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BOOK OF ABSTRACTS



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BIODIVERSITY OF FUCALES IN THE USTICA ISLAND MARINE PROTECTED AREAS (TYRRHENIAN SEA, ITALY)

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ABSTRACT

Fucales (Phaeophyceae) are ecosystem engineers and forest-forming macroalgae that are among the most productive and valuable carbon-rich marine benthic communities, extending from the surface to the upper circalittoral zone on photophilic rocky substrates along temperate coasts. In the Mediterranean, the predominant species belong to the genera *Cystoseira sensu lato* (s.l.) (i.e., *Cystoseira sensu stricto*, *Ericaria*, and *Gongolaria*) and *Sargassum* C. Agardh, which provide a number of important ecosystem functions and services. Increasing human threats and warming are affecting the species distribution, genetic diversity, functional responses and interactions of these valuable and vulnerable communities. In recent decades, populations of *Cystoseira* s.l. have significantly reduced their range, with dominance shifting towards macroalgal species with lower intrinsic complexity. Therefore, there is an urgent need to assess the current distribution of the species, especially in MPAs, which play a fundamental role in valorization and conservation of these communities. However, protection must be integrated by regular monitoring programs to promptly detect potential threats and early signs of decline.

We present here an assessment of the occurrence and distribution of Fucales in the Ustica Island MPA (Tyrrhenian Sea, Italy), inferred from literature data. A high diversity was found, with 21 taxa of the complex *Cystoseira sensu lato* and 4 taxa of the genus *Sargassum*. The most abundant Fucales were *Ericaria amentacea*, *E. brachycarpa*, *E. balearica*, *Gongolaria sauvageauana*, *G. montagnei* and *E. zosteroides*. The data presented here provide a necessary basis for the MPA to plan future monitoring activities and to record changes (expansion, regression and/or loss) in these valuable communities.

KEYWORDS: biodiversity, ecosystem engineers, fucales, marine protected areas, Tyrrhenian Sea