



Ten Feet at a Time (Decapods on Guam)

D. Christopher Rogers from the Kansas Biological Survey, University of Kansas quite literally searched ten feet at a time as he captured and released decapods (shrimp and crabs) in the streams of Guam. Christopher was tasked with assembling a field guide to the local freshwater and terrestrial decapods (literally meaning *ten feet*) for the National Park Service.

After scouring historical accounts of the freshwater shrimp and crabs, and terrestrial crabs in the Northern Marianas Islands, he came to the conclusion that 77 species are likely to exist on Guam. In early 2011, he set off to verify those accounts and confirm some suspicions that there may

be other species lurking under the muddy waters and in the dense jungle vegetation. He slipped on his rubber boots, grabbed some special nets, and packed a few other essentials to aid him on his quest.

Identifying shrimp and crabs can be a bewildering task. There are a great variety of structures and appendages all with their own specific form and function. This did not make Christopher's job easy.

After one week of intensive sloshing in Guam's streams, he identified 40 species. While searching both day and night Christopher found 9 species of freshwater shrimp, 7 species of hermit



Forest ghost crab, *Ocypode cordimanus*

crabs, and 46 species of true crabs. A pretty good turnout for such a short period of field work. To his surprise, nine of those species were either previously unknown on Guam or have never been described before (a.k.a. possibly new to science).

Highlights What was found

A new species of *Alpheid* shrimp in a freshwater cave. This new species is in the genus *Metabetaeus*. All other *Metabetaeus* species are marine (or brackish), and do not live in caves.

A new species of *Palaemonid* shrimp in the genus *Macrobrachium*.

A first record for the crab *Cyclograpsus longipes* from the Marianas Islands and a new, undescribed species of *Cyclograpsus*.

A new species of crab in the genus *Grapsus* in an upper estuary.

A possible new species of the crab genus *Ptychognathus*, but this still needs to be confirmed.

A new, undescribed species of *Atyid* shrimp in another cave. We also we found a species of *Atyid* shrimp not previously reported from the Marianas Islands.

***Penaeid* shrimp were found in some estuaries.** These are invasive species introduced for fisheries. They are very popular for market, and have been introduced extensively in the Philippines.

–D.C. Rogers, Kansas Biological Survey,
University of Kansas
–C. Nash, NPS

Side Note

Crabs and other decapods play an important role in Chamorro culture.



Christopher holding a crab species called *Cardisoma carinifex*, locally known as päng'lao.

Later, Christopher discovered this same species being served at a village restaurant.



How did we find the animals?

"I used nets and traps or just captured the animals by hand. The really important message here, is that all these new records and species, plus over half of the known species, were found in just one week. What this basically means is that we have barely scratched the surface of the potential biodiversity on this island. There may be several more new species to find. For example, I have some information that there is an undescribed species of crab living in the tops of the Pandanus trees along one river."

–D.Christopher Rogers



Left: Christopher briefly pauses in the Toguan River, armed with only a net and a rich knowledge of decapod invertebrates.

Many decapods can be found in Guam's vast limestone caves (left bottom). This small *Orcovitta molita* (below) spends its life below the ground.

Above photo by: J. Thorp All other photos by: D.C. Rogers and NPS