

## **Diversity and the Current Status of Coral Reefs in Eastern Coast of Sri Lanka**

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Coral reefs are highly diverse ecosystems and biodiversity hotspots in the world consisting also of Sri Lankan continental shelf. However, coral reef ecosystems have been changing for the last decades due to natural and human impacts. Therefore, it is important to monitor their current status for conservation and management purposes. Thus, Kayankerni, Passikudah, Pigeon island, Adukkuparu, and Parrot rock reefs which considered major reefs on the Eastern coast of Sri Lanka were surveyed in the final quarter of 2019 by using line intercept transect method. Data were taken by snorkeling or diving over 30 x 50 m transects per site. Threats were quantified by visual observations, water quality analysis, and questionnaire surveying. Live corals at each site were 38%, 21, 59, 12 and 70% respectively. A total of 104 species that belong to 19 coral families were recorded from the Eastern coast while family Acroporidae and Faviidae were dominating. Biodiversity and species richness were highest in Parrot rock reef and lowest in Adukkuparu reef. Massive hard corals which belong to family Poritidae and Muscidae, as well as soft coral family Alcyonidae, were dominated in the Parrot rock reef. The highest percentage of dead coral was in Passikudah reef (79%) and Adukkuparu reef (88%) due to excessive pollution, sedimentation, destructive fishing practices, and overgrowth of *Halimeda sp.* Pigeon Island, Kayankerni, and Parrot rock reefs are also in danger due to destructive fishing, tourism, and invasive species *Acanthaster planci*. Marine ornamental fish trade, dynamite fishing, and tourism activities were the identified major human threats for coral reefs in the Eastern coast. Therefore, it is highly recommended that Parrot rock and Kayankerni reefs should be declared as marine national parks, and coral restoration initiatives have to be taken for all the reefs. These reef ecosystems must be regulated from adverse human activities for long term conservation and management.

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