

HYDROMEDUSAE AND SIPHONOPHORES (CNIDARIA: HYDROZOA) OF THE SUPERFICIAL WATERS OF GAIRA BAY, COLOMBIAN CARIBBEAN

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In the last decades gelatinous zooplankton has received much attention mainly due to their role as predators in aquatic ecosystems (Mills, 1995). A study of the communities of hydromedusae and siphonophores of the superficial waters of Gaira Bay, in the Colombian Caribbean, was conducted between August and October 2001, with the aim of determining their taxonomy, abundance, and relation with the food offer and with environmental variables influencing their distribution. Zooplankton samples were collected in four sampling campaigns in six stations representative of the study area. Eight species of hydromedusae were identified, the order Trachymedusae and the species *Liriope tetraphylla* dominated, followed by *Aglaura hemistoma* and the genus *Obelia*. In the siphonophore community 16 species were identified, the order Calycophora dominated as did the species *Eudoxoides spiralis*, *Bassia bassensis*, *Abylopsis tetragona*, species of the genus *Lensia* and *Abylopsis eschscholtzi*. Both the hydromedusae and siphonophores identified in the area are common and of world wide distribution, surviving under very different environmental conditions. Although the species of both communities were present throughout the bay, there were higher densities in the stations located in the north, with a more oceanic influence, characterized by a higher transparency. These results were expected, since the majority of species were oceanic.

The food offer was represented by the abundances of copepods, fish ova and fish larvae, and also by the dry biomass of three different mesozooplankton size classes (291-700 μ m, 700-1800 μ m and >1800 μ m). The only significant correlation obtained at the 95% confidence level was between siphonophore abundance and the dry biomass of the largest size class (Spearman correlation coefficient: 0.5577; p-value: 0.0126). In this size class, the presence of chaetognaths, crustacean decapod larvae and fish larvae was observed, all of which are fed upon by siphonophores. The superficial environmental variables measured were: temperature, salinity, pH, and transparency. Of the possible combinations of environmental variables studied, using the BIO-ENV multivariate analysis, transparency by itself explained most of the variation in the hydromedusae community, while temperature explained most of the variation in the siphonophore community. At higher temperatures lower siphonophore abundances were observed. However, these correlations did not prove to be statistically significant (harmonic Spearman correlation coefficient <0.8). Due to the great spatial and temporal variability of plankton, it is necessary to continue with more intensive studies in the different climatic periods of the region, in order to define the annual pattern of both communities, and to identify the principal biotic and abiotic factors that influence their distribution.

References

Mills C. 1995. Medusae, siphonophores and ctenophores as planktivorous predators in changing global ecosystems. ICES Journal of Marine Science. 52: 575-581.