

Fernandes, J., Castro, J. J., Silva, T., Cruz, T., 2003. Effects of grazing by limpets and littorinids on algae and barnacles in the Port of Sines (SW Portugal). 38th European Marine Biology Symposium, Aveiro, Portugal.

Abstract

Previous studies in the Port of Sines showed that macroepibenthos mid-shore assemblages were similar to those founded in rocky shores outside the port, although the patterns of abundance varied among species. Density of limpet *Patella depressa* was high in exposed areas outside the port (OP) and very low in exposed areas inside the port (EIP). In sheltered areas inside the port (SIP) this limpet was rare or absent. The small littorinid *Melaraphe neritoides* was more abundant in EIP. The SIP were dominated by macroalgae that were rare in the other areas. Barnacles *Chthamalus* spp. were common in all areas reaching greater abundance in EIP. The general hypothesis tested is that grazing by *P. depressa* and/or *M. neritoides* and that the Port of Sines, have an effect on algae and barnacles abundance. This study was made from May to November 2001, at two spatial scales: area - OP, EIP and SIP; shore within each area. Grazers were manipulated using fences in several treatments: presence, reduction or absence of limpets and/or littorinids; clearing of all macrobenthic organisms attached. Limpets had negative effects on macroalgae cover in all studied areas. The same effects by littorinids were only detected in OP. Smaller size and feeding habits of *M. neritoides* may be related with these results. Removal of grazers in OP caused a macroalgae cover increase that attained in six months similar values to those observed in controls located in SIP. In EIP, only clearing treatment registered macroalgae cover similar to values obtained in controls located in SIP. This suggests that Port of Sines doesn't have a direct effect on macroalgae abundance in the habitat studied. In SIP the dominance of macroalgae is probably due to limpets absence. In EIP, in spite of limpets reduced densities, it is likely that the higher barnacle cover can have a negative effect on macroalgae.