Biodiversity Indices for Macrobenthic Community structures of Mangrove Forests, Khamir Port, Iran

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Abstract : The diversity of mangrove macrobenthos assemblages at mudflat and mangrove ecosystems of Port Khamir, Iran were investigated for one year. During this period, we measured physicochemical properties of water temperature, salinity, pH, DO and the density and distribution of the macrobenthos. We sampled a total of 9 transects, at three different topographic levels along the intertidal zone at three stations. Assemblages at class level were compared. The five most diverse and abundant classes were Foraminifers (54%), Gastropods (23%), Polychaetes (10%), Bivalves (8%) & Crustaceans (5%), respectively. Overall densities were 1869 ± 424 ind/m2 (26%) in spring, 2544 ± 383 ind/m2(36%) in summer, 1482 ± 323 ind/m2 (21%) in autumn and 1207 ± 80 ind/m2 (17%) in winter. Along the intertidal zone, the overall relative density of individuals at high, intermediate, and low topographic levels was 40, 30, and 30% respectively. Biodiversity indices were used to compare different classes: Gastropoda (Shannon index: 0.33) and Foraminifera (Simpson index: 0.28) calculated the highest scores. It was also calculated other bio-indices. With the exception of bivalves, filter feeders were associated with coarser sediments at higher intertidal levels, while deposit feeders were associated with finer sediments at lower levels. Salinity was the most important factor acting on community structure, while DO and pH had little influence.

Keywords : macrobenthos, biodiversity, mangrove forest, Khamir Port

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