

An Investigation of the Relation Between Dominant Orders of Macrobenthos and Environmental Parameters in the Southern Caspian Sea Using Canonical Correspondence and Principle Component Analyses

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Abstract

The aim of this study was to find the relations between macro-benthos dominant orders and environmental parameters using mono and multivariate analysis in the southern part of the Caspian Sea in 2009-2010. 160 samples were collected in four seasons and in eight transects perpendicular to the coast from depths of 5, 10, 20, 50 and 100 meters. Results of the current study showed that Polychaeta had the highest abundance compared to other main orders (Oligochaeta and Crustacea). Results also indicated that CCA test was more compatible with ecological evidences compared to mono and other multivariate analysis (PCA). The CCA results showed that Polychaeta was in inverse relationship with TOM and silt-clay, while the Oligochaeta was directly related to sediments characteristics (TOM) and in inverse relationship with environmental parameter (DO%). The dominance of deposit feeder group of Polychaeta (*Streblospio* genus from Spionidae) indicates high level of organic matter in sediment and trophic status of ecosystem.

Keywords: *Macrobenthos, Environmental parameters, Multivariate analysis, Caspian Sea.*
