

Monsoonal changes in the planktonic copepod community structure in a tropical coral-reef at Tioman Island, Malaysia

Abstract

In order to test the hypothesis that species composition of planktonic copepods varies with seasonal monsoons in tropical coral reef waters of South East Asia, we investigated the copepod community structure in a coral reef of Malaysia over different monsoonal periods (the southwest, the northeast and inter-monsoons). Small copepods such as *Paracalanus elegans* and *Oithona* spp. were the predominant taxa, comprising 65%–78% of the total copepod abundance and occur throughout the year. The relative abundance of these dominant copepod species showed no clear seasonal pattern in abundance, suggesting that their populations are relatively stable. Yet, significant differences in the composition and abundance of the remaining non-dominant species resulted in distinctive seasonal communities of copepods being detected. Multivariate multiple regressions revealed that the community structure and species composition fluctuates with monsoonal variables (wind velocity and direction, water temperature) and POC concentration, emphasizing that the differences in water source and food availability are important factors in shaping the distinct structure of the copepod assemblages in tropical coral reef waters of South East Asia.