

Composition and diversity of larval fish in the mangrove estuarine area of Marudu Bay, Sabah, Malaysia.

Abstract

The composition of fish larvae and their diversity in different habitats are very important for fisheries management. Larval fishes were investigated in a mangrove estuary of Marudu Bay, Sabah, Malaysia from October 2012 to September 2013 at five different sites. Monthly samples of fish larvae were collected at five sampling sites by a plankton net with a mouth opening of 40.5 cm in diameter. In total, 3879 larval fish were caught in the investigated area. The mean density of ichthyoplankton at this area was 118 larvae/100 m³. The fish larval assemblage comprised of 20 families whereas 13 families occurred at St1, 16 at St2, 16 at St3, 12 at St4 and 16 at St5. The top major families were Sillaginidae, Engraulidae, Mugilidae and Sparidae with Sillaginidae consisted 44% of total larval composition. St3 with 143 larvae/100 m³ had the highest density amongst the stations which was due to higher abundance of Sillaginidae. Shannon-Wiener diversity index represented significant variation during monsoon and inter-monsoon seasons, peaking in the months December-January and May-June. However, Shannon-Wiener index, evenness and family richness showed significant differences among stations and months ($p < 0.05$).

Keyword: Composition; Diversity; Fish larvae; Malaysia; Marudu Bay; Sabah