Cryptofauna monitoring structure: an efficient tool for biodiversity monitoring in coral lagoons

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Cryptofauna are an overlooked faunal group due to their hidden nature and the use of conventional survey methods, despite playing a significant role in the ecosystem complex as keystone taxa. In this study, a structural framework, viz. cryptofauna monitoring structure (CMS) was developed to assess cryptofauna living in the lagoon reef environment and their preference to various substrates. The efficiency of CMS modules was tested by deploying them in coral lagoons in Agatti and Kavaratti of the Lakshadweep Archipelago, India. A total of 24 CMS units, sets of four, were deployed in these islands at live coral, dead coral and sandy habitat sites. Retrieval of CMS units revealed a total of 424 individuals of motile and sessile organisms representing 12 different taxonomic groups collected. Among the habitats, the sandy area had a high taxa number while the dead coral area had a high taxa abundance. Polychaetes and gastropods were the dominant faunal groups regardless of habitat and island. The present study

suggests that CMS can be an efficient tool to assess cryptofauna diversity, which could make monitoring cryptobionts more affordable and environment-friendly. In addition, this study lays the foundation for research into cryptic reef benthos in India.

Keywords: Biodiversity, coral lagoons, cryptofauna, habitats, islands.