

**VERTICAL DISTRIBUTION OF NEMATODES (NEMATODA)
AND HARPACTICOID COPEPODS (COPEPODA:
HARPACTICOIDA) IN MUDDY AND SANDY BOTTOM OF
INTERTIDAL ZONE AT LOK KAWI, SABAH, MALAYSIA**

Shabdin Mohd. Long

*Faculty of Resource Science and Technology, University Malaysia Sarawak,
94300 – Kota Samarahan, Sarawak, Malaysia*

Othman B. H. Ross

*Zoology Department, Life Science Faculty, Universiti Kebangsaan Malaysia,
43600 – Bangi, Selangor, Malaysia*

ABSTRACT. - The approach taken in the present study was to perform a sampling of the nematodes and harpacticoid copepods and to measure certain pore water parameters in muddy and sandy sediments. The Redox Potential Discontinuity (RPD) layer in muddy sediment occurred within the top few millimetres. This contrasted strongly with the deep RPD layer found at the similar tidal height on the sandy sediment. The difference in redox conditions between the muddy and sandy sediments is possibly due to the differences in hydrodynamism. The bulk of nematodes in sandy was found a little deeper than muddy areas. The activity of the many burrowing animals in the muddy and sandy areas may play a role in the oxidation of the sediments and thus influence the vertical distribution of the nematode and harpacticoid copepods. The vertical nematode species showed zonation vertically from the surface to the 30 cm depth of the sediment. The occurrence of the nematode species below the RPD layer indicated their ability to tolerate sulfides and to utilize the high density of microbial organisms in this layer. The presence of low concentration of dissolved oxygen of the pore water was also responsible for the vertical distribution. The nematodes feeding groups 1A (selective deposit feeders), 1B (non-selective deposit feeders) were abundant in the top 15 cm, whereas the 2A (epigrowth feeders) group was abundant in the top 5 cm of the sediment layer. Their distribution was related to the availability of food such as benthic diatom and other algae in the sediment.

KEY WORDS. - Nematodes, Harpacticoid copepods, vertical distribution.

Received 10 Aug 1998 Accepted 19 Apr 1999