

Mini data sheet on *Galenia pubescens*

Added to the EPPO Alert List in 2015 - Deleted in 2018

Reasons for deletion:

Galenia pubescens was added to the EPPO Alert List in 2015, but as no immediate risk was perceived, it was transferred to the Observation List in 2018.

Why

Galenia pubescens is a perennial woody herb native to South Africa. The species currently has a limited distribution in the EPPO region where it is present in Israel and Spain. *G. pubescens* has invaded coastal sand dunes in Spain where the species can form dense monocultures which have a negative impact on local biodiversity.

Geographical distribution

EPPO region: Israel (Sharon Plain - rare; Negev Highlands - very rare), Spain.

Africa: South Africa (Eastern Cape, Free State, North West, Northern Cape, Transvaal, Western Cape).

North America: USA (California).

South America: Chile (Central).

Oceania: Australia.

Morphology

Galenia pubescens is a prostrate to decumbent semi woody perennial herb. The stem is cylindrical up to 1.5 mm in diameter. Leaves are ovate to spatulate and up to 35 mm in length and 15 mm wide. The inflorescence is a leafy cyme with axillary flowers. Flowers are bisexual, radial and approximately 4-5 mm wide. Flower colour is either pink or whitish pink. Seeds are contained in capsules 3 mm in length. Seeds are 1-2 mm in length, shiny and black. The plant is mat forming. In Australia, the plant can grow up to 60 cm in height and 1.6 m wide. *G. pubescens* has an extensive tap root that can reach depths of 2 m (Hartmann, 2002).

Biology and ecology

Galenia pubescens is an opportunistic species colonising highly disturbed ground (García-de-Lomas *et al.*, 2010) which can outcompete native plant species. In Spain the species forms dense prostrate mats in wetlands and dunes. García-de-Lomas *et al.*, (2010) showed that *G. pubescens* will flower throughout the year with maximum flower density recorded in spring. Annual seed production was estimated between 95 300 and 100 200 seeds per m². In Israel, *G. pubescens* flowers in March, April and May. Bees seem to be attracted to *G. pubescens*, however, even though it may be a good nectar source, honey produced by this species is recorded as being foul tasting (Geelong Beekeepers Club Inc, 2015).

Habitats

In South Africa, *G. pubescens* colonises inland locations with karoo vegetation, and coastal areas at altitudes of 15-1 830 m a.s.l (Arnold and De Wet, 1993). In Australia, *G. pubescens* is present in semi-arid and sub-tropical environments where it is commonly found in highly disturbed sites such as mines, waste areas, coastal regions, roadsides, parks, footpaths and lawns. In southern Spain, *G. pubescens* is invasive in the Cadiz Bay Natural Park where it invades coastal areas and salty wetlands (García-de-Lomas *et al.*, 2010). The species is also found growing along road edges and other disturbed habitats (García-de-Lomas *et al.*, 2009). In Australia, *G. pubescens* is found growing in coastal regions, pasture land and grasslands.

Pathways for movement

Galenia pubescens spreads naturally by seed. Seeds are small and can be blown short distances on wind currents. As the species grows in coastal regions further natural spread may be facilitated by wave and sand movement. Additionally, the plant may be spread by livestock that ingest the seeds. Spread may be facilitated by transport of machinery, i.e. mowers or vehicles tyres.

Impacts

Galenia pubescens has been shown to decrease native species richness and diversity in invaded plots in Spain (García-de-Lomas *et al.*, 2010). Plant functional types were significantly altered in invaded plots where perennial species were replaced by annual ruderal grasses or forbs (García -de-Lomas *et al.*, 2010). The change in plant species composition within invaded stands can act to alter the structural composition of vegetation which can have an impact on ecosystem services. García-de-Lomas *et al.* (2010) suggests that increased soil humidity, plant litter accumulation and soil nutrient composition may all be altered as a result of dense mats of *G. pubescens*. Shading caused by mat formation may modify germination requirements for native plant species and thus prevent restoration of native plant community. By stabilizing sand dunes, *G. pubescens* alters the natural disturbance regimes of these habitats. Stabilization can enhance the persistence of the invasive population and the establishment of new populations (D'Antonio and Meyerson, 2002). There is some evidence that *G. pubescens* is toxic to domesticated animals. The plant can produce high levels of nitrates and oxalates that can cause death in animals when eaten (Williams, 1979).

Control

Mechanical removal and follow-up spraying is the most effective way to control and manage invasive populations of *G. pubescens*. Control trials in Southern Spain using glyphosate spraying have shown a high efficiency against *G. pubescens*.

Sources

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