



Effects of heavy metals pollution on benthic foraminifera assemblage: the Gulf of Gabes, Tunisia

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Benthic foraminifera are amongst the most abundant protists found in huge marine and brackish water habitat. During the last few decades, many researches had been focused on using benthic foraminifera as bioindicators of marine pollution caused by industrial, domestic and agricultural waste, oil or heavy metal contamination. The aim of this research is to investigate heavy metals pollution in superficial sediments in two industrial locations at the Gulf of Gabes and to examine the reaction of benthic foraminifera towards metallic concentration. The Gulf of Gabes, located on the eastern coast of Tunisia, is regarded as an extremely vital zone and considered as one of the most important area for fishing in the country. During last years, the coastal area of this region had known an important demographic and industrial development, leading to the presence of uncontrolled discharge. Fifteen superficial sediment samples were collected along the coastline of Skhira and Ghannouch- Gabes. They have been analyzed for Al, Cd, Cr, Cu, Pb, and Zn concentrations as well as for the species composition of benthic foraminifera. Results show three levels of metallic contamination with high concentration of cadmium and zinc. Thirty five benthic foraminifera species were identified. *Ammonia parkinsoniana*, *Ammonia beccarii*, *Peneroplis planatus*, *Triloculina trigonula* and *Adelosina longirostra* are the most abundant and common species. Increasing pollution results in a lower species diversity as well as population density, with the presence of a barren zone, and more frequent abnormal specimens. A complementary statistical analysis (PCA/FA and matrix correlation) shows that heavy metals are resulting from the same anthropogenic source and negative correlation between faunal parameters (density and diversity) and pollutants concentrations.