



## **Alien fauna associated with hard substrate of Civitavecchia harbour**

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Marine benthic macroinvertebrates represent an extremely important group of organisms, as they are involved in organic matter reworking and represent a food source for many demersal and nektonic species. Within the harbour basins, these organisms are subjected to multiple stressors: pollution, temperatures rising, resources redistribution. Alien species introduced by ships (fouling and ballast water), generally more resistant to these stressors, can affect local biodiversity and cause ecosystems alterations. In recent years, the introduction rate and the spread of invasive alien species are rapidly increasing; today these organisms are considered one of the main anthropogenic threats in all oceans and the second cause biodiversity loss on a global scale. In this work the macrozoobenthic communities associated to the anthropogenic hard substrates of the Port of Civitavecchia are analyzed and described, with the aim to reconstruct the community structure and to report the presence of alien species, trying to underline the introduction vectors and the potential effects that these organisms have on local communities and on native species.