

DISTRIBUTION AND BIOMASS OF ABUNDANT MARINE MACRO-ALGAE ON THE EXPOSED ROCKY LEDGE OF MANORA ISLAND, KARACHI, PAKISTAN

Shaista Hameed, Huma Nasreen, Muzammil Ahmed

Centre of Excellence in Marine Biology, University of Karachi,
Karachi, Pakistan. shacemb@yahoo.com

ABSTRACT

The distribution and abundance of commonly occurring macro-algae on the exposed rocky ledge of Manora was surveyed quantitatively for a period of one year (January-December 1993). Seaweed collections were made from low, mid and high-tide zones. A total of 26 genera and 48 abundant species were recorded from the rocky ledge of Manora Island using a line transect and a quadrats method. Forty-one species of marine macro-algae (10 brown, 21 red and 10 green) were recorded during the study. The total fresh weight of seaweeds was $34108.9 \pm 1 \text{ g m}^{-2}$ and dry weight $8775.9 \pm 2 \text{ g m}^{-2}$. The fresh weight of seaweeds was high (15636.3 g m^{-2}) in post-monsoon period, while the maximum dry weight (4044.7 g m^{-2}) was obtained in pre-monsoon season. The mean fresh and dry weights of algae were 2445.1 g m^{-2} and 731.3 g m^{-2} , respectively. The highest weight of standing crop was during the NE monsoon period from December and January. The maximum fresh weight (15859.6 g m^{-2}) of seaweeds was recorded from mid-tide zone. Among the green seaweeds the dominant species were *Chaetomorpha prostrata*, *Caulerpa taxifolia* and *Codium iyengarii*. Amongst the red seaweeds, *Gelidium pussilum*, *Centroceras clavulatum* and *Hypnea musciformis* were dominant. The brown seaweeds were dominated by *Cystoseria indica*, *Iyengaria stellata* and *Padina tetrastromatica*.

The highest aggregated distribution (Morisita Index) of green, brown and red seaweeds was recorded in May (1.98), August (1.95) and June (2.31) respectively. Shannon-Weiner Index of diversity and Evenness Index of homogeneity showed the highest values in December for green (1.75, 1.69) and brown (0.64, 1.0) seaweeds and the red seaweeds (0.64, 1.01) were evenly distributed during December and August respectively.

Key word macro-algae, seasonal variation, statistics, Manora