

Ecobiological Study of Intertidal Rocky–Sandy Ecosystems in Ouli (Dayyer, Persian Gulf)

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Abstract

In order to assess the ecological status of intertidal ecosystems in intertidal area of Ouli (Dayyer, Persian Gulf) sediment samples, and epifaunal organisms were collected. Total organic matter, grain size analysis and identification of infaunal macroinvertebrates were important measurement parameters. Sampling was performed during three seasons of warm (summer 2009), moderate (autumn 2009) and cold (winter 2009-10) from three tidal levels including high, mid and low tide of Harbor, Residential and Methanol transects. Environmental variables (e.g. temperature, salinity and pH) were simultaneously recorded. In the laboratory, Rose Bengal vital staining, dry sieving and burning methods were applied for identification of macrofauna. Grain size analysis and TOM were calculated. Ecological indices including species diversity, dominance, richness and evenness in two size levels of infauna and epifauna were also measured. The highest Shannon index was 1.092 during summer season. Temperature and salinity didn't show any significant seasonal differences ($P < 0.05$) in each station. Moreover, pH average (8.05) did not differ significantly. One of the most important variables influencing the ecological characteristics especially the infaunal assemblages of the study area was grain size. The highest abundance of benthic infauna was $54 \pm 4/9$ Ind.m² in Residential station and the lowest $22 \pm 2/3$ Ind.m² in Methano station. The present study revealed 16 animal taxa in Ouli area of the Persian Gulf.

Keywords: *Intertidal ecosystems, Macrofauna, Ecological indices, Bushehr, Persian Gulf.*
