

# Assessment of the impacts of *Opuntia stricta* on vegetation and invertebrates in a small Mediterranean island

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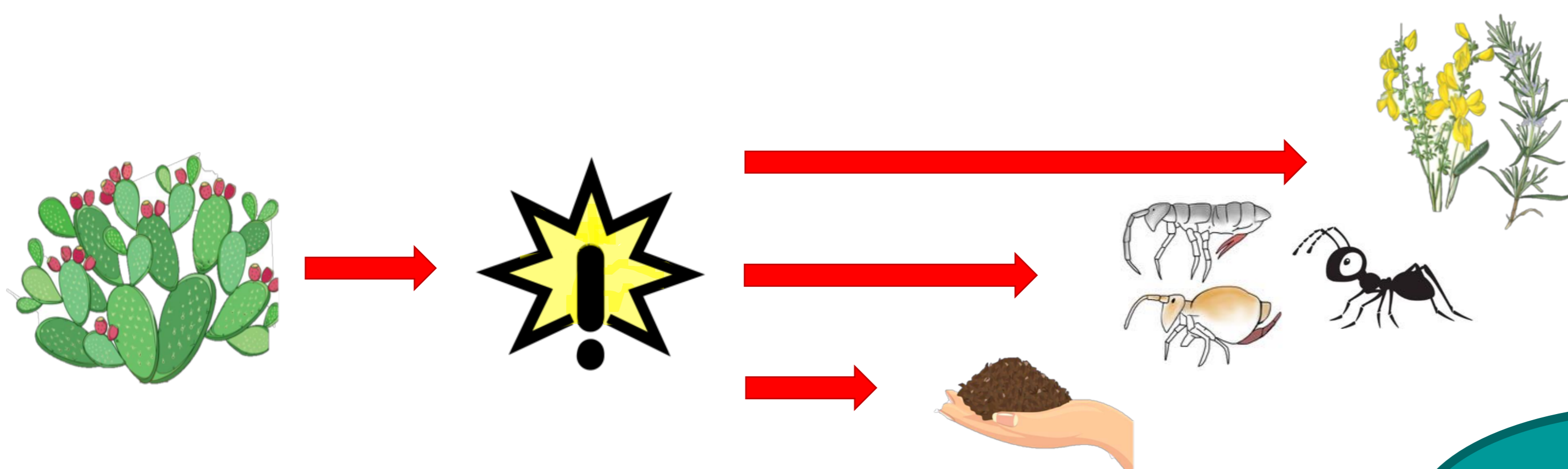
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## INTRODUCTION

In the Mediterranean basin, *Opuntia* genus is one of the most widespread species used as food and ornamental plant. Especially, in the small Mediterranean island, Capraia (Tuscan Archipelago, Italy) the invasive alien species *Opuntia stricta* is the most pervasive one. Its distribution threatens important N2000 habitats. Although its socioeconomic and vegetation impacts have been well documented, there is a lack of studies on the micro invertebrate community and on soil chemistry.

## AIMS

Our study aims to assess the **impacts** of the invasive plant, ***Opuntia stricta***, not only on **plant communities**, but also on **native micro-arthropod communities** and **soil chemistry**.



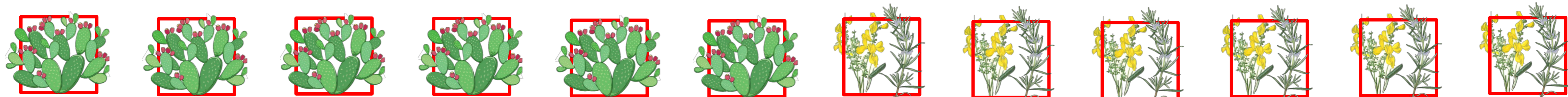
## METHODS

We randomly launched 12 plots (4 m<sup>2</sup>)

- 6 in the **invaded** area and 6 in the **uninvaded** area
- within **habitats** of conservation interest
- at least **25 meters** apart

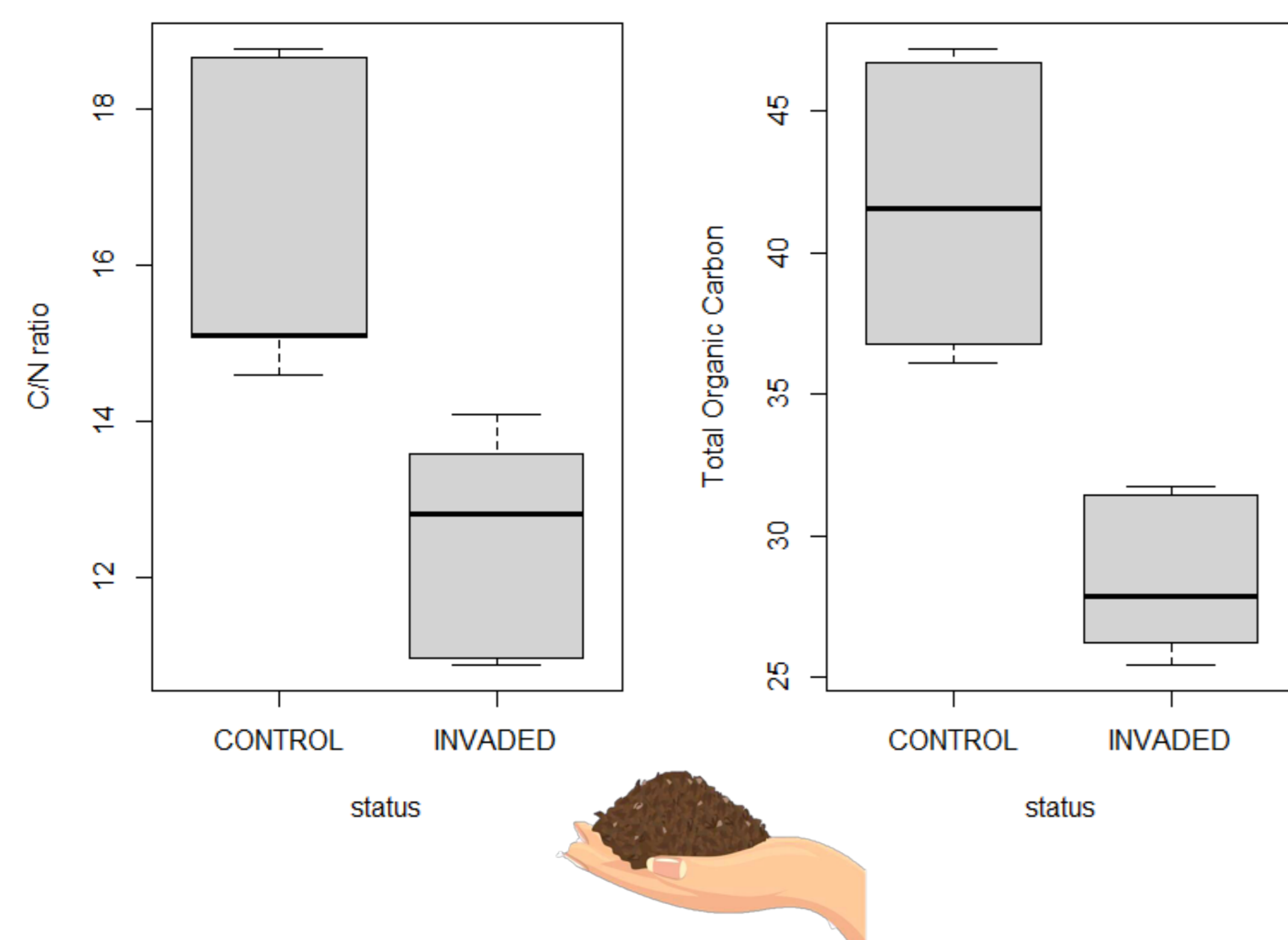
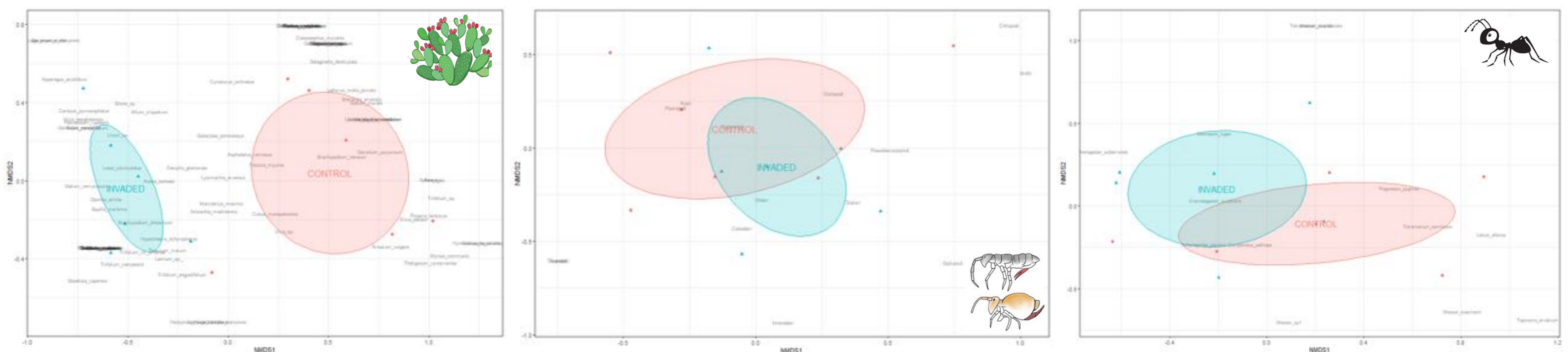
We recorded data on

- **plant species occurrence** and **abundance**
- **ant species**
- **soil samples** for analyses of **micro-arthropod communities** and **edaphic parameters**



6 invaded plots

6 control plots



## PRELIMINARY RESULTS

We analysed species composition through **NMDS analyses** for each group:

- 1) **plants**
- 2) **soil fauna**
- 3) **ants**

We found

- A clear difference in plant-specific composition, but not differences for soil fauna and ants
- Differences in edaphic parameters, **Total Organic Carbon (TOC)** and **C/N ratio values**, between the two areas

Therefore:

- 1) For **plants**, although there is no impacts on species richness, there is an **important compositional shift**
- 2) In invaded plots there are lower levels of carbon due to a thinner layer of litter as consequence of changing in vegetation structure