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

Chemical composition of the six selected macroalgal species (*Colpomenia sinuosa*, *Padina pavonia*, *Sargassum linifolium*, *Pterocladia capillacea*, *Caulerpa racemosa*, and *Laurencia pinnatifidia*) obtained from Alexandria coast of Egypt were investigated for proteins, carbohydrates, lipids, vitamins, chlorophylls, total carotenoids, and total phenols. In addition, lipid-soluble, and water-soluble antioxidant, and anti- $\alpha$ -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 pinnatifidia*, 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  $\mu$ M/g) than that of the water-soluble ones ranging from 24.83  $\mu$ M/g in *C. racemosa* to 74.07  $\mu$ M/g in *S. linifolium*. The most potent anti- $\alpha$ -glucosidase activity was observed for *P. pavonia* with IC<sub>50</sub> of 17.12  $\mu$ 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.

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