Trend of Meiobenthos Density and Composition in Karah Island, South China Sea

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Abstract

Meiobenthos in Baling Archipelago in coastal water of the South China Sea is hypothesised to have a certain trend of distribution particularly in the intertidal ecosystem where it is usually having different type of sea bottom. However, since it is located in a tropical area, the trend at the subtidal could be less obvious due to absence of low season. Meiobenthos sampling was carried out in Karah Island, an island in Baling Archipelago, from the intertidal, towards the subtidal zone covering the coral and non-coral area to see the trend in the density and composition. A transparent hard core was used to collect benthic samples. Nematodes and harpacticoid copepods dominated the intertidal and subtidal zone respectively. Harpacticoid copepods were higher in density in the non-coral sediment than the coral area. This could be due to the high content of silt and clay in the coral area (26.06% of silt and clay). The 2-dimensional IODP analysis on the density data indicated a high degree of scattering and an overlapping condition for these intertidal and subtidal samples respectively. ANOSIM results showed that the density of species, category, and area type (intertidal) (83.2%) and the subtidal (10.01%) in the first sampling were both significantly different in the second sampling. It could indicate the possible condition in the subtidal than the intertidal ecosystem. The comparability low density of meiobenthos could indicate their response towards the environmental condition in the areas which will only be confirmed by long term ecological study.

Keywords

Author Keywords: Harpacticoid, island, meiobenthos, nematode, South China Sea

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Trend of meiofauna density and composition in Karah Island, South China Sea

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Abstract

Meiofauna in shallow coastal areas of the South China Sea is hypothesized to have a certain trend of distribution particularly in the basin's ecosystem where it usually having different type of sea bottom. However, since this area located in the tropical area, the trend of the meiofauna could be less obvious due to the effect of seasonal variation. Meiofauna sampling was carried out in Karah Island, an island in the South China Sea, from the intertidal to the subtidal zone. Two sampling transects were carried out at the intertidal and subtidal zone respectively. The data obtained were higher in density and biomass than the intertidal. This could be due to the high content of soft and clay in the coral area (2.99% of soft and clay). The 2-Dimension DEC analysis on the density data indicated the highest degree of scattering and the overlap of species in the intertidal and subtidal samples respectively. ANOVA result showed that the degree of similarity was lower at the intertidal (79%) than the subtidal (94%). The first sampling transect with higher species richness is significant different in the second sampling. It could indicate the similar condition in the subtidal than the intertidal ecosystem. The copepods were the dominant group of meiofauna which response towards the environmental conditions in the area which will be confirmed by long-term ecological study.

Author keywords

Harpacticoid, Isopoda, Copepoda, Haparacticoida, Nematoda

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