

Ecological niche modeling for *Ptilostemon greuteri* (Asteraceae): implications for *in situ* conservation and future translocation.

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Ptilostemon greuteri, a woody thistle endemic to north-western Sicily (Italy), is one of the most threatened vascular plants of the Mediterranean Basin. Two subpopulations only, each with an estimated number of a little more than 250 individuals, are currently known. Only a few studies have been conducted to assess the current conservation status of the species. Despite reports on the stable size of its two subpopulations, wildfires are causing a decline in habitat quality and population range. Protecting the habitat has been recommended for the long-term conservation of the species, but no monitoring plan has been formulated so far to highlight the threats and the dynamics of its subpopulations.

To improve the safeguarding of this species, an international research project was started in 2021. The main aims are (1) to assess the ecological requirements of the species to develop an action plan and implement *in situ* conservation measures, and (2) to model its ecological niche to find new suitable areas for translocation to increase the number of subpopulations and ensure its long-term protection and conservation.

This poster illustrates the field sampling method used for data collection. We also show the latest results at the community level concerning the environmental drivers of the species composition patterns issued from the analysis of vegetation plots. Additionally, we will present the life forms of the plants co-occurring with *P. greuteri*. The plant traits of the communities where *P. greuteri* lives highlight the unique conditions that the species requires to survive and the challenges that this implies for conservation efforts.

Keywords: Plant communities, vegetation sampling, translocation, conservation.