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Antioxidant Activity, Total Phenol and Pigments Content of Seaweeds Collected from, Rameshwaram, Gulf of Mannar, Southeast Coast of India

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Abstract : The aim of this work is to estimate some in-vitro antioxidant activities and total phenols of various extracts such as aqueous, acetone, ethanol, methanol extract of seaweeds and pigments content by Spectrophotometric method. The seaweeds were collected during 2016 from Rameshwaram, southeast coast of India. Among four different extracts, aqueous extracts from all seaweeds had minimum activity than acetone, methanol and ethanol. The Rhodophyta and Phaeophyta had high antioxidant activity in comparing to Chlorophyta. The highest total antioxidant activity was found in acetone extract fromTurbinaria decurrens (98.97±0.00%), followed by its methanol extract (98.81±0.60%) and ethanol extract (98.58±0.53%). The highest reducing power and H2O2 scavenging activity were found in acetone extract of Caulerpa racemosa (383.25±1.04%), and methanol extract from Caulerpa racemosa var. macrophysa (24.91±0.49%). The methanol extract from Caulerpa scalpelliformis contained the highest total phenol (85.23±0.12%). The Chloro-a and Chloro-b contents were the highest in Gracilaria foliifera (13.69±0.38% mg/gm dry wt.) and Caulerpa racemosa var. macrophysa (9.12 ±0.12% mg/gm dry wt.) likewise carotenoid was also the highest in Gracilaria foliifera (0.054±0.0003% mg/gm dry wt.) and Caulerpa racemosa var. macrophysa (0.04 ±0.002% mg/gm dry wt.). It can be concluded from this study that some seaweed extract can be used for natural antioxidant production, after further characterization to negotiate the side effect of synthetic, market available antioxidants.

Keywords : seaweeds, antioxidant, total phenol, pigment, Olaikuda, Vadakkadu, Rameshwaram
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