

Study of the macrozoobenthic community within the Grand Harbour, Valletta, Malta

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Benthic invertebrates, in view of their rapid and consistent responses to natural or anthropogenic stress, are widely used to assess the status of and anthropogenic impacts on the marine environment. The present study (carried out in the BIODIVALUE Project PO ITALIA-MALTA 2007-2013) reports on the preliminary description of the macrozoobenthic community within the Grand Harbour, of Valletta (Malta, Central Mediterranean), analyzed as a proxy of the degree of sediment pollution. This port is exposed to different levels of anthropogenic pressures and impacts as a result of several activities, such as electrical powerstations, vessel repair and decommissioning, grit-blasting, shipping and maritime traffic.

Benthic macrofauna was collected by means of a 0.1 m² Van Veen grab during June 2013, at six sampling stations from 4.5 to 23 m depth. Univariate and multivariate statistical analyses were applied in order to identify any possible differences in the benthic community structure at the different sampling stations and to investigate any putative correlations between such data and granulometric one; the presence and distribution of plastic debris (marine litter) were also examined. A total of 1385 specimens belonging to 41 families were recorded. Cirratulidae, Corbulidae, Spionidae and Capitellidae were the most abundant families, testifying of a generalized condition of environmental instability, with peaks of disturbance that may be related with human activities. A direct link between benthic assemblages and distribution of plastic debris has not been found.