4th Mediterranean Plant Conservation Week
VALÈNCIA | 23-27 OCTOBER | 2023

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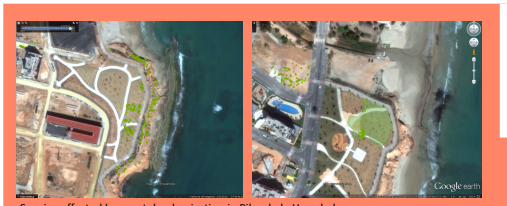
Identification of threats and population dynamics of *Helianthemum caput-felis* Boiss. in the main population of the Iberian Peninsula (south of the province of Alicante, Spain)

Padilla, M.A.; Giménez, P., Sánchez, A. & Marco, J.A.
Medspai –CIBIO & Instituto Interuniversitario de Geografía, University of Alicante, Spain (contact: ma.padilla@ua.es)

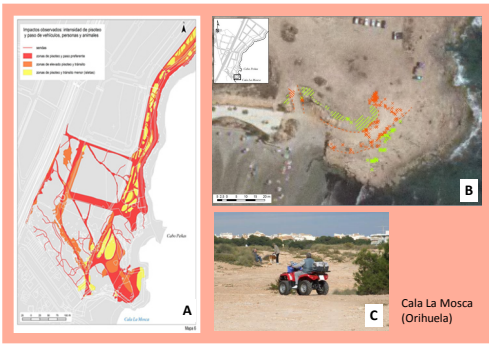
The cystaceous *Helianthemum caput-felis* Boiss. is a plant endemic to the western Mediterranean. Its area of distribution is located in the southeast of the Iberian Peninsula (northern and southern coast of the province of Alicante), Balearic Islands, Melilla, Sardinia and northern Algeria and Morocco. In an area such as the Mediterranean, its exclusively coastal distribution has subjected the populations of this plant to an increasing number of threats, mainly derived from human activity. The processes of habitat alteration have been very intense in areas with tourist pressure and major changes in land use. This has led to a change in its threat category according to the IUCN criteria, from Vulnerable to Endangered.

Since 2006, the research group Medspai of the University of Alicante has been systematically monitoring the populations in the south of the province of Alicante.

The collection of field data and the monitoring of several populations during fifteen years has allowed us to identify the main threats affecting *H. caput-felis* and their temporal evolution.

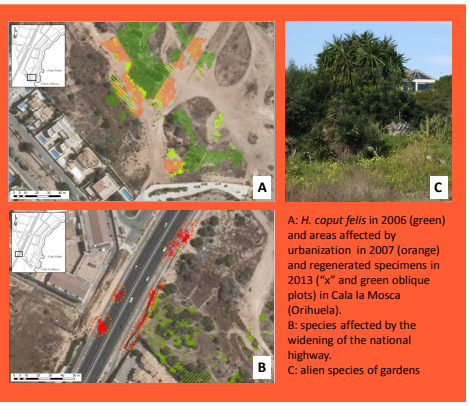


Species affected by coastal urbanization in Pilar de la Horadada



Cala La Mosca (Orihuela)

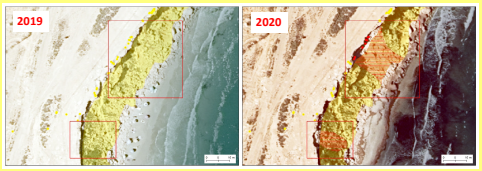
ANTHROPOGENIC HAZARDS	
PROCESSES	EFECTS
Urbanisation and infrastructure	-Reduction-elimination of the species and its habitat -Habitat artificialisation -Fragmentation of populations -Plant competition with alien species
Waterfront development (management): -seafront promenades -landscaping -access to beaches	-Reduction-elimination of the species and its habitat -Habitat artificialisation -Fragmentation of populations -Plant competition with alien species
Frequency (leisure/recreation): -vehicle traffic (C) -parking (A) -trampling of people and domestic animals (A, C)	-Degradation of the species and its habitat - Fragmentation of populations - Reduction-elimination of the species and its habitat
Agriculture	-Reduction-elimination of the species and its habitat -Habitat artificialisation -Fragmentation of populations
NATURAL HAZARDS	
Geomorphological dynamics	-Fragmentation of populations -Extreme fluctuations -Reduction-elimination of the species and its habitat
Plant dynamics & parasitism	-Competition with native species -Fragmentation of populations -Reduction-elimination of the species and its habitat -Mortality of individuals



A: *H. caput felis* in 2006 (green) and areas affected by urbanization in 2007 (orange) and regenerated specimens in 2013 ("x" and green oblique plots) in Cala la Mosca (Orihuela).
B: species affected by the widening of the national highway.
C: alien species of gardens



Crop growth and habitat reduction (ravine) in Orihuela



Coastal cliff retreat and species affected by landslide in Cala La Mosca (Orihuela)


Cuscuta epithymum


Carpobrotus edulis

The first and main threats are anthropogenic, derived from urbanization, development of the coastline, road infrastructures, frequentation (of people and vehicles) related to tourism and leisure and, to a lesser extent, agriculture. Natural threats have also been detected, derived from geomorphological dynamics (erosion and landslides) and plant dynamics (competition with native species and invasive flora). For each of these threats, real examples are presented that allow us to qualitatively and quantitatively assess the alteration and elimination of the habitat. These results are fundamental for designing actions to reduce the impact of these threats in the short and medium term

Bibliograhy

Marco, J.A.; Giménez, P.; Padilla, A. & Sánchez, A; (2011) "Crecimiento urbano y extinción de flora rara: aplicaciones cartográficas en el caso de *Helianthemum caput-felis* Boiss.", *Serie Geográfica*, 17: 125-139.
Marco, J.A.; Giménez, P.; Padilla, A. & Sánchez, A; (2016): "Cartografía corológica y área de ocupación de *Helianthemum caput-felis* Boiss. en la Península Ibérica" en *Avances en Biogeografía. Áreas de distribución: entre puentes y barreras*. Granada: EGU-Tundra, pp.108-116.
Padilla, A., Prieto, A., Marco, J. A., Giménez, P., & Sánchez, Á. (2019): "El papel del inventario ambiental exhaustivo en el proceso de la configuración definitiva de la Infraestructura Verde del litoral sur de la Comunitat Valenciana". *Boletín de la Asociación de Geógrafos Españoles*, 82, 2805, 1–37.

Medspai is a research group from the University of Alicante, that has been mapping the distribution of the *Helianthemum caput-felis* (and other species) since 2006, helping to integrate the conservation of the species and its habitat in urbanization projects.

Visit the Medspai research group web and institutional repository:

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