

Community Ecology of Polychaeta (Annelida) in Soft Bottom Macrobenthos of Southern South China Sea

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This study specifically embarks to determine the community structure of polychaetes and their relationship with sediment parameters. The sampling was conducted in April and July 2011 at 43 sampling stations covered offshore areas of Pekan-Dungun, Kuala Terengganu and Kudat-Balambangan Island. Polychaetes (n=5) were sampled by Smith McIntyre grab (0.1 m²). Sediment was sieved through a wire mesh sieves (5.0, 3.0 and 0.5 mm) and fixed with 10% buffered formalin. In the laboratory, polychaete samples were rinsed, sorted, counted, identified and preserved in 70% ethanol. A total of 12,477 individuals of polychaetes were recorded and grouped into 47 families. Family Spionidae was found to be the most dominant family 17.7%. The mean total density of polychaetes at Kudat-Balambangan Island (670±213 individuals/m²) and Pekan-Dungun (612±215 individuals/m²) ($p>0.05$) was significantly higher compared to sampling station at offshore Kuala Terengganu (420±167 individuals/m²) ($p<0.05$). The mean value of diversity (3.88 to 5.65) differ significantly ($p<0.05$) however evenness index (0.72 to 0.92) did not differ significantly ($p>0.05$) between all study areas. The density of polychaetes has a significant correlation ($p<0.05$) with the percentage of silt and organic

carbon in the sediment. Besides, the polychaetes was relatively highest at the stations dominated by silty-clay, silty-clay-loam and silt-loam and stations located nearer to the shore (depths below 60 m).