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Determination of the antioxidant activity of some common seaweeds in Sri Lanka

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Seaweeds are a natural resource which has become a major ingredient in some commercial food products. Seaweeds contain a broad range of biological properties, including antibiotic, antiviral, antioxidant, antifouling, anti-inflammatory, cytotoxic and antimutagenic effects. The present study was carried out to investigate the antioxidant effect of methanolic extracts of eight seaweed species commonly found in Sri Lankan coastal waters. In this study the 1, 1-Diphenyl-2-Picryl Hydrazyl (DPPH) assay was used to determine the antioxidant properties of the seaweeds. In the DPPH free radical assay, the same concentration of each extract (10,000 ppm) were prepared and mixed with DPPH methanol solution (0.1 mM) After 30 minutes of reaction time the absorbance were measured at 517 nm using UV Visible spectrophotometer. The free radical scavenging activity was calculated and the values were plotted. These values were compared with ascorbic acid and hydroquinone as the standard antioxidants. Of the eight seaweed types, *Asparagopsis taxiformis* (Red Sea plume) showed the highest total antioxidant activity of 90.57 (\pm 0.35) % compared to other species. It exceeded the free radical scavenging activity of ascorbic acid standard 89.62 (\pm 0.35) %. *Ulva fenestrata* (Sea lettuce) is having the lowest total antioxidant activity of 26.41 (\pm 0.59) %. The results revealed that the seaweeds commonly found in the Sri Lankan coastal water exhibit antioxidant activity.

Biography

Surendra Isiri Hiranyada Wickrama currently working as a chemistry demonstrator in Department of Physical Sciences, Faculty of Applied Sciences, Rajarata University of Sri Lanka. Previously she worked as a research student at the Aquatic Products Quality Control Laboratory and Analytical Chemistry Laboratory of Institute of Post Harvest Technology. Done swab tests, water and food quality analysis, histamine detection using HPLC method, salt analysis etc., also she participated in four days training programme conducted by National Aquatic Resource and Research Agency (NARA).

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