



PRELIMINARY PHYCOCHEMICAL SCREENING AND ANTIOXIDANT ACTIVITY OF SOME BROWN ALGAE SARGASSUM SPECIES FROM LAWAAN, EASTERN SAMAR

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ABSTRACT – Methanolic extracts of some Philippine Sargassum species (*S. crassifolium*, *S. polycystum*, *S. gracillimum*, *S. hemiphyllum* and *S. cristaefolium*) were evaluated for their phytochemical constituents and antioxidant properties. The presence of alkaloids, flavonoids, tannins and saponins was qualitatively screened. Total phenolic content was determined using Folin-Ciocalteu reagent in terms of gallic acid equivalents (GAE). Antioxidant activity was evaluated using diphenyl-1,2-picryl hydrazyl (DPPH) free radical scavenging activity assay, and Fe^{2+} chelating ability. Phytochemical studies showed presence of flavonoids, saponins and alkaloids in *S. cristaefolium*. Highest total phenolic content was observed in *S. cristaefolium* (40.8 ± 2.3 mg GA/100 g dry weight). At their highest concentration (100 mg/mL), all algal extracts showed considerably lower free radical activity than ascorbic acid (91%) and butylatedhydroxyanisole (BHA) (74.7%). *S. hemiphyllum*, *S. polycystum*, and *S. cristaefolium* showed strong Fe^{2+} chelating ability at 61.2%, 54.0%, and 51.8%, respectively. The results further revealed that the Fe^{2+} chelating ability of the extracts was dose-dependent and positively correlated to their phenolic content.

Keywords: Sargassum, free radicals, antioxidants, methanolic extracts, phytochemical



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