

Effects of the non-indigenous bivalve *Ruditapes philippinarum* on meiofaunal communities of the Tagus estuary

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The Manila clam, *Ruditapes philippinarum*, whose native range is in the eastern Pacific, has dispersed worldwide. It has been introduced into several European coastline locations over the last 30 years and it has established wild populations at large areas. Although impacts of this non-indigenous specie have been documented in several invaded systems, there are no studies addressing changes associated to the colonization of portuguese systems. The major goal of this study was to investigate the response of meiofauna assemblages, particularly nematodes, to the occurrence of the Manila clam and density in the Tagus estuary, Portugal. Meiofauna samples were collected at 40 sampling stations distributed along the Tagus estuary gradient within the known occurrence area of *R. philippinarum*. Density, diversity and trophic composition patterns were determined to investigate the effects of i) spatial distribution patterns and abundance of *R. philippinarum* and ii) environmental variables on meiofauna/nematodes communities. The obtained results showed that nematodes are the most abundant meiofaunal taxa in Tagus estuary. Although the nematode community distribution pattern was mainly structured by environmental factors, *R. philippinarum* densities also played an important role. As benthic infauna can profoundly influence nutrients cycling and since food is an important limiting factor for many benthic populations the densities of *R. philippinarum* may be inducing changes in the estuary via food web interactions. In this study we suggest that those changes are probably the result of reduced access of meiofauna to potential food sources and/or increased availability of additional organic matter sources by deposition of feces. This study also shows that the use of meiofaunal communities, particularly nematodes, can be an extremely valuable tool to detect early levels of disturbance in aquatic ecosystems caused by the presence of non-indigenous species.

Meiobenthic distribution and nematode community structure in estuaries of Primorye region (Russia, the Sea of Japan)

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Meiofauna from the intertidal zone of estuaries (Razdolnaya, Sukhodol and Avvakumovka) was investigated. Samples represented a cross section of various benthic habitats from near-freshwater to marine, from pure silts to fine-sandy bottoms. River's estuary meiobenthos is characterized by significant fluctuations in the density and taxonomic composition. Eleven taxonomic groups Acarina, Amphipoda,