

Identification of Edible Macroalgae and Isolation Of Macroalgae-Endophytes in Hikkaduwa Coastal Area, Sri Lanka.

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Red, green and brown macroalgae (seaweeds) are the main groups of macroalgae. Some species of macroalgae are well known as a source of food for centuries. Although they 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 associated with antimicrobial, anticancer and anti-insect properties due to their secondary metabolites. These properties of metabolites are important in food and pharmaceutical applications. This research was conducted to identify the edible macroalgae species in Hikkaduwa coastal area and to isolate the endophytes present in macroalgae. Macroalgae were collected with the prior approval of the Department of Coast Conservation and Coastal Resource and the Department of Wildlife Conservation. The collected macroalgae were identified using fresh specimens, photographs, herbarium specimens and available literature. The endophytes study was conducted 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*, 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* spp. In conclusion, edible macroalgae and endophytes are existing in Hikkaduwa coastal area. Further research and screening of macroalgae and endophytes are recommended.

Keywords: Edible Seaweeds, Endophytes, Macroalgae, Seaweeds