

If you look carefully into the streams and pools of El Yunque you might see something scurrying across the bottom. Probably what you will see is one of 10 species of shrimp that live in the waters of the forest.

Most fresh and brackish water systems of Puerto Rico are inhabited by shrimp of the *Atyidae* and *Palaemonidae* families.



*Micratya poeivi*

Although much is known about saltwater species, riverine shrimp are little known. These curious animals have numerous fascinating characteristics and play an important role in aquatic ecosystems as part of the food chain and as recyclers of organic material.

Shrimp, along with crabs and lobsters are crustaceans of the order *Decapoda* (*deca*, ten; *poda*, foot). The name describes one of the features that unite these animals—the fact that they have five pair of articulated legs. Other common characteristics among crustaceans are their two long antennae, their bodies divided into fourteen segments and aquatic habits.

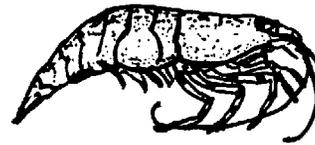
Shrimp are adapted for swimming. Their bodies are laterally compressed, their swimmerets (abdominal appendages), are large and fringed, and their carapace (protective covering on back) is thin and relatively flexible. They are relatively slow swimmers but can quickly dart backwards or upwards by flexing the abdomen with the tail fan.

Shrimp are nocturnal animals but can be found during the day in the forest's various pools and riffles. At night they congregate on submerged rocks, tree branches, roots, and leaves.

### Species and Feeding Habits

In Puerto Rico there are 9 species of shrimp in the *Atyidae* family, of which 6 are found in El Yunque. Most members of this family are filter feeders, which means that they take tiny particles from the water through specialized structures that resemble paint brushes. These structures are located on the first two pair of legs (pereiopods).

They feed mainly on microscopic algae and decomposing material. In this manner they aid in the recycling of organic material and also cooperate in the cleaning of water.



*Atya lanipes*

The other shrimp family found in El Yunque is *Palaemonidae*. Of the 6 species that inhabit the island, 4 live in our Forest's rivers. The members of this family are predators that search for, or hunt their food. They eat insects, small fish, and other shrimp.



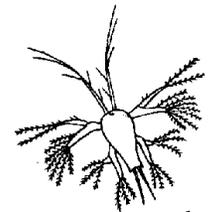
*Macrobrachium heterochirus*

### How do shrimp reproduce?

The life stages and reproduction of shrimp are interesting. Reproduction occurs during the summer months, though some species reproduce year round.

Mating occurs with the male at a right angle to the female, transferring a spermatophore to a specialized receptacle on the female's abdomen. Six to 20 hours after mating, the female begins to produce a large quantity of eggs, which she carries under her abdomen. The quantity of eggs depends on the species and the individual.

After developing, the eggs are released. These eggs hatch into larvae, which are moved down river toward the estuaries and the sea. Larvae that cannot reach saline water within 4 or 5 days die. The larvae go through a series of transformations in this saline environment for a period of 30 to 50 days. After this time, they become postlarvae, or tiny shrimp, approximately 0.5 inch in length. During the postlarval period they live and forage near the bottom.



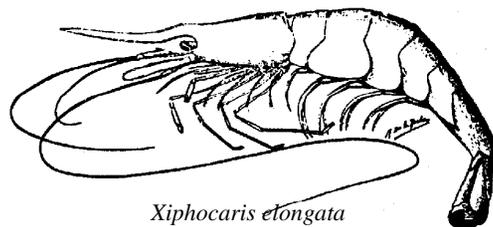
larva

These tiny replicas of the adult shrimp then start an upstream migration in search of freshwater pools where they will spend the rest of their lives. The shrimp become reproductively mature within 4 to 6 months of reaching their juvenile stage.

Shrimp are one of many organisms whose life cycles depend on clean, running river water and uncontaminated estuaries. This is why it is so important not to pollute our water and to do away with poor fishing practices, such as poisoning and over-fishing. These contribute to a significant reductions of our shrimp populations, as well as those of aquatic species.

If you would like to contribute to the conservation of our shrimp species, you can:

- ◆ keep our rivers clean by not using soaps, bleach or other contaminants near them
- ◆ report incidences of stream poisoning to us or to your local municipal police office
- ◆ please help us by not fishing these species in the forest
- ◆ share this information with family and friends



*Xiphocaris elongata*

## Native Shrimp of the El Yunque National Forest

Scientific Name	Common Name	Abundance
<i>Atya lanipes</i>	Guábara, Chagara	Common
<i>Atya innocuos</i>	Guábara, Chagara	Uncommon
<i>Atya scabra</i>	Gata	Uncommon
<i>Micratya poeyi</i>	Camaroncito de río	Common
<i>Xiphocaris elongata</i>	Chirpi, Salpiche	Common
<i>Macrobrachium crenulatum</i>	Coyuntero	Uncommon
<i>Macrobrachium faustinum</i>	Coyuntero	Common
<i>Macrobrachium carcinus</i>	Camaron de río	Common
<i>Macrobrachium heterochirus</i>	Silgao	Common
<i>Potimirin mexicana</i>	Camaroncito	Uncommon

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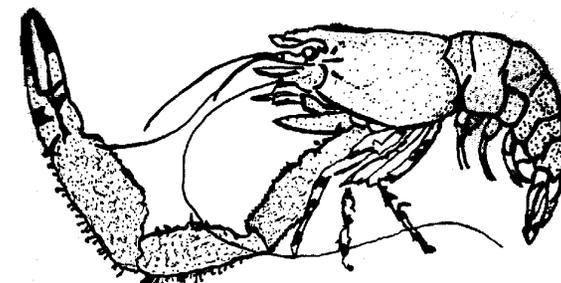
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*Macrobrachium faustinum*