

# Caribbean Freshwater Crustaceans



river crab (*Epilobocera sinuatifrons*)



jonga, filter feeding (*Atya innocous*)



jonga (*Atya lanipis*)



(*Xiphocaris elongata*)



langostino, crayfish (*Macrobrachium heterochirus*)

All photos: B. Yoshioka

## Description

Decapod crustaceans include shrimps, crabs, and lobsters. While most are marine species, some shrimp and crab species live most of their lives in fresh water, and a number of these are found in rivers. The shrimps, in particular, are abundant and widely distributed throughout the Caribbean. Related species with very similar life cycles are found in tropical and sub-tropical river connected with oceans throughout the world.

## Habitat and Life Cycle

Caribbean fresh water shrimps occur from the river mouths up to the high mountain streams, including persistent pools in intermittent streams. They have complex life cycles and must spend the larval portions of their lives in estuarine or marine waters. Shrimps mature and reproduce in the streams. Females release larvae that move downstream to the estuary and sea. They molt, or grow when they reach estuarine or marine waters. Larvae may spend several months in the estuary or ocean, and migrate back upstream as juveniles.

Some freshwater crabs are also found in the Caribbean. The Puerto Rican freshwater crab, known as the “buruquena”, does not have to migrate since the larval stages are completed within the eggs which are held under the mother’s abdomen until they hatch.

## Distribution

Over 12 species of shrimps are found in Puerto Rico and the Virgin Islands. Many of these species and others occur elsewhere in the Caribbean. Each species is considered to be the same from island to island because of their appearance and the assumption that the larvae travel between islands in ocean currents.

## Ecology

These crustaceans fill a variety of ecological niches including deposit feeders, filter feeders, scavengers, and predators. The filter and deposit feeding shrimps have modified claws with long setae that open in the water current like a sieve to filter, or can be used like a broom to sweep up detritus and prey. Several

species, known as “guábara”, “chágara”, or jonga, grow to about four inches long and are good to eat, while others are very small in size.

A related small species (“chirpi” or “salpiche” in Puerto Rico) is omnivorous and likes sunlit pools with slow currents. They swim in the water column, feeding on objects that float by, and often confuse predators by jumping.



langostino (*Macrobrachium carcinus*)

River shrimps include large predators that can be over a foot long and weigh almost a pound. They often hide under rocks or in holes within deeper pools in the river and usually hunt at night. Known as “langostino” or “crayfish” in the Caribbean (although they are not closely related to the crayfish from the continental US), they are heavily fished in island streams. A closely related Pacific species is widely used for aquaculture throughout the world.

## Threats and Conservation Measures

River shrimps can be impacted by a variety of human activities such as projects that modify stream channels or flow, and deliberate or accidental discharge of toxic substances into the rivers. Dams, water intakes, or river channelization affects areas upstream and downstream of the project because of the shrimps’ complex life cycles.

There are many ways that the design or operation of needed projects can be modified to reduce impacts. Maintaining reasonable minimum river flows, reducing obstructions to migration, and maintaining habitat variety should all be considered.

Education on the careful use of agricultural chemicals, and strict enforcement against the use of chemicals for fishing are critical for maintaining water quality for aquatic life and human use. The health of the aquatic community may be the best indicator of stream water quality for human use. We still have a great deal to learn about these interesting organisms.

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