

INVASIVE SPECIES: The Argentine ant (*Linepithema humile*) distribution and supercolony presence on Majorca island

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Introduction

Invasive species can influence the structure and function of invaded ecological communities. This is an effect of global dimension.(Roura-Pascual et al., 2009).

The **argentine ant**, *Linepithema humile* , (Mayr, 1868) (Hymenoptera: Formicidae) is native from the Paraná river basin. Thanks to its adaptation capacity this ant has successfully invaded most of the dry subtropical and Mediterranean-like habitats around the world, furthermore is an indoor pest in cold climes (Gómez and Espadaler, 2005).

The aim of this study is to elaborate a distribution map for Majorca Island of the argentine ant and the supercolony of pertinence for each population found.

Study site



Localization of Majorca in Balearic islands

Balearic islands: archipelago found near the eastern coast of the Iberian peninsula (western Mediterranean Sea)

Study locations: **Majorca island**

Climate: Mediterranean with markedly higher precipitation in the Serra de Tramuntana. Summers are hot in the plains and winters mild to cool, getting colder in the Tramuntana range.



Picture 1. material used for the aggression test

Historical evolution of argentine ant presence

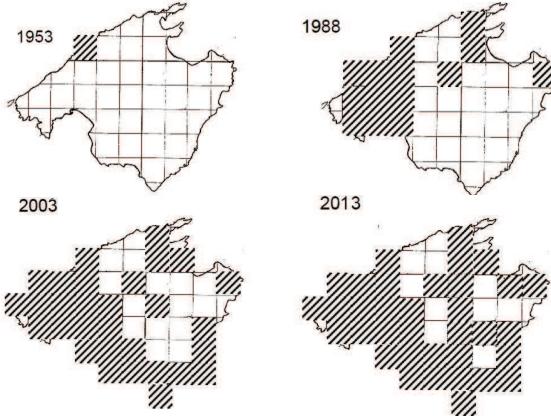


Figure 1. Historical evolution of Argentine ant in Majorca Island based on presence/absence in square of 10x10km. Elaborated from Gómez and Espadaler (2005)

The distribution map clearly shows the constant presence of the ant all **around the coast** except in the North-Western cause of the abrupt topography, probably enlaced with less favourable ecological conditions.

In the **central dry area** same pattern was observed, and the few population in the dry areas are related with irrigated urban habitat (Espadaler and Gómez, 2003).

Results & Discussion

Supercolony distribution

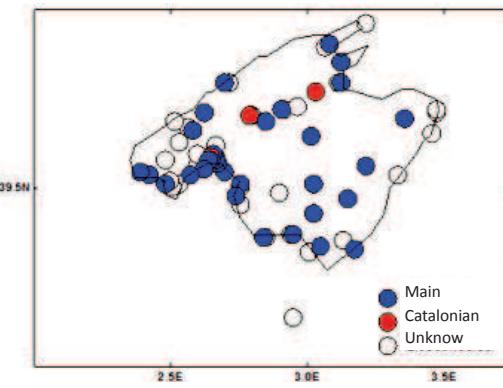


Figure 2. Supercolony distribution map of the Argentine ant for Majorca. The unknown points are points cited before this study (supercolony is unknown).

Most of the populations pertain to the **Main** supercolony. There are only four points with the **Catalonian** supercolony: two in Palma de Mallorca city, a third in Sa Pobla and the fourth in Alaró. These four points follow a line from the South-East to the North-West **following the main highway** of the Island, Ma-13, and the only railway.

This pattern is explicable by human transport way and commonly reported by many researchers (Gómez and Espadaler, 2005)

Conclusions

- The study of invasive species distribution can play an important role in species and ecosystem conservation because of the damages they cause.
- The knowledge of the argentine ant distribution can be helpful to prevent his expansion and be **proactive** in the protection of threatened species and habitats.
- The study of the different supercolonial pattern in the argentine ant can help to find genetic or behavioural factors than can be used to **fight against** this invasive specie.