Stream Life in the NP of American Samoa

Sampling stream fauna is an exciting part of Inventory & Monitoring (I&M) Program work in the National Park of American Samoa (NPSA). The soothing sound of clear, cool water and the welcomed shade of overhanging trees makes a walk in or along a stream, a stress reducing experience. But a more compelling reason for studying these animals is that they are important to the riparian (stream) ecosystem.

The field crew works together to catch stream shrimps.

Snails, or *sisi vai*, keep algae growth under control. They feed by scraping the algal film from rocks and other surfaces using a ribbon of teeth. The size, shape, texture, and color of their shells are important features for identifying them. Snail eggs are attached to submerged rocks or other hard surfaces in streams, or even attached to the shells of other snails. Although only a millimeter or two in size, the eggs are easily seen as clusters of white ovals or sesame-seed shapes against the dark rocks. Species such as *Clithon corona*, *Septaria suffreni*, *Septaria sanguisuga*, *Neritina canalis*, and *Melaniodes tuberculata* are found throughout Samoan streams. Snails are hand collected and released during the yearly surveys.

Shrimps are counted, identified, and released back to the stream.

Shrimps, *ula vai*, filter organic debris from flowing water and hunt insect larvae hiding among small stones. They are the most abundant mid-sized animals in Samoan streams. Most are only a few centimeters long and are well camouflaged. Others, belonging to the genus *Macrobrachium*, or "large arm", are easier to spot because of their larger size and bold behavior. Shrimps are an important food source for fishes, birds, and people. During surveys, shrimps are caught with nets. Species such as *Atyopsis pilipes*, *Caridina weberi*, *Macrobrachium lar*, and *Macrobrachium latimanus* are found during stream surveys.

Biological Technician Visa Vaivai (left) identifies a shrimp.

Fishes, or *i'a vai* , are important food for large birds. People catch them for food and sport as well. Fish are not collected during surveys but they are identified and recorded when seen.

A hermit crab decides to take some notes of its own.

Stream animals are important indicators of the quality of the water. Healthy streams naturally have a balanced mix of native animals. During stream animal surveys, the water quality itself is also analyzed to ensure that streams remain healthy.

The I&M Program currently monitors three streams on Tutuila Island. Monitoring Fagatuitui Stream requires a long hike which is twice as hard on the way back. In contrast, Leafu and Amalau Streams only require a simple stroll from within nearby villages. In the past, I&M had also sampled Laufuti stream on Ta'u Island, which is less influenced by humans than the Tutuila Island streams.

NPSA's freshwater animals are fascinating to study. Sharing this experience with others makes it even more enjoyable.

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