

Distribution Patterns of the Renieramycin-M-Producing Blue Sponge, Xestospongia sp. (De Laubenfels, 1932) (Phylum: Porifera, Class: Demospongiae) in Puerto Galera, Oriental Mindoro, Philippines

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Abstract : The distribution and abundance patterns of many marine sessile organisms such as sponges vary among and within reefs. Determining the factors affecting its distribution is essential especially for organisms that produce secondary metabolites with pharmaceutical importance. In this study, the small-scale distribution patterns of the Philippine blue sponge, Xestospongia sp. in relation to some ecological factors were examined. The relationship between the renieramycin-M production and their benthic attributes were also determined. Ecological surveys were conducted on two stations with varying depth and exposure located in Oriental Mindoro, Philippines. Three 30 by 6m belt transect were used to assess the sponge abundance at each station. The substratum of the sponges was also characterized. Fish visual census observations were also taken together with the photo transect methods benthic surveys. Sponge samples were also collected for the extraction of Renieramycin-M and for further chemical analysis. Varying distribution patterns were observed to be attributed to the combination of different ecological and environmental factors. The amount of Renieramycin-production also varied in each station. The common substratum for blue sponges includes hard and soft corals, as well as, dead coral with algal patches. Blue sponges from exposed habitat frequently grow associated with massive and branching corals, Porites sp., while the most frequent substrate found on sheltered habitats is the coral Pavona sp. Exploring the influence of ecological and environmental parameters on the abundance and distribution of sponge assemblages provide ecological insights and their potential applications to pharmaceutical studies. The results of this study provide further impetus in pursuing studies into patterns and processes of the Philippine blue sponge, Xestospongia sp. distribution in relation to the chemical ecology of its secondary metabolites.

Keywords : distribution patterns, Porifera, Renieramycin-M, sponge assemblages, Xestospongia sp.

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