

A new MARBEFES-flagged paper for the Sardinian BBT has been published in *Advances in Oceanography and Limnology*, entitled 'Macrobenthos of lagoon ecosystems: a comparison in vegetated and bare sediments, by Magni and Gravina.

You can find it under the link

The screenshot shows the article page for 'Macrobenthos of lagoon ecosystems: a comparison in vegetated and bare sediments' by Paolo Magni and Maria Flavia Gravina. The page is from the journal 'Advances in Oceanography and Limnology', Volume 14, No. 1 (2023), 50 Years of AIOL Special Anniversary Issue. The article is available as a PDF. The abstract is visible, discussing the comparison of macrobenthic assemblages in vegetated and unvegetated sediments. The page also includes a 'Publisher's note' and a 'Statistics' section showing 123 abstract views and 48 PDF downloads.

Macrobenthos of lagoon ecosystems: a comparison in vegetated and bare sediments

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Paolo Magni
paolomagni@cnr.it
Consiglio Nazionale delle Ricerche, Istituto per lo Studio degli Impatti Antropici e Sostenibilità in Ambiente Marino (CNR-IAS), Località Sa Mardini, Torregrande, Oristano, Italy.

Maria Flavia Gravina
Consiglio Nazionale delle Ricerche, Istituto per lo Studio degli Impatti Antropici e Sostenibilità in Ambiente Marino (CNR-IAS), Località Sa Mardini, Torregrande, Oristano; Dipartimento di Biologia, Università di Roma "Tor Vergata", Rome, Consorzio Nazionale Interuniversitario per le Scienze del Mare (CoNISMa), Rome, Italy.

Abstract

The classic paradigm, not always unequivocal though, that seagrass macrobenthic abundance and diversity are greater than those in adjacent unvegetated areas, was tested in a Mediterranean lagoon for which evidence is lacking. We compared the community structure and species composition of macrobenthic assemblages in three distinct areas of the Mistras Lagoon (Sardinia, Italy) dominated by i) the seagrass *Cymodocea nodosa* (Cym), ii) mixed-macrophyte/detritus (Mix), and iii) unvegetated sediments (Unv). Samplings were conducted in each area twice in spring (April and May) and twice in autumn (October and November) 2010. Multivariate analyses showed significant differences among the three areas and a marked separation between the two vegetated (Cym and Mix) and the unvegetated (Unv) areas. The top discriminating species, indicated by SIMPER analysis, were characterized by direct development lacking free living larvae. They included marine species, e.g. *Cerithium lividulum*, *Microdeutopus gryllotalpa*, *Loripes orbiculatus* and *Gammarus aequicauda*, at Cym vs Mix, whereas the pair discrimination of the areas Cym vs Unv and Mix vs Unv mostly depended on the marine *Abra tenuis*, the opportunistic Chironomidae and *Capitella capitata*, and the brackish *Hydrobia acuta*. Both vegetated areas showed a higher species number than the unvegetated area. Differently, abundance was higher in Unv than in Cym and Mix in all sampling dates, most notably in spring likely because of reproductive events, due to both opportunistic (*C. capitata*, chironomids) and halolimnobiic (*H. acuta*, *Cerastoderma glaucum*) species. Overall, the present study demonstrated the importance of biological factors in structuring the macrobenthic assemblages of the Mistras Lagoon. Habitat-forming phanerogams hosted species-rich assemblages, species-specific reproductive cycles and adaptive strategies contributed to drive species colonization and abundance distribution. Both vegetated and unvegetated patches were found to contribute greatly to the local-scale heterogeneity of the habitat, highlighting the importance of coastal lagoons as hotspots for benthic biodiversity. For these reasons, lagoons must be considered major targets for conservation measures.

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Using historical dataset, the present study demonstrates the importance of habitat-forming phanerogams and species-specific life history traits (e.g. reproductive cycles and adaptive strategies) in structuring the lagoonal macrobenthic assemblages (Mistras Lagoon, Gulf of Oristano). Both vegetated and unvegetated patches were found to contribute greatly to the local-scale heterogeneity of the habitat, highlighting the importance of coastal lagoons as hotspots for benthic biodiversity.

Further analysis of historical datasets as well new field work in the Sardinian BBT are planned within MARBEFES activities...more to come!

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