

## A preliminary study on the diversity of seaweeds at Vandalous bay in east coast of Sri Lanka

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### Abstract

Taxonomic study of algae is a key discipline and most important analysis in phycology. Seaweeds are the macroscopic, multicellular algae which are important as primary producers in the ocean. In addition, they have great economical and medicinal importance and also provide shelter and nursery ground for the marine organisms. Records on seaweed research, in Eastern province in Sri Lanka are scarce. Hence, the present study was focused on the diversity of the seaweeds found at Vandalous bay in East coast of Sri Lanka. The primary objective of this study was to assess the species composition and impacts on their current distribution. Twenty sampling points, including various micro habitats (coral, rock and sea grass) in Vandalous bay during low tide were used to assess the diversity and distribution of seaweeds quantitatively during the period from January to May 2018. Further, physio-chemical water quality parameters were measured at the study site such as temperature, dissolved oxygen, turbidity, pH and salinity. Line-transect with point intercept quadrat method was used to assess the distribution in upper intertidal zone ranging up to 20 m to collect the seaweed samples on monthly basis. Collected samples were identified using standard seaweed taxonomic key. The present study revealed 40 species belonging to 28 genera, 20 families, 12 orders and 3 classes of which 43% were green algae, while red algae and brown algae were recorded as 40% and 18% respectively. Cladophoraceae was the most diverse family represented by 5 species. Among the study species, green algae were dominant in which *Halimeda opuntia* was highly abundant and restricted to coral micro habitats. However, red algae shared rocky substrates in addition to the coral micro habitats. *Sphacelaria novae-hollandiae* (brown algae) which was recently recorded as a new species in Sri Lanka was also collected in the present study site. Hotel waste discharges and the tourism soon after cessation of civil unrest were identified as major threats. Further, future studies must be directed for long term investigation on seasonality, factor controlling existence and distribution of seaweeds along the Vandalous Bay in East coast.

**Keywords:** *Composition, Diversity, East coast, Seaweed, Taxonomy*

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