
Diversity of the macrobenthic assemblage in the Mundal Lagoon, Sri Lanka

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There is a dearth of published information on the diversity of macrobenthic assemblages in lagoons. Therefore, we examined the diversity and composition of macrobenthos in the Mundel Lagoon in the northwestern province in Sri Lanka. Eight sites were selected considering the attributes in side of the lagoon. Macrobenthos samples were collected using Ekman grab sampler from May to July 2018 monthly basis. Water quality analysis was conducted in *in situ* and laboratory. Results revealed that 12 genus of macrobenthos (*Haminoeid* sp., *Littorinid* sp., *Nassariid* sp., *Naticid* sp., *Cerithiidea* sp., *Cerithiidea* sp., *Nodilittorina* sp., *Geloina* sp., *Mytilus* sp., *Peaneus Indicus*, *Nereidid* sp., *Pilargidiid* sp.) belonging to 11 families and four classes (Gastropoda, Bivalvia, Crustacea, Polychaeta) were recorded. Among them, two species of Polychaeta, and Bivalvia, seven species of Gastropoda, and one species of Decapoda were found. The highest and lowest abundance were recorded from the family Cerithiidae (53.10%) and Nereididae (0.21%) respectively. The highest and the lowest abundance of macrobenthos were found in the sampling sites, ML3 (middle area of the lagoon), and ML6 (proximity to shrimp farm and saltwater factory outlets) respectively. The Pearson correlation analysis showed there was no correlation between macrobenthos abundance and physicochemical parameters ($p > 0.05$). This would be due to the short study period, and bottom water quality mainly affects the macrobenthic assemblage. Shannon diversity index (H') of the sites, ML1 to ML8 were 1.18, 1.57, 1.25, 1.59, 1.37, 0.56, 0.62, and 1.32 respectively. In conclusion, H' confirmed that ML6, and ML7 showed “poor” whereas other sites showed “moderate” stress conditions.

Keywords: Diversity, Macrobenthos, Mundel Lagoon, Shannon diversity index

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