

Benthos diversity in Yanbu mangrove conservation sites - Red Sea shoreline

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Abstract

The mangrove stands (*Avicennia marina*) and adjacent habitats in Yanbu region are considered to be significant of their type along Red Sea coast between Jeddah and Gulf of Aqaba. The mangrove stands fringing the Yanbu shoreline are not dense communities due to the climatic effects of the desert and of high salinity of Red Sea. The mangrove trees at Yanbu tend to be shrubby and their height is limited due to lack of river estuaries. A monitoring program for three conservation areas in Yanbu mangrove region (designated as CA1, CA2 & CA3) was designed with studies on sediments and on macro-benthos to recognize the benthic species that may serve as the baseline data for future studies. Thirty species/taxa of macrobenthos were identified in the region during the one-year study period. The population density of macrobenthos was marked with the polychaete worms dominance (33%), followed by nematodes (28%) and pelecypod shells (20%). Two major animal groups shared dominance at CA1 with the pelecypod shells (44%) and nematode worms (43%), CA2 was dominated by nematode worms (40%) and CA3 had 66% of polychaete worms. The species diversity was very low for all three areas with the lowest value (1.04) for CA1. The high silt and clay fraction in sediments at CA1 accounts for the dominance of two species, namely, nematode and a species of mud dwelling shell, *Brachidontes variabilis*. The dominance of polychaete worms at CA3 was attributed to high percentage (82%) of sand. The grain size of the sediment tends to limit the existence of benthos species, as other environmental parameters were within the normal range and at the moment not critical to community structure in the mangrove conservation areas. The macrobenthos population was highest in the Yanbu port area and lowest in the community area, which had been recently dredged.

Keywords

species diversity, Shannon Index, population evenness