

Preliminary Screening of Marine Algal Species for Isolation of Bioactive Compounds from *Caulerpa racemosa*, *Sargassum crassifolium* and *Ulva reticulata*

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Phytochemicals have been proved to be a reliable pharmaceutical source having beneficial biological activities for the treatment ailments in traditional medicines. In this context, seaweed species have been concerned as one of the important phytochemical sources. The current study explored three seaweed species, *Caulerpa racemosa*, *Sargassum crassifolium* and *Ulva reticulata*. Samples were collected from the southern coast of Sri Lanka and identified to the species level using species keys for macroalgae. The samples were processed to remove foreign material and shade dried prior to two different extraction protocols. As a preliminary step for the identification and isolation of target compounds, the extracts were driven through different screening protocols. Extraction protocols were followed for the phytochemical screening and DPPH scavenging activity separately. Sequential extraction was followed for the assessment of antioxidant activity. Terpenoids, steroids, phenolic compounds, flavonoids, saponins and alkaloids were present in all three species in detectable levels. Considering DPPH radical scavenging activity, methanolic extract of *C. racemosa* has shown significantly higher activity with a mean of 54.41% and methanolic extract of *U. reticulata* has shown a significantly lower activity with a mean of 36.76%. Methanolic extracts of *C. racemosa* and *S. crassifolium* and ethyl ether extracts of *U. reticulata* and *S. crassifolium* have shown significantly higher radical scavenging activity. Water has shown poorer radical scavenging activity for all three species. Based on the results obtained, all three species have active compounds. Polar fractions of *C. racemosa* and *S. crassifolium* and non-polar fractions from *U. reticulata* suitable to use for isolation of bioactive compounds. It is suggested to carry out isolation activities for significantly higher activity fractions of the extracts which could be used to identify appropriate solvent extraction.

Keywords: Marine algae, Bioactive compounds, DPPH, Antioxidant activity, Extract