

Biodiversity and Distribution of free living nematodes of Bandar Abbas areas in relation to environmental conditions

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Abstract

In this article, the biodiversity and distribution of free-living nematodes in the upper third of the tidal zone of Bandar Abbas city were investigated in relation to the bed conditions in three different stations (Soro, Gur Suzan and Khor Yaksheba) in June 2017. Sampling was carried out at each station during low tide with a hand corer with a diameter and height of 5 cm (with an area of 19.625 cm²) and in five replicates with a distance of 3 meters. The total number of nematodes and biological indices, as well as the percentage of sediment granularity, organic matter content and the pH of sediments were also measured at each station. The highest percentage of sand and the lowest percentage of clay and pH were seen in Gorsozan station. A total of eight genera (*Bathylaimus*, *Daptonema*, *Metalinhomoeus*, *Prochromadorella*, *Promonhystra*, *Sabatieria*, *Spilophorella*, *Viscosia*) were identified in the study area. The highest number of genera were found in Khor-e-Yekshabeh (five genera) and Gorsozan, and the lowest were observed in Suru (two genera). The highest density was recorded in Khor-e-Yekshabeh (3482.40±928.38), followed by Gorsozan (636.04±157.37) and Suru (27.65±3.20). The highest and lowest Shannon's index were calculated in Gorsozan (0.64±0.06) and Suru (0.04±0.02) stations, respectively, and the lowest evenness index was calculated in Suru station (0.02±0.01). Based on DistLM analysis, two factors clay (p = 0.033) and pH (p = 0.015) had a significant effect on the distribution of nematode community in Bandar Abbas beach.

Keywords: free living nematodes, distribution, sediment condition, Bandar Abbas, intertidal area, Persian Gulf.