

Qualitative and quantitative screening of biochemical compositions for six selected marine macroalgae from Mediterranean coast of Egypt

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Chemical composition of the six selected macroalgal species (*Colpomenia sinuosa*, *Padina pavonia*, *Sargassum linifolium*, *Pterocladia capillacea*, *Caulerpa racemosa*, and *Laurencia pinnatifida*) obtained from Alexandria coast of Egypt were investigated for proteins, carbohydrates, lipids, vitamins, chlorophylls, total carotenoids, and total phenols. In addition, lipidsoluble, and water-soluble antioxidant, and anti- α -glucosidase activities were measured for these six macroalgal species. The ash contents varied from 11.2 to 35.4 % on a dry weight basis for *P. capillacea* and *Laurencia pinnatifida*, respectively. The protein contents ranged from 5.63 % in brown macroalgae *C. sinuosa* to 8.73 % in *P. pavonia*. A relatively wide range in carbohydrate contents was observed (20.06 – 46.75 %) for the test algal species. The highest lipid percentage was found in green alga *C. racemosa* (5.91%) followed by brown algae *P. pavonia* (3.57%)

and *C. sinuosa* (2.64%). The phenolic contents varied from 1.32 mg GAE/g for *C. sinuosa* to 4.00 mg GAE/g in *P. pavonia*. The lipid-soluble compounds exhibited higher antioxidant capacity (73.18 - 145.95 μ M/g) than that of the water-soluble ones ranging from 24.83 μ M/g in *C. racemosa* to 74.07 μ M/g in *S. linifolium*. The most potent anti- α -glucosidase activity was observed for *P. pavonia* with IC₅₀ of 17.12 μ g/ml.

Biography:

Mary Guendy Naguib Ghobrial was a Professor of Aquatic Plants in Hydrobiology Lab. Marine Environment Division. National Institute Of Oceanography & Fisheries (NIOF) – Ministry Of Scientific Research, Arab Republic Of Egypt (ARE). She did PhD in Botany, Faculty of Science, Alexandria University. She has published 21 research papers.