

Weed Risk Assessment: *Urospermum dalechampii*.

1. Plant Details

Taxonomy: *Urospermum dalechampii* (L.) F. W. Schmidt. Synonym: *Arnopogon dalechampii*.
Family: Asteraceae.

Common name: Mediterranean daisy.

Origins: Native to Southern Europe, especially the Mediterranean region (Check GRIN database).

Distribution: Naturalised in Tasmania. (Check AVH).

Description: *U. dalechampii* is a perennial herb that commonly grows to 60 cm high. Leaves form a rosette and are 8-15 cm long, grey/green, finely hairy, lobed and slightly toothed. Some leaves occur along the flowering stem which is also hairy. Flowers develop at the ends of each stem and are pale yellow with dark, blunt tips that are divided into four or five teeth. The seeds are dark brown and about 4mm long with a feathery pappus. The root is a thick taproot with many laterals (Gouldthorpe, 2002).

Biological and ecology:

Habitat. In Tasmania *U. dalechampii* occurs mostly on drier north-west to north-east facing slopes, often on soils overlying Jurassic dolerite. It occurs in natural areas and disturbed sites (Gouldthorpe, 2002).

Life cycle. *U. dalechampii* germination occurs mostly after autumn rains. Rosettes form over late winter and spring and a flowering occurs from mid to late spring. Seeds mature over summer. (Gouldthorpe, 2002).

Reproduction and dispersal. Reproduction occurs via seeds or from rootstock. Fire may promote both seed germination and growth from rootstock but the species does not appear to be dependent on fire. Dispersal may occur by wind or by movement of contaminated soil by machinery or vehicles (Gouldthorpe, 2002).

Hybridisation. There is limited information about hybridisation of *U. dalechampii*.

Competition. *U. dalechampii* is moderate competitive due to its perennial habit, its ability to reproduce sexually or asexually, its tolerance of drier conditions and its tendency to propagate rapidly after disturbance. The latter is particularly important in respect of a number of threatened species also found in the Tasmanian communities it invades. Many of these appear to be dependent on soil disturbance which usually reduces competition. The presence of *U. dalechampii* means this advantage is reduced.

Economic benefit: *U. dalechampii* has little economic benefit. It is not commonly sold as a garden plant although it may occasionally be traded at market stalls.

2. Weed Risk

World weed status

U. dalechampii is not considered a significant weed in any part of the world apart from Tasmania.

Australian weed status

U. dalechampii is naturalised Tasmania only. It is not regulated in any state or territory and is permitted entry to Australia. Groves et al., (2003) list it as an environmental weed.

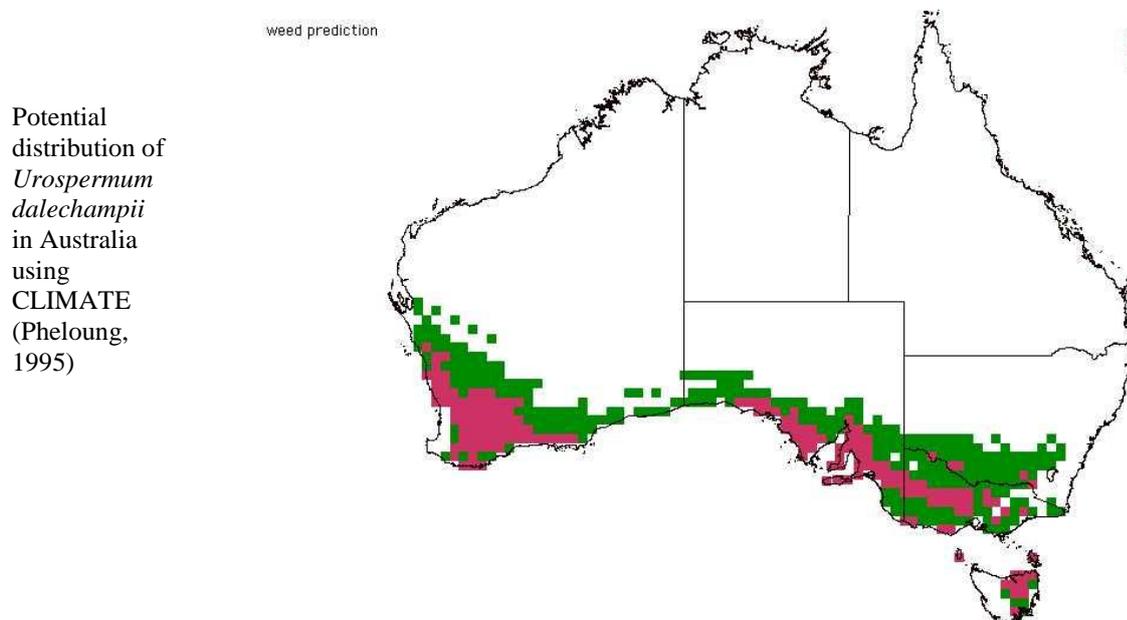
Weed potential in Tasmania.

U. dalechampii was first recorded naturalised in Hobart's Queen's Domain in 1920 and is now one of the most abundant weeds in that urban park. In recent years it has also been found in other areas of Hobart and Hobart's Eastern Shore including the Rosny Foreshore Coastal Reserve, the Rosny Hill State Recreation Area and the Waverley Flora Park. It is also recorded since 2001 from Granton and the Lauderdale/Seven Mile Beach area. A single specimen has been collected from North Bruny Island.

Climate matching indicates the plant is likely to grow well in a range of Tasmanian environments, particularly in East Coast and the Midlands. The following analyses indicate the weed potential of *U. dalechampii* in Tasmania is significant.

Weed risk assessment

Weed risk assessment undertaken by DPIWE involves use of a point scoring system devised by Pheloung (1996). *U. dalechampii* scores 16 on a scale that is positively correlated to weediness. The nominal score for rejection of a plant on this scale is 7 or greater (see Appendix 1 for risk assessment scoring).



3. Weed Impact Assessment

Weed impact assessment is based on the DPIWE scoring system designed for that *U. dalechampii* scores 4 points on a scale where 4 points or more indicates a plant has significant potential impact. The impact scoring system requires that questions be answered with a particular land use and potential density in mind. *U. dalechampii* was assessed for its potential impacts upon natural areas at a low to moderate density.

Economic impact. The economic impact of *U. dalechampii* in Tasmania is likely to be related most to the costs of control in natural areas.

Environmental impact: *U. dalechampii* has established in at least 5 vegetation types in Tasmania. Three of these are considered well reserved at the state level. These are *Allocasuarina verticillata* forest, *Eucalyptus viminalis* grassy woodland and *Danthonia/Austrostipa* grassland. However, one invaded vegetation type, *Eucalyptus amygdalina* forest on sandstone is vulnerable and another, *Themeda* native grassland is endangered at the state level. In the Tasmanian Midlands, *Themeda* grassland supports some of the state's most threatened flora. In addition, Gouldthorpe (2001) proposed some 19 threatened flora species which occur in reserves known to be infested with *U. dalechampii*, are potentially affected by.

Social impact. *U. dalechampii* is unlikely to have significant social impacts in Tasmania although it may help render certain natural areas less useful for recreation or tourism.

4. Management Feasibility.

Weed eradication assessment is based on the DPIWE scoring system designed for that purpose. *U. dalechampii* scores 5 points on a scale where 6 points or more indicates there is potential for the plant to be eradicated successfully from the entire state. Therefore, the likelihood of successful eradication seems low at this time.

Weed containment assessment is based on a separate DPIWE scoring system. *U. dalechampii* scores 5 points on a scale where 5 points indicate there is potential for the plants to be successfully contained within the municipalities in which they currently occur, avoiding spread to un-infested municipalities.

Current distribution: *U. dalechampii* is known to be naturalised only in the south, the largest infestations occurring in Clarence and Hobart municipalities. Smaller populations also occur in Kingborough and Glenorchy. The plant is not known in any northern or north western municipalities.

Control Options: Control of this species along corridors, creation of buffers around affected areas and eradication of outliers is thought to be feasible. In addition, though presumed to have been introduced as an ornamental, the plant is not commonly traded in Tasmania.

Potential for long-term land holder involvement: The potential for land-holders to commit to long-term management of this species is predicted to be moderate but perhaps lower in cases where the land owner is the Crown (eg. Clarence municipality). Nonetheless, awareness and education activities should assist in this respect.

Propagule escape from containment areas: Escape from containment areas may be significant because of the light seeds and their suitability for wind dispersal. Regular monitoring of areas around infestations is one means of detecting spread at an early stage. In addition, strong hygiene procedures can be used to limit spread of root pieces on soil transferred out of infested areas.

Time required to achieve control of outliers, corridor populations and to establish buffers: Treatment over 5-10 years is estimated to achieve effective containment.

Compliance Issues or Conflicts of Interest: There are no extraordinary compliance issues associated with this species.

Containment Feasibility: The containment of *U. dalechampii* to municipalities where it is widespread at this time appears achievable and desirable. Occurrences in other municipalities, subject to survey work, should be eradicated.

5. Declaration Recommendation.

U. dalechampii appears to have potential to establish, reach moderate to high densities and cause significant harm in certain vegetation communities in Tasmania. Therefore it should be nominated for declaration under the *Weed Management Act 1999* with a view to containment in those municipalities where it is widespread and eradication from those municipalities in which its distribution is limited.

6. References.

Gouldthorpe, J, 2002, *Tasmanian Weed Status Report. Mediterranean Daisy (Urospermum dalechampii)* Nature Conservation Report 02/05. Nature Conservation Branch, Department of Primary Industries, Water and Environment.

Groves, R.H. (Convenor), Hosking, J.R., Batianoff, G.N., Cooke, D.A., Cowie, I.D., Johnson, R.W., Keighery, G.J., Lepschi, B.J., Mitchell, A.A., Moerkerk, M., Randall, R.P., Rozefelds, A.C., Walsh, N.G. and Waterhouse, B.M., 2003, *Weed categories for natural and agricultural ecosystem management*. Bureau of Rural Sciences, Canberra.

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USDA, ARS, National Genetic Resources Program. Germplasm Resources Information Network (GRIN), online database at www.ars.grin.gov/cgi-bin/ngps/html, National Germplasm Resources Laboratory, Beltsville, Maryland.