

# Exotic plant takes over dunes of Southern Spain

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*Galenia pubescens* forms dense coverings in the coastal zones of Andalucía.  
Credit: Juan Garcia-de-Lomas.

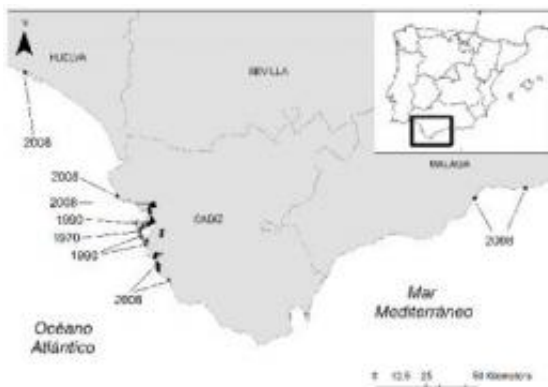
Introduced more than 40 years ago, *Galenia pubescens*, an exotic plant from South Africa is found in great numbers in altered coastal environments in the south of Spain. Since its impacts on the ecosystem are unknown, a Spanish research team has studied its invasive capacity. The conclusions of this study show that, although populations of this plant are still at incipient levels, effective control is needed to prevent this "potentially" invasive plant from having more serious impacts.

In order to be able to predict the invasive success of this plant and identify coastal areas at greatest risk, the scientists evaluated its capacity to invade the coasts of Andalusia, in southern Spain. The results were

clear: "*Galenia pubescens* is a potentially invasive plant and should be included in the national catalogues of [invasive plants](#)", Juan García-de-Lomas, lead author of the study and a researcher in the Biology Department at the University of Cadiz, tells SINC.

The research team, which has published its conclusions in *Acta Oecologica*, also points out that dunes are more vulnerable than marsh areas, since the plant produces more seeds in grows better on dunes.

"The impacts of this plant show a clear decline in the wealth and diversity of other plants in the invaded sites compared with control sites (not invaded), as well as a change in functional types (increase in wasteland plants, which develop and live in areas of human habitation or along communication lines) and a loss of perennial plant types", says García-de-Lomas. The scientist says these impacts will mean "a longer recovery period for [ecosystems](#) once this plant has been eliminated".



This is the *Galenia pubescens* distribution in Spain with the year of observation at each location. The plant is concentrated in the south of Spain. Credit: Map: García-de-Lomas et al.

The researchers also found that the dense carpets of *Galenia* generate "very significant shade covering". This limits the ability of native seeds and young plants to germinate and develop, and causes changes in the features of the soil, for example acting as a brake on the movement of sand, and increasing moisture.

## A threat to biodiversity

This exotic plant was accidentally introduced into various places around the world (Australia, Israel and Chile), but populations of *Galenia pubescens* in Europe are concentrated in the south of Spain.



This is the detail of the invasive plant from South Africa. Credit: Juan Garcia-de-Lomas.

Plant invasions pose major threats to biodiversity. Many places around the world have been isolated for thousands or millions of years by biogeographical frontiers, resulting in the generation of great biodiversity as a result of isolation, speciation processes, natural selection and co-evolution.

However, transport and trade "upset the relationships between species in an accidental or intentional way, giving rise to the introduction of species beyond their natural areas of distribution (thereby making them into exotic species)", the researcher says. Some of these species reproduce in an uncontrolled way in these new areas, causing serious damage to the environment.

**More information:** García-de-Lomas, Juan; Cozar, Andrés; Dana, Elias D.; Hernández, Ignacio; Sánchez-García, Iñigo; García, Carlos M. "Invasiveness of *Galenia pubescens* (Aizoaceae): A new threat to Mediterranean-climate coastal ecosystems" *Acta Oecologica* 36(1): 39-45 Feb 2010.

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