Spatial and temporal variations in Strombus canarium (Gastropoda: Strombidae) abundance at Merambong seagrass bed, Malaysia

ABSTRACT

The abundance of marine benthic organisms often exhibits distinct distributional patterns, which is generally governed by many physical and biological factors specific to the habitat. In this study, the spatial and temporal variations in abundance of the dog conch, Strombus canarium Linnaeus 1758, a commercially important marine gastropod, was investigated. Assessment of conch abundance at Merambong seagrass bed, Malaysia, was conducted using a transect belt method. Sampling stations were randomly selected and environmental parameters associated with the habitat were recorded. The species showed distinct spatial distributional pattern. Conch densities were significantly higher in sheltered areas, mainly in mixed seagrass bed dominated by Halophila spp. and with high sediment organic content. The densities were relatively very low in areas dominated by the tape seagrass, Enhalus acoroides. The species studied also showed distinct temporal variation in abundance. The abundance value was seasonally varied with highest density recorded during the wet monsoon season ($p<0.05$). The densities were otherwise very low during the dry season, except for a slight peak in July. Since the conch is a very important fishery species within the Johor Straits and regulations on their harvesting is still lacking, this information would be very important for their sustainable management.

Keyword: Abundance; Conch; Density; Population dynamics; Seagrass; Strombidae