

Borg, J.A., Lanfranco, E., Mifsud, J.R., Rizzo, M. & Schembri, P.J. (1998) Does fishing have an impact on Maltese maerl grounds? Paper presented at ICES Symposium on *Marine benthos dynamics: environmental and fisheries impacts*. Heraklion, Crete 5-9 October 1998; [abstracts book p.18]

DOES FISHING HAVE AN IMPACT ON MALTESE MAERL GROUNDS?

J.A. Borg, E. Lanfranco, J.R. Mifsud, M. Rizzo, & P.J. Schembri.
Department of Biology, University of Malta, Msida, Malta

The sedimentary bottoms off the northeastern coast of the Maltese Islands are important inshore fishing grounds. Between depths of 45m and 80m, these bottoms are characterized by accumulations of unattached calcareous rhodophytes, forming maerl beds. The complex structure of these free-living thalli (rhodoliths) introduces heterogeneity to the otherwise homogenous sedimentary bottoms, thus increasing biotic diversity. Maerl deposits may take hundreds of years to accumulate and their development is strongly correlated with the current and sedimentary regimes and with bottom disturbance, making such beds susceptible to anthropogenic disruption. Two fishing techniques in particular used locally may have an impact on maerl bottoms: *parit* fishing (bottom-set gill-nets) and bottom trawling using an otter trawl. We investigated the effect of the former by experimental fishing on maerl, and that of the latter by studying rhodolith structure, sediment granulometry, and benthic biodiversity of a 20km² maerl bed, part of which is regularly trawled. *Parit* fishing may remove the larger rhodoliths but its impact depends greatly on the strength of the bottom current. The trawled site had more abundant rhodoliths and coarser sediments than the non-trawled site, but a lower sediment organic content. Rhodolith morphology was also different at the two sites. Both sites had a high species richness but low abundance and biomass. Differences in species composition were also noted. These results are discussed in relation to the different environmental characteristics of the two sites, including the role of disturbance, but the relative importance of anthropic activities and natural perturbations is not yet clear.