

# BOOK OF ABSTRACTS



VALENCIA (SPAIN) | 23-27 OCTOBER | 2023  
*Plant Conservation and Ecosystem Restoration  
in the Mediterranean*

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**4th Mediterranean Plant  
Conservation Week**

VALENCIA | 23-27 OCTOBER | 2023

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## 4th MEDITERRANEAN PLANT CONSERVATION WEEK

The 4th Mediterranean Plant Conservation Week (4th MPCW) is a congress that aims to bring together researchers and managers related to the conservation of wild plants and their habitats around the Mediterranean. For this edition, the 4th MPCW expands its initial goal—centered on the conservation of species and the relationships between people and wild or cultivated plants—towards the complementary recovery of habitats, as a contribution to the United Nations Decade for Ecosystem Restoration.

This congress is a meeting point where different opinions and experiences from diverse fields of knowledge converge. This is done by connecting experts on plant conservation and ecological restoration, being conscious that the goal of plant rescue is not possible without the full recovery of the ecological functions on-site.

Additionally, the 4th MPCW also intends to be a forum where experiences from the different sides of the Mediterranean region can meet and establish links for future cooperation projects. Specialists from Southern Europe, the North of Africa, and the Middle East can find here a forum for the conservation of a common natural heritage, including plants, their habitats, and the knowledge on how to manage and use them in a sustainable way.

The 4th MPCW is a window to show research results and experiences in the form of oral presentations and posters, not only from the plant or ecological sciences but also about the relationships between the public and the plant conservation world (citizen science, ethnobotany, local involvement, bottom-up initiatives, landraces, etc.), opening a new paradigm for the next decades around the Mediterranean: The plants are for the people, but with the people.

All this has been possible thanks to your participation, to our sponsors support and to our helpers involvement.

We do hope that you enjoy the Mediterranean Plant Conservation Week!

### MEDITERRANEAN PLANT CONSERVATION WEEK

The first event of the 'Mediterranean Plant Conservation Week' took place in October 2016 in Montenegro, with the main organiser being the IUCN; it was attended by about 80 people from 18 countries.

The second 'Mediterranean Week' took place in November 2018 in Malta with main organisers being IUCN and MAICh through the 'CARE-MEDIFLORA' project (funded by the MAVA Foundation) and the participation of about 130 people from 25 different countries.

The third 'Mediterranean Week' was held in Chania, Greece, and 84 people in person and 39 virtually from 20 different countries, attended the congress.



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Conservation Week  
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## A multi-taxa approach to assess the impacts of the alien *Carpobrotus* spp. on natural communities in a small Mediterranean island

Mugnai, M.,<sup>1,2</sup> Misuri, A.,<sup>1,2</sup> Siccardi, E.,<sup>2</sup> Tricarico, E.,<sup>1,2</sup> Forni, S.,<sup>1,2</sup> Morbidelli, M.,<sup>2</sup> Viciani, D.,<sup>1,2</sup> Benesperi, R.,<sup>1,2</sup> Santini, G.,<sup>1,2</sup> Masoni, A.,<sup>1,2</sup> Balzani, P.,<sup>3</sup> Maccherini, S.,<sup>1,4</sup> Fanfarillo, E.,<sup>1,4</sup> Angiolini, C.,<sup>1,4</sup> Fiaschi, T.,<sup>4</sup> Barbato, D.,<sup>1,5</sup> Manganelli, G.,<sup>1,5</sup> Benocci, A.,<sup>7</sup> Mazza, G.,<sup>1,6</sup> Landi, S.,<sup>1,6</sup> Lagomarsino, A.,<sup>6</sup> Fagorzi, C.,<sup>1,2</sup> Mengoni, A.,<sup>1,2</sup> & Lazzaro, L.<sup>2</sup>

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*Carpobrotus* species are mat-forming succulent plants considered as invasive alien species in the Mediterranean habitats. Their detrimental ecological impacts on natural vegetation and soil have been widely documented, being them responsible for relevant changes of vegetation and soil parameters. However, their impacts on the other communities are poorly understood. Therefore, it is fundamental to consider different taxa to thoroughly evaluate the impacts of *Carpobrotus* spp. on natural communities. This approach is particularly interesting in small Mediterranean insular contexts, since i) different natural habitats of conservational interest are threatened and ii) because the effects of the invasion process are particularly unpredictable in a limited geographical area. We assessed the impacts of *Carpobrotus* spp. following a multi-taxa approach on priority habitats of Giglio Island, a small Mediterranean island of the Tuscan Archipelago (Italy) aiming to provide comprehension of ecological processes in act. In 2023 we surveyed Mediterranean garigues of rocky cliffs in 18 randomly selected 4 m<sup>2</sup> quadrat plots: 6 in contexts still invaded by *Carpobrotus* spp., 6 in patches where the species had been previously eradicated (in early 2022), and 6 in natural uninvaded habitat. In each plot we sampled: vascular plants, bryophytes, ants, soil microarthropods, molluscs, and soil microbiota. Moreover, we measured soil parameters. Preliminary results have shown a differential response of the taxonomical groups to the impacts of *Carpobrotus*. First, the negative impacts on vegetation and soil have been confirmed. Second, communities of arthropods and microbiota showed an important change in composition in invaded habitats, due to strong changes in vegetation and soil. Third, we found that bryophyte and mollusc communities were more represented in invaded contexts, probably in relation to the new microhabitats formed by the monospecific mat of *Carpobrotus*. Finally, after one year from the eradication of *Carpobrotus*, we recorded an initial colonization of ruderal plant species and changes in the soil characteristics (e.g., soil moisture, litter). Hence, we found that *Carpobrotus* significantly alter the biodiversity of natural Mediterranean communities and cause complex patterns of variation when considering multiple groups of organisms.

**Keywords:** biodiversity, community ecology, biological invasions, conservation, vegetation