
Spatial variability of the circa-littoral bioconstructed communities between the northern and the southern coasts of the western basin of the Mediterranean sea.

Selmane Sakher^{*1}, Jean-Pierre Feral^{*}, and Stéphane Sartoretto^{*}

¹Institut Méditerranéen de Biodiversité et d'Ecologie marine et continentale (IMBE) – Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER) – Aix-Marseille Université (AMU) – Station Marine d'Endoume – Chemin de la batterie des lions, 13007 Marseille., France

Abstract

The circalittoral bioconstructed reefs, commonly referred to as "coralligenous", constitute an endemic and emblematic seascape, and a hot spot of biodiversity in the Mediterranean Sea. They present a valuable ecological and economical interest.

Hence, these highly diverse biogenic habitats are getting considerably studied, but the majority of the studies focused on the north western basin, and are essentially lacking in the southern Mediterranean sector.

This study investigates the spatial variability of coralligenous communities between the northern and the southern coasts of the western basin of the Mediterranean Sea.

Several biodiversity patterns have been highlighted, thanks to a large-scale photographic sampling. We proceeded by: i) mapping the distribution of coralligenous habitats; ii) inspecting their structure and quantitatively characterizing their taxonomic richness and functional composition, in relation to multiple environmental factors; a particular attention was devoted to the analysis of important structuring taxa: Scleractinians.

Overall, this study offers a first insight into the coralligenous communities of Algeria, establishing a reference state of their taxonomic diversity, and comparing them with northern communities. Different similarity patterns were found from local to regional scales. In addition, this study pointed out the remarkable bioconstructional role of stony corals along Algerian coasts, generally considered as secondary builders after the calcifying rhodophytes. This may suggest that, in the south western sector of the Mediterranean, this calcified invertebrates contribute more significantly than in the northern area to bioherms' construction. Such studies are central for an accurate overview of these key-habitats, and provide essential baselines to develop common Mediterranean conservation strategies.

Keywords: spatial variability, circalittoral bioconstructed communities, coralligenous

^{*}Speaker