

Sedimentary facies and foraminiferal assemblages from *Posidonia oceanica* meadows of western Mediterranean Sea

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Sedimentary facies and foraminiferal assemblages of sediments sampled into seven *Posidonia oceanica* meadows from Western Mediterranean Sea were investigated. Six sampling sites are localised in Italy (Maratea, Ponza Island, Santa Marinella, Giglio Island, Osalla and Alghero), and one in France (Argentella, Crovani Bay, Corsica).

The role of *P. oceanica* meadows in the sedimentary processes was investigated in different contexts: sampled meadows are set up both on soft and hard substrates, often forming "mattes", in geographical areas subject to different wind and sea conditions (waves and longshore currents) and characterised by various coastal landforms and terrigenous inputs derived from coastal erosional processes and/or fluvial contributions.

A sedimentological, compositional, micropaleontological and geochemical characterisation of 111 bottom sediment samples, collected by SCUBA diving between 0 and 35 mwd, was carried out and finally tested with a Q-mode cluster analysis.

Five sedimentary facies have been recognised, from terrigenous to mixed siliciclastic-carbonate and carbonate. Facies (and subfacies) are distinguishable by sorting, gravel content, abundance and maturity of clastic sediments, and weighted average of carbonate content. In all facies, foraminifers and red algae dominate the bioclastic fraction, whereas other bioclastic components are very subordinate and show a variable distribution.

In all the investigated sites, benthic foraminiferal assemblages are generally dominated by typical epiphytic species, such as *Asterigerinata mamilla*, *Lobatula lobatula*, *Peneroplis pertusus*, *Planorbulina mediterraneensis*, *Rosalina* spp. and miliolids. Nevertheless, these assemblages show some differences in the different sites according to the presence or absence of terrigenous contributions and, consequently, to the water turbidity. This parameter influences symbiont-bearing foraminifer as *P. pertusus*. Moreover, the samples from Argentella (Crovani Bay) are characterised by a peculiar assemblage, in which *Miniacina miniaceae* dominates with very high frequencies.