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Status of the coral reefs in Karainagar and Kayts Islands, Jaffna Peninsula, Sri LankaAshani Arulananthan¹, Upasanta Kumara W A A², Harishchandra A³, Herath H M V G¹ and Sivashanthini K⁴¹University of Peradeniya, Sri Lanka²Ocean University of Sri Lanka, Sri Lanka³National Aquatic Resources Research and Development Agency, Sri Lanka⁴University of Jaffna, Sri Lanka

Karainagar and Kayts are the two major islands amongst the nine islands of Jaffna Peninsula, Sri Lanka. Karainagar Island is located in the north western region and Kayts in the south western region of the Jaffna Peninsula. The extent and condition of coral reefs are extremely different in these islands. In this preliminary study we recorded the mean percentage cover of living and non-living sessile benthic categories assessing the current status in both islands. Surveys were conducted in shallow inner reefs with depth of one to two-meter. Substrate categories were documented from randomly laid 100 m long Line Intercept Transects (LIT). There were Hard Corals (HC) 22%, Soft Corals (SC) 3%, Nutrient Indicator Algae (NIA) 29%, sponges (SP) 8%, Dead Coral covered with Algae (DCA) 23% and Rubble (RB) 3% at the Casuarina site in Karainagar Island while there were HC 16%, SC 2%, DCA 57% and RB 9% at the Allaipiddy site in Kayts Island. There is a significant difference in percentage covers between benthic categories ($p < 0.05$) for both sites as well as there is a significant interaction between the reefs and benthic categories on interest in percentage cover ($p < 0.05$). Corals of the Kayts Island were found to be severely affected since the coral mortality index value was 0.79 and the Karainagar reefs were little above the optimum health level of 0.33 as 0.44. The coral categories of the two islands were dominated by massive corals belong to the genera *Favia* and *Favites* followed by plating and encrusting acroporids. *Caulerpa* sp., *Turbinaria* sp. and *Sargassum* sp. are the main nutrient indicating algae in the Karainagar island reefs. Furthermore, anthropogenic disturbances were high in the Kayts Island mainly due to the dynamite fishing and use of illegal fishing nets while coral reefs of Karainagar were greatly affected by the unmanaged tourism. Thus, this study revealed the urgent need of conservational and management practices to protect the coral reefs at this region.

Biography

Ashani Arulananthan has completed her Bachelor of Science degree in Aquatic Resources Technology and Postgraduate degree in the Marine Biotechnology field with a research topic of coral reefs and its' genetic diversity. Currently she is working as an Instructor at the Ocean University of Sri Lanka, Regional Centre in Jaffna.

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