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Composition, diversity and seasonal variation of fauna associated with the calcareous alga, Halimeda at 2 to 3 m depths in the reef lagoon of Hikkaduwa Marine Reserve was studied over a 1- year period from December 1997 to December 1998 using monthly triplicated 25 X 25 cm quadrat samples.

Faunal composition was made up to 18 classes distributed among 10 phyla,belonging to Coelenterata, Platyhelminthes, Nemertinea, Nematoda, Annelida, Mollusca, Arthropoda, Sipuncula, Echinodermata and Chordata. Major classes that occurred within these phyla were crustacean (37.6%), polychaeta (23.6%), gastrapoda (19.9%), ophiuroids (14.9%), Eunicie sp. (13.1%) and Syllid sp. (7.4%). Opisthobranchs (7.9%), Trochus (4.6%), cones (2.8%), and olives (1.2%) were present among the gastropods.

Faunal diversity in Halimeda was highest in July and August as measured using the Shannon Weiner Diversity Index (SWDI = 1.711 and 1.796, respectively) and lowest in December (SWDI = 1.038).

From among the recorded taxa, polychaetes, crustaceans, gastropods and echinoderms were the commonest and occurred throughout the yar. The collective abundance of these taxa decreased in May and June (1952 m^{-2} and 1973 m^{-2}, respectively), corresponding with the commencement of the South West Monsoon., and became minimal in February (1909 m^{-2}). Polychaetes was the dominant group in December (1376 m^{-2} , 43.9%), followed by cructaceans (757 m^{-2} , 24.3%). By July, however their abundance patterns had reversed with crustaceans becoming dominant (1003 m^{-2} ; 43.7%) and polychaetes decreasing to 373 m^{-2} (16.3%). Juvenile forms inhabiting Halimeda included corals, echinoids (April to September), asteroids (January), holothuroids (May to July and October to December), fish (December to May) and quid (November).