

Weed Risk Assessment: *Dittrichia viscosa*

1. Plant Details

Taxonomy: *Dittrichia viscosa* (L.) W. Greuter. Family: Asteraceae. Synonym: *Inula viscosa* (L.) Aiton.

Common names: false yellowhead, olivarda (Plants for a Future Database).

Origins: Native to southern Europe (France, Spain, Greece, Italy, Bulgaria) and Turkey, and the Middle East (Israel, Jordan and Syria). Also found in northern Africa (Algeria, Egypt, Libya) (GRIN database -check).

Distribution: Naturalised in south-west Western Australia, Britain.

Description: *D. viscosa* is an erect, bushy, rounded, perennial shrub that grows 1-1.5m tall. Young stems and leaves are covered with sticky, glandular hairs that exude a foul smelling oil when crushed. Leaves are elliptical, grey-green and serrated along the margins. The leaf base is apetiolate and partially stem clasping. The flowers are yellow, daisy-like, 10-20mm across and occur in clusters of 4-12. Bracts are narrow, triangular and sticky. Seeds are small at around 2mm long and with a bristly pappus at the base. The root system is robust and substantial, making it difficult to pull out (CRC Australian Weed Management, 2003).



Biography and ecology:

Habitat. *D. viscosa* occurs in a range of environments in its native distribution, including ultramafic sites where it responds well to high nickel and magnesium concentrations (Ater et al, 2000). In Australia it appears to grow best in disturbed open situations in areas receiving more than 400mm rainfall per annum. *D. viscosa* probably demonstrates greater moisture dependency than its more common relative, *D. graveolens*, stinkwort. It occurs on clay and sandy soils. In Australia, *D. viscosa* is found on road verges, firebreaks, walking trails and around natural swamps and other wetlands (CRC Australian Weed Management, 2003).

Life cycle. *D. viscosa* germination occurs mostly after autumn rains but may occur at any time adequate moisture is available. Germination appears to be favoured by ground disturbance and fire. Flowering occurs in Australia from the middle of summer until mid autumn (CRC Australian Weed Management, 2003).

Reproduction and dispersal. Reproduction occurs via seeds. Deep dormancy has been demonstrated in the laboratory but the longevity and viability of seeds is not known. *D. graveolens* is known to persist for 3 years. Flowers are hermaphroditic and insect pollinated (Plants for a Future database). Dispersal occurs when the pappus catches the wind or allows the plant to float in running water. Movement of soil or contaminated machinery also assists spread of this plant.

Though not common in the trade, *D. viscosa* may have begun in Australia as a garden plant so any continuing swapping or deliberate distribution may also contribute to spread (CRC Australian Weed Management, 2003).

Hybridisation. There is limited information about hybridisation of *D. viscosa*.

Competition. The Western Australian experience indicates *D. viscosa* has potential to become a significant environmental weed. It appears to have spread several hundred kilometres in around 50 years and is reported as increasingly common along walking trails and roadsides. There are also some reports of incursions into relatively undisturbed bushland indicating that it may not be entirely dependent on fire or mechanical disturbance to be competitive. Its ability to grow well in soils with high nickel or magnesium concentrations (check) may mean it is more competitive in ultramafic areas. Allelopathy has been reported (CRC for Australian Weed Management, 2003).

Harmful properties: Spiny bracts may cause internal and mouth injury to grazing stock. Contact with sticky exudate may cause painful dermatitis in humans (CRC Australian Weed Management, 2003).

Economic benefit: *D. viscosa* has little economic benefit although it has been found to be a useful reservoir for aphid parasitoids in Greece (Kavallieratos et al., 2002). The roots have also been used to make a yellow dye (Plants for a Future database).



2. Weed Risk

World weed status

D. viscosa is not considered a significant weed in any areas of the world apart from Western Australia.

Australian weed status

D. viscosa is naturalised in Western Australia. It is not regulated in any state or territory. However it is listed on the Australian Government's *Alert List of Environmental Weeds* and as such is marked for eradication and due to be prohibited import to Australia (CRC Weed Management, 2003). Groves et al. (2003) list it as a major problem in three or fewer areas and note it has potential to spread to New South Wales, Victoria, South Australia and Tasmania.

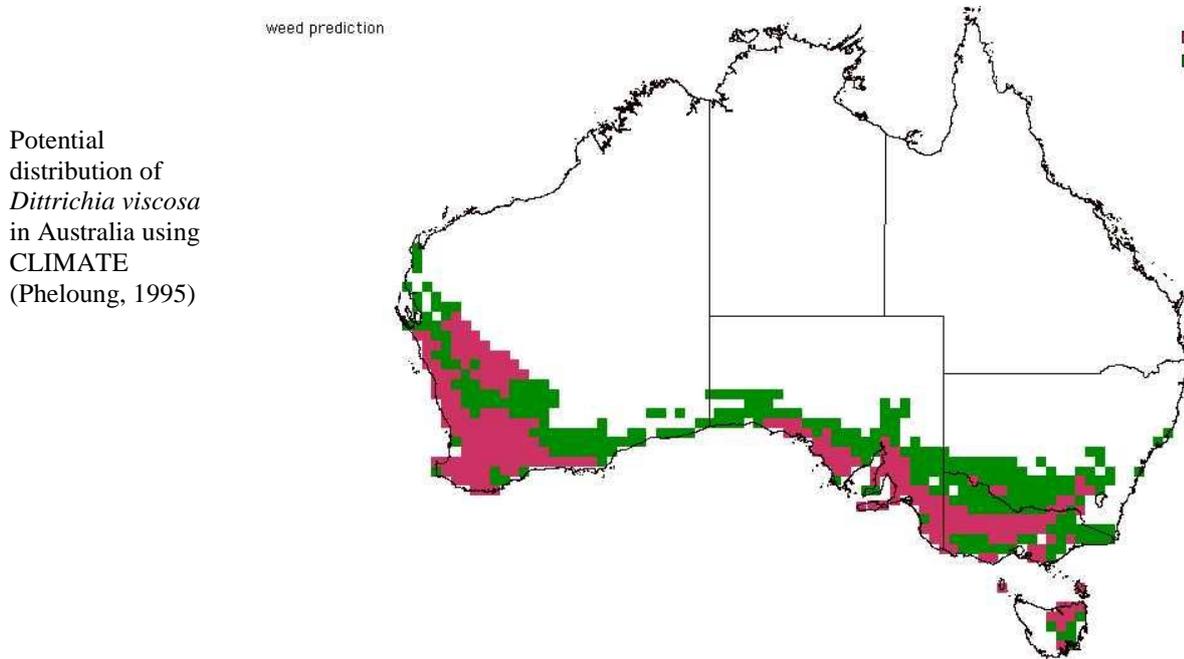
Weed potential in Tasmania.

D. viscosa is not naturalised in Tasmania at this time.

Climate analysis indicates the plant may grow well in warmer areas of Tasmania. The following analyses describe the weed potential of *D. viscosa* in Tasmania.

Weed risk assessment

Weed risk assessment undertaken by DPIWE involves use of a point scoring system devised by Pheloung (1996). *D. viscosa* scores 17 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 purpose. *D. viscosa* scores x 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 density in mind. *D. viscosa* was assessed for its potential impacts upon natural environments at moderate densities.

Economic impact. The economic impact of *D. viscosa* in Tasmania is mostly relevant to natural areas and roadsides, where its establishment would lead to greater cost burdens associated with control and removal. Whilst unlikely to invade well-managed pasture, any incursions in these situations could result in stock illness. Grazing animals that eat *D. graveolens* may suffer punctures to the small intestine caused by the spiny bracts around the flower head. This has been associated with pulpy kidney and death in some stock (CRC Weed Management, 2003).

Environmental impact: *D. viscosa* is described as having potential to be a serious environmental weed in south west Western Australia and other areas with a similar climate. In Tasmania it is unlikely to grow as well as it does in WA however any sized population would detract from the natural and aesthetic values of natural areas in this State.

Social impact. Skin contact with *D. viscosa* can result in painful dermatitic conditions in humans, including intense itching and blistering.

4. Management Feasibility.

Since this plant is not naturalised in Tasmania at this time, management feasibility is not an issue. However, maintaining freedom from *D. viscosa* is highly dependent upon effective import prohibition, early detection and reporting of any occurrences and, community and industry education.

5. Declaration Recommendation.

D. viscosa appears to have potential to establish and cause environmental harm in certain native vegetation communities in Tasmania. It may also become a weed of poor pastures and roadsides. Therefore it should be nominated for declaration under the *Weed Management Act 1999*. This will support removal of the plant from trade and timely eradication of any incursions. It will also support national efforts to eradicate and minimise the occurrence and impact of this plant.

6. References.

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Plants for a Future Database at www.scs.leeds.ac.uk