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A preliminary survey on some anthropogenic impacts on the distribution pattern of algae (Chlorophycean) on the Southern coast of Sri Lanka

This paper reports on observations made during to years on the seasonal variations in the distribution pattern of algae with special reference to chloophyceaen algae inhabits the reef, predominantly on the shoreline side. A total of 36 Chlorophyceae species were identified. Out of the total algal species in the study area, 31% belonged to Chlorophyceae while the rest comprised of Rhodophycea (58%) and Phaeophyceae, (11%). However of the total biomass, only 20% is attributed to Cholorophyceae, while 70% was Rhodophyceae and 10% Phaeophyceae. The highest number of Chlorophyceae species (10-20) were found during May to June when the reef is less exposed to dryness due to Southwest monsoonal effects while from September to November and February to March, the number of species (10-15) have decreased as a result of higher exposure times of the reef to dryness. With reference to biomass, the highest was in January to February indicating high growth rates of those resistant to dryness, while the lowest was in April to May indicating that many of those which are resistant to dryness are sensitive to high wave forces of the Southwest monsoons.

The wave height varied between 0.5 m and 2.0 m, the maximum being between the months April to June and the minimum between November to February. The flow rate

of the waves (0.75-1.6 m per second) varied with a positive correlation with wave height. The wave frequency (4-5 waves per minute) also showed a positive correlation with wave height, the highest being during the Southwest monsoons. Coral mining and construction of groynes for fishery harbors are major factors that lead to increasing wave forces could reduce biodiversity among all natural factors. The results indicate that such factors could reduce biodiversity among all algae but specially among the Chlorophycean algae. Another observation made was that sea grasses and certain algal species such as *Ulva fasciata* grow luxuriously throughout the year at sites which are subjected to nutrient rich effluents and suppress the growth of many other Chlorophyceae reducing the biodiversity.