

# Demersal Zooplankton of Phosphorescent Bay, Puerto Rico: Lunar Patterns in Emergence and Distribution with Respect to Substrata

EDUARDO RIOS JARA  
*Department of Marine Sciences*  
*University of Puerto Rico*  
*P.O. Box 5000*  
*Mayagüez, Puerto Rico 00681-5000*

## ABSTRACT

Although several zooplankton studies have been conducted in embayments of Puerto Rico, demersal species have not been recognized and their contribution to the total zooplankton community is not well-known. The zooplankton of Phosphorescent Bay, Puerto Rico were sampled during diurnal and nocturnal net tows and in diving collections between 16 May and 26 August, 1992. Twenty-two putative taxa were common in the samples. Six of these taxa were classified as demersal, eight as meroplanktonic, and four as incidental. The remaining multispecies groups yielded variable results. Statistically significant variations in numbers of zooplankton captured were found among lunar periods and substrata. All demersal taxa and two meroplanktonic groups emerged in greater numbers during either lunar quarter of the new moon. In contrast, one meroplanktonic taxon displayed significant emergence during full moons. Most copepods were common in samples from patches of the seagrass *Thalassia testudinum*, although the copepods *Acartia* spp., *Pseudodiaptomus cokeri*, *Longipedia helgolandica*, *Euterpina acutifrons* and other unidentified species of harpacticoids were taken in greater numbers from either macroalgae, sand or mud. Cirriped nauplii, amphipods, tanaids, nematodes, decapod zoeae and other invertebrate larvae were also common in these three substrata.