

Spatial and temporal variation of zooplankton in Sepanggar bay, Sabah

ABSTRACT

Zooplankton spatio-temporal distribution and the community dynamics corresponding to environmental changes were studied in Sepanggar Bay, Sabah. Samples were taken in horizontal tows using a 140 μm net at nine stations during four study periods; June, October 2017 and March, June 2018, coinciding with the SW, NE and intermonsoon seasons. Zooplankton were enumerated and identified to the lowest taxonomic level possible. All in-situ parameters measured in this study were significantly different among monsoons ($p < 0.05$), but not spatially. In total, 110 zooplankton taxa were observed and copepods were dominant (70% of total composition) and were most abundant during intermonsoon (40610 ± 48437 inds. / m^3). Similarly, maximal zooplankton abundance was during Intermonsoon with the mean of 47628 ± 55488 inds. / m^3 . Zooplankton abundance showed significant monsoonal variation among seasons ($p=0.01$). Chlorophyll-a concentration peak period coincided with zooplankton abundance peaks, which was during Intermonsoon. Temperature showed positive correlation with total zooplankton and copepod abundances. In summary, the zooplankton abundance and composition is more sensitive to the changes in monsoon than that in space.