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Intertidal macrofaunal and macroalgal diversity in the Southern coastal belt of Sri Lanka

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Southern coastal belt in Sri Lanka is characterized by unique ecosystems providing secure habitats for intertidal floral and faunal communities. Biodiversity assessment of these communities is important for recognizing ecosystem changes in coastal environment prior to implementing management and conservation programmes. A biodiversity survey on the intertidal invertebrates and macroalgae along this coastal belt was carried out using systematic aligned sampling method. The sampling was made from the uppermost part to low waterline of the intertidal zone at 12 selected beaches (i.e. Hambantota, Godawaya, Rekawa, Tangalle, Dickwella, Polhena, Mirissa, Weligama, Unawatuna, Galle fort, Dodanduwa and Hikkaduwa) covering 3 Districts (Hambantota, Matara, Galle) along the coastline during July-October 2018. The sampling sites were selected by preliminary investigation considering commercial importance such as the recreational and fishery activities. According to the results, Shannon-Wiener diversity index (H') ranged from 1.61 to 2.86. Biodiversity of the respective ecosystem is spatially varied significantly ($p<0.05$). Overall results indicated 44 species belonging to Phylum Arthropoda, Mollusca, Echinodermata, Coelenterata, Porifera, Division Chlorophyta, Rhodophyta and Phaeophyta. Macroinvertebrates in Phylum Mollusca (> 50% of species richness) and macroalgae in Division Chlorophyta (> 16% of species richness) dominated the invertebrate and algal components of the intertidal community respectively. The findings of the current study could be used as baseline data when implementing coastal conservation programmes along the Southern coastal region.

Keywords: Biodiversity assessment, coastal invertebrates, intertidal zone, macroalgae, Shannon-Wiener diversity index

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