

THE EFFECT OF SEVERELY CONTAMINATED SEDIMENTS OF THE MAR PICCOLO OF TARANTO (IONIAN SEA, ITALY) ON FREE-LIVING NEMATODES

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Since the 1960s, industrial activities have been affecting the Mar Piccolo of Taranto (Ionian Sea, Italy). At present, the largest steelworks in Europe, a navy arsenal and other smaller industrial plants are responsible for severe contamination of the basin by disposing heavy metals, polycyclic aromatic hydrocarbons and polychlorinated biphenyls via sewage discharge, dumping and river runoff. Recent studies highlighted that benthic microalgae, meiofauna and macrofauna are affected by contamination, as indicated by their low abundances and poorly structured communities, especially in the sediments nearby the navy arsenal, the main source of pollution. Furthermore, the functioning of the benthic ecosystem seems inhibited both in terms of microalgae production and microbial processes of C reworking, indicating a modest transfer of C both into a solid microbial loop and to the higher trophic levels if compared to less contaminated sediments. Nematodes represent the dominant meiofaunal group at all the investigated sites, and may therefore fulfill an important and large portion of the ecological role of meiofauna. The present study represents the most thorough description of nematofauna of the Mar Piccolo, being focused on nematodes composition, presence of sensitive/tolerant genera and trophic traits. In this study, we investigate the nematode community from four sites that were sampled twice (June 2013 and April 2014): St. 1E, adjacent to the main channel that connects the basin to the open sea; St. 1I, nearby the navy arsenal; St. 2C, in the innermost part of the basin; St. 2B, in an intermediate position between St. 1I and St. 2C. Preliminary results show dissimilar taxonomic composition among stations, reflecting different responses of nematodes to contamination. Genera known to tolerate disturbed environmental conditions, like *Daptonema* and *Terschellingia*, were dominant nearby the navy arsenal. With the increasing distance from the main source of pollution, i.e. at St. 2B and in particular at St. 2C, more sensitive genera were observed, like *Halalaimus*. At St. 1E the co-presence of tolerant taxa (*Terschellingia*) with sensitive ones (*Marylynnia*) suggested that the ingression of marine water through the channel could favor the survival of the latter, partly counterbalancing the negative effects of the contamination.