Identification of Edible Macroalgae and Isolation of Endophytes in Selected Macroalgae in Hikkaduwa Coastal Area

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There are three main groups of macroalgae(seaweeds); red, green and brown. Some macroalgae species are being used in food applications for centuries in certain countries. Although macroalgae are rich in nutrients, their edible uses are unexploited in Sri Lanka. The diversity of macroalgae is prominent in Hikkaduwa coastal area. Endophytes are endosymbiotic organisms with antimicrobial, anticancer and anti-insect properties, because of their secondary metabolites. These properties are important in food and pharmaceutical applications. Therefore, this study was conducted to identify the edible macroalgae species in Hikkaduwa coastal area and to isolate the endophytes present in macroalgae. Algae was collected with the prior approval of Coast Conservation and Coastal Resource Department and Department of Wildlife Conservation. Collected macroalgae was identified using fresh specimens, photographs, herbarium specimens and available literature. Endophytes study was done by culturing them in potato dextrose agar medium after surface disinfection of macroalgae. Identified green algae were *Halimeda opuntia, Caulerpa imbricata, Caulerpa racemosa, Ulva lactuca, Valoniopsis pachynema, Valonia utricularis* and *Chaetomorpha antennina*. Identified red algae were *Chondracanthus acicularis, Gracilaria canaliculata* and *Gracilaria huangii. Sargassum elegans, Sargassum muticum* and *Sargassum crassifolium* were the species identified as brown algae. Macro algae *Halimeda opuntia, Caulerpa racemosa, Gracilaria canaliculata, Ulva lactuca, Sargassum crassifolium* and *Sargassum elegans* species were identified with potential food applications. Growth of endophytes was observed in *Gracilaria* sp. In conclusion, edible macroalgae and endophytes are existing Hikkaduwa coastal area. However further research and screening are recommended.

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