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# 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 phycochemical 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. Phycochemical studies showed presence of flavonoids, saponins and alkaloids in S. cristaefolium. Highest total phenolic content was observed in S. cristaefolium (40.8 $\pm$ 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, phycochemical*

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