

Abstract

The species composition and reproductive season of freshwater shrimps (Decapoda: Atyidae, Xiphocarididae and Palaemonidae) in the upper Rio Grande watershed (St. Thomas and Portland, Jamaica)

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From September 2008 to October 2009, 21 streams were sampled within the upper reaches of the Rio Grande valley in Portland, Jamaica (Greater Antilles). These streams were classified based on stream order, dominant rock type and altitude, and the results indicated that streams at high altitudes where fine to medium grained sedimentary rocks were dominant had the highest abundance of shrimps (Decapoda: Atyidae, Xiphocarididae and Palaemonidae). *Xiphocaris elongata* was observed to be a generalist species while *Atya* spp. were specialists that mainly occurred in streams with fine to medium grained sedimentary rocks at high altitudes. *Macrobrachium* spp. were also shown to be generalists except for *M. carcinus* which was poorly distributed at high altitudes where shale and sandstone were dominant. In examining the gender and reproductive nature of the shrimp species, the study showed that the males were larger in general and in *Atya* and *Xiphocaris* they occurred less frequently than females. The number of ovigerous females was negatively correlated with rainfall ($P < 0.05$), more were present at high altitudes and in the case of *Atya* and *Xiphocaris*, size and altitude were positively correlated. The main spawning season was observed to be from July to September and March and April.

Keywords: Freshwater shrimps; Rio Grande; Atyidae; Palaemonidae; Xiphocarididae; *Xiphocaris elongata*; *Atya*; *Macrobrachium*; spawning; stream order; rock type; altitude; CPUE; Zahra H. Oliphant