

Seasonal changes in macrobenthos at Basatin mangrove creeks, Bay of Nayband, The Persian Gulf, Iran

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Abstract

This study was aimed at examining the seasonal changes in macrobenthos of Basatin mangrove creeks in Bay of Nayband, for one year from July, 2010 to May, 2011. The faunal samples, in three replicates, were collected through sieving from 25 × 25 cm² quadrates at three stations in mouth, middle and end of creek. A separate portion of sediment was collected and analyzed for textural and total organic content in each station. The environmental parameters such as water temperature, salinity, pH and dissolved oxygen were also measured by a Horiba multi-probe.

Altogether 33 macrobenthic species (belonging to four phyla) were collected and identified of which Gastropoda dominated the population (11 species), followed by polychaetes (9 species), crustaceans (7 species), and Bivalvia (6 species); however in summer, the most abundant macrobenthic was *Paphia galus* from Bivalvia at 2096 individuals/ m⁻².

The sediment was composed of fine sand (90.2%) in the mouth of Basatin creek and silty-clay (67.7%) in the end of it.

The correlation between physic-chemical parameters and faunal abundance was tested with Pearson correlation and indicated that pH was significant ($P < 0.05$) in controlling the distribution of macrobenthic species encountered.

Results of biodiversity indices revealed that the higher average of Shanon index belong to Gastropoda in Autumn season and in the mouth of creek (0.961) otherwise Simpson index belongs to bivalvia and Summer season and the mouth of creek (0.584) and Margalef index belongs to Bivalvia but in Autumn season and in the end of creek (16.61). The construction of small bridges was impacted on abundance and distribution of macrobenthos into Basatin mangrove creek.

Keywords

macrobenthos, Basatin mangrove creek, Bay of Nayband, The Persian Gulf