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Mollusk Species Richness on the Rocky Shores of the State of Guerrero, Mexico, as Affected by Rains and Their Geographical Distribution

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ABSTRACT

Natural processes in ecosystems shows significant variations in species richness with regular cycles that can be altered by natural or anthropogenic activities; the present research was in order to understand on some of these variations. The objectives were: 1) determine the species richness of rocky intertidal mollusks; 2) track their geographical distribution at State level; and 3) determine the changes in species richness as a result of rainfall on an annual cycle. For these purposes it was sampled in March, June, September and December 2005, the sampled area was 20 m² for each collecting site; the sampling unit was a PVC rectangle frame one by two meter per side. The mollusks found within the sampling units were collected, identified and counted. The species distribution was analyzed by sites and regions, considered species richness per season, and the distributional patterns by rainy season historical records. A total of 62 mollusks species were found, its richness associated with substrate stability and wave intensity on each site, Gastropods had the highest species richness. When analyzing the regional distribution and sites, it was found a pattern of species richness roughly constant in the proportion of species with wide distribution (generalists) versus those of restricted spatial representation (specialists). Gastropods had the highest number of species with restricted spatial representation. Seasonal rainfall differences did not quantitatively altered on the overall the species of mollusks in the rocky intertidal sampled zone however, in the analysis per Class, Gastropoda indicated changes in species richness influenced by rainfall, which were not observed in Bivalvia and Polyplacophora, suggesting that those changes might depend on adaptive processes or the lack of adaptation of gastropod species to the characteristics of the rocky intertidal habitat.

KEYWORDS

Rocky Shore; Species Richness; Geographic Distribution; Rain Effects; Mollusks

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