and have irregularly and widely-spaced toothed margins towards the acute apex. Both leaf surfaces have scattered strigose and minute glandular hairs, and the margins are densely hairy. The flowers (capitula) are solitary on the ends of 2 to 5 cm stalks that arise from the ends of the branches (Plate 2), and are enclosed by 2 to 3 rows of bracts (phyllaries) that are 3 to 9 mm long. The outer parts of the flower (ray florets) are bluish to mauve in colour. The dry fruit (achene) is 4 to 5 mm long, cigar-shaped but flattened, with facial ribs continuous from top to bottom, those at the margins being hairless. The fruit has a ring of barbed hairs 5 to 8 mm long at its apex (pappus) that aids in its dispersal.

[description from Gray & Rozefelds 2005]

Confusing Species

The four other species of *Vittadinia* in Tasmania grow in the Midlands and southeast. *Vittadinia australasica* var. *oricola* may be distinguished from them by the following combination of characters: marginal ribs of fruit without hairs, leaves broadest above the middle.

Vittadinia australasica var. *australasica* occurs on the southern mainland states but does not extend to Tasmania (Walsh 1999). It is characterised by the presence of glandular hairs on the plant's leaves and stems, resulting in an overall viscid appearance.

Plate 2. Pressed specimen of *Vittadinia australasica* var. *oricola* from Temma showing branching pattern

DISTRIBUTION AND HABITAT

On mainland Australia *Vittadinia australasica* var. *oricola* occurs in Victoria, South Australia and Western Australia (Walsh 1999). In Tasmania it is known from a single subpopulation to the south of Temma on the northwest coast (Gray & Rozefelds 2005), representing the species' southernmost extent. It grows in near-coastal grassland or grassy shrubland on stabilised calcareous dunes within a kilometre of the coast, at altitudes less than 30 m above sea level.

Within Tasmania *Vittadinia australasica* var. *oricola* has a linear range of about 450 m, an extent of occurrence of about 0.02 km^2, and an area of occupancy of less than 1 ha (Table 1).

Table 1. Population summary for *Vittadinia australasica* var. *oricola* in Tasmania

	Subpopulation	Tenure	NRM region	1:25 000 mapsheet	Year last (first) seen	Area of occupancy (ha)	Number of mature plants
1	Temma	Arthur-Pieman Conservation Area	Cradle Coast	Temma	2009 (2001)	< 0.1	c. 700

Co-occurring grassland species include *Poa rodwayi*, *Brachyscome diversifolia* var. *diversifolia*, *Craspedia* sp., *Acrotriche affinis*, and the shrubs *Acacia longifolia* subsp. *sophorae*, *Banksia marginata*, *Leucopogon parviflorus* and *Beyeria lechenaultii* var. *latifolia*. Associated threatened flora includes *Euphrasia collina* subsp. *tetragona*, *Pterostylis cucullata* subsp. *cucullata* and *Scaevola albida*.

The species' native grassland habitat near Temma is thought to represent the remains of a once more extensive community that occupied near-coastal dunes between the Pieman River and Woolnorth (Stockton 1982, Schahinger 2002). The grasslands have been impacted through a combination of historic cattle grazing and over-firing leading to substantial dune destabilisation, followed by the planting of the exotic marram grass (*Ammophila arenaria*).

POPULATION ESTIMATE

Vittadinia australasica var. *oricola* occurs in a single subpopulation. Plant numbers may fluctuate from year to year in response to poorly known climatic variables, with 150 to 200 plants recorded in 2001 (Schahinger 2002) and about 700 in 2004 (Schahinger 2005).

A number of targeted surveys have been undertaken for *Vittadinia australasica* var. *oricola* and other species associated with the 'northwest' near-coastal grasslands in the region between the Pieman River and Woolnorth (Schahinger 2002, Schahinger 2005, RMCD 2007). The likelihood of additional subpopulations being discovered is low.

RESERVATION STATUS

Reserved in Arthur-Pieman Conservation Area.

CONSERVATION ASSESSMENT

Vittadinia australasica var. *oricola* was listed as 'presumed extinct' on the original schedules of the Tasmanian *Threatened Species Protection Act 1995*. Knowledge of its Tasmanian distribution at that time was limited to a single 19th century collection held at the National Herbarium of Victoria; the only locality information on the specimen sheet was the annotation 'V.D.L.', presumed to denote Van Diemens Land (Burbidge 1982, Gray & Rozefelds 2005). Its listing was changed to endangered in 2002 following the discovery of the subpopulation near Temma in 2001, qualifying under criteria B, C and D:

B. Area of occupancy estimated to be less than 500 km^2, and estimates indicate:

1. Known to exist at no more than five locations.

2c. Continuing decline projected in area, extent and/or quality of habitat.

C. Population estimated to number less than 2,500 mature individuals and:

2b. Continuing decline projected in numbers of mature individuals in the form of 'all individuals are in a single population'.

D. Population estimated to number less than 250 mature individuals.

THREATS, LIMITING FACTORS AND MANAGEMENT ISSUES

The *Vittadinia australasica* var. *oricola* subpopulation at Temma is threatened by expanding dune blowouts, coastal scrub invasion, an inappropriate fire regime, climate change and stochastic events.

Dune blowouts: Small dune blowouts are present on the coastal side of the Temma subpopulation, with mobile sand threatening to envelop the species' habitat (Schahinger 2008,

pers. comm.). The most likely causes of the blowouts are off-road vehicles and/or cattle, though digging by wombats has also been suggested as a possible trigger (Gale 2006, pers. comm.). Cattle are agisted in the Arthur-Pieman Conservation Area (APCA) from March to September each year under formal leases, but off-road vehicles are not permitted in the area under the current permit system (PWS 2002).

Coastal scrub invasion and fire: Invasion by coastal scrub was identified by Schahinger (2002) as a potential threat to the species, with recommended burning prescriptions adopted in the fire management plan for the APCA (PWS 2003). Below average rainfall in subsequent years has seen a significant reduction in woody biomass within the species' grassland habitat and an increase in bare sand, while the more inland open scrub habitat was partially burnt as a result of arson in late 2004 (Schahinger 2005). In consequence, scrub invasion no longer poses an immediate threat to the species, and indeed, any burns in the area run the risk of exacerbating the existing dune blowouts.

Climate change: Drier stormier conditions associated with global climate change are likely to lead to a dimunition of habitat through the expansion of existing blowouts.

Stochastic events: The small size of the only known subpopulation exposes the species to unforeseen stochastic events.

MANAGEMENT STRATEGY

What has been done?

Extension surveys: Targeted surveys have been undertaken for *Vittadinia australasica* var. *oricola* and other species associated with the 'northwest' near-coastal grasslands in the region between the Pieman River and Woolnorth (Schahinger 2002, Schahinger 2005, RMCD 2007).

Seed collection: Seed has been collected 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 *Vittadinia australasica* var. *oricola* in Tasmania is to maintain the viability of the only known subpopulation, and to promote conditions for the species' successful recruitment.

What is needed?

- provide information and extension support to relevant Natural Resource Management committees and government agencies on the locality, significance and management of the known *Vittadinia australasica* var. *oricola* subpopulation and areas of potential habitat;
- initiate rehabilitation trials of dune blowouts to the west of the known subpopulation, in line with the recommendations of RMCD (2007);
- exclude cattle and off-road vehicles from areas of key habitat;
- implement an appropriate fire regime to maintain suitable habitat for the species (taking consideration of the site's condition and long-term weather forecasts); and
- monitor the known subpopulation at two-yearly intervals to determine the level of recruitment and/or plant loss and to better inform management prescriptions.

BIBLIOGRAPHY

Burbidge, N.T. (1982). A revision of *Vittadinia* A.Rich (Compositae) together with reinstatement of *Eurybiopsis* DC. and description of a new genus, *Camptacra*. *Brunonia* 5(1): 1–71.

Gray, A.M. & Rozefelds, A.C. (2005). A revision of the species of *Vittadinia* (Asteraceae) in Tasmania. *Kanunnah* 1: 1–16.

PWS (Parks & Wildlife Service) (2002). *Arthur-Pieman Conservation Area: Management Plan*. Parks and Wildlife Service, Department of Tourism, Parks, Heritage and the Arts, Hobart.

PWS (Parks & Wildlife Service) (2003). *Arthur-Pieman Conservation Area: Fire Management Plan*. Parks and Wildlife Service, Hobart.

RMCD (Resource Management & Conservation Division) (2007). *Arthur-Pieman Conservation Area. Vehicle Tracks Assessment: Geoconservation and Biological Values.* Report commissioned by Parks and Wildlife Service, Tasmania. Resource Management and Conservation Division, Department of Primary Industries and Water, Hobart.

Schahinger, R. (2002). *Near-coastal Native Grasslands of Northwestern Tasmania: Community Description, Distribution & Conservation Status, with Management Recommendations.* Nature Conservation Branch Conservation Report 02/10, Department of Primary Industries, Water and Environment, Hobart.

Schahinger, R. (2005). *Completion of Identifying Priority Lowland Temperate Grasslands in the Cradle-Coast NRM region.* A report to the Threatened Species Unit, Department of Primary Industries, Water and Environment, Hobart.

Stockton, J. (1982). Fires by the seaside: historic vegetation changes in northwestern Tasmania. *Papers and Proceedings of the Royal Society of Tasmania* 103: 53–66.

Walsh, N.G. (1999). *Vittadinia.* In *Flora of Victoria, Volume 4* (Eds N.G. Walsh & D.B. Foreman). Inkata Press, Melbourne.

Wapstra, H., Wapstra, A., Wapstra, M. & Gilfedder, L. (2005). *The Little Book of Common Names for Tasmanian Plants.* Department of Primary Industries, Water and Environment, Hobart.

Prepared in 2009 under the provisions of the Tasmanian *Threatened Species Protection Act 1995.* Approved by the Secretary and published in July 2010.

Cite as: Threatened Species Section (2010) *Listing Statement for* Vittadinia australasica *var.* oricola *(coast new-holland-daisy),* Department of Primary Industries. Parks, Water and Environment, Tasmania.

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.