

BOOK OF ABSTRACTS



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*Plant Conservation and Ecosystem Restoration
in the Mediterranean*



**4th Mediterranean Plant
Conservation Week**

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Editors: E. Laguna, D. Arizpe, A. Cebrián, M. Seguí, A. Rubio

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Masters of survival: Why are climate relict plants so important?

Pasta, S.¹, Marcenò, C.², Fazan, L.³, Gristina, A.S.⁴, Guarino, R.⁵, Perraudin, V.³, Kozłowski, G.^{3,6}, Garfi, G.¹

¹ National Research Council (CNR), Institute of Biosciences and BioResources (IBBR), Palermo, Italy; email address: salvatore.pasta@ibbr.cnr.it

² Department of Chemistry, Biology and Biotechnology, University of Perugia, Italy

³ Botanic Garden and Department of Biology, University of Fribourg, Switzerland

⁴ Department DISTEM, University of Palermo, Italy

⁵ Department STEBICEF, University of Palermo, Italy

⁶ Eastern China Conservation Centre for Wild Endangered Plant Resources, Shanghai Chenshan Botanical Garden, China

The Mediterranean Basin hosts several plant species that are defined as climate relicts. Most of them have a very narrow distribution range, and their survival is very often related to particularly favourable (micro)climatic conditions (e.g., no or slight seasonal water stress, no frost damage). Many of these relict plants represent the last remnants of ecosystems once widespread across the entire Palearctic; they gradually disappeared during the Pleistocene, mostly due to repeated glacial events.

Understanding the strategies adopted by climate relicts to face global changes is of paramount interest and may help us to bear light on ongoing climate change. In fact, to survive in the long-term, such plant species underwent important niche shifts, which in turn often required deep changes in their physiological, anatomical, and reproductive traits. Moreover, most climate relicts live “out of context”, behaving like “special guests” that bear many traits that are uncommon in the plant communities where they currently grow. In fact, they often represent the only survivors of the extinct ecosystems they used to live in, and past global changes may have affected not only the assemblage of co-occurring vascular plants, but also other key components such as pollinators, seed dispersers, predators, symbiotic soil organisms or pathogenic fungi.

The study of the distribution pattern of relict plants looks very promising and of paramount concern when combined with the study of other biogeographically peculiar taxa. For instance, it cannot be a coincidence if large ferns of paleotropical origin, narrow-ranged and evolutionary isolated plants, species belonging to monotypic and/or endemic genera or subgenera, and plants with highly fragmented distribution ranges grow in the same region. Instead, the co-occurrence of such plants may provide valuable pieces of knowledge to the understanding of specific mechanisms and processes allowing their persistence until present time and may represent a useful, complementary clue for identifying important and still neglected refugial areas.

Keywords: adaptation, ecosystem functioning, evolution, historical biogeography, species assemblages