

An investigation on macro benthic fauna of Southwestern of Anzali Lagoon and the relation of organic material to macro invertebrates

Jalili, Mahshid^{1*}; Negarestan, Hossein²; Safaeiyan, Shila³

1- Iranian National Institute for Oceanography, Tehran, I.R. Iran, Email: m_jalili@inco.ac.ir

2- Iranian Fisheries Research Organization (IFRO), Tehran, I.R. Iran, Email: hosseinnegarestan@yahoo.com

3- Faculty of Marine Science and Technology, Islamic Azad University, TehranNorth Branch, Tehran, Tehran, I.R. Iran, Email: shila2462462@yahoo.co.in

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*Correspond Author

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Abstract

Macrobenthic assemblages of the Anzali lagoon were studied in order to investigate their population density, distribution and abundance. Anzali lagoon with an area of 200 km² is situated in the south-west of the Caspian Sea. Samples were obtained in 4 stations seasonally and taken with a 250 Cm² Van Veen grab in Anzali lagoon from spring 2006 to winter 2006 with 3 replicates. Environmental factors such as temperature, grain size, T.O.M, salinity, pH and dissolved oxygen were also studied. 36 taxa were identified to species or lowest taxonomic level. The most abundant recorded species were *Chironomus*, *Scirtes tibiolis*, *Ambrysus mormon* of insecta, and *Tubifex* of Oligochaeta, which present in samples through the study area. However *Valvata cristata* of Gastropoda was observed only in summer. According to the results, the Shannon-wiener index fluctuated between lowest up to 2.64. Abundance and diversity of macroinvertebrates were maximum in spring and autumn. In spring it can be related to spawning and recruitment of the macrobenthos in Siah Keshim Wetland. In autumn however, greater amount of invertebrates in the environment can be as a result of reduction in water temperature which diminishes the feeding rate of predatory fishes. Summer and winter benthic invertebrates of Siah Kashim were lower in number and diversity. Most fishes of Anzali Lagoon are benthic feeders, so in summer when water temperature rises, they become more active in feeding macrobenthos. As a result their frequency and diversity reduces in summer. Winter in Siah Kashim coincides with death of many macrophytes, which provide space for aggregation of insect larvae as benthic animals. This may cause a reduction in benthos of Siah Kashim in winter.

Keywords: Anzali lagoon; Macrobenthos, Distribution; Abundance and Diversity
