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New discoveries by Archbold interns: pygmy mole crickets, fairy shrimp, and newts

New discoveries can happen anywhere; sometimes, literally right under our feet. At Archbold Biological Station, you might notice small, raised piles of sand right after a rain. If you carefully scrape away the sand, a tiny, shining black cricket is revealed. This is the Archbold Pygmy Mole Cricket first described by Drs. Mark Deyrup and Tom Eisner in 1996. It is a fascinating little creature that is specialized for existence in open sandy patches of Florida scrub, feeding on blue-green algae that grows just below the surface of the sand. Archbold Entomology Intern Brandon Woo became enamored with these crickets, and soon realized that there was much more to learn. “Nobody has carefully explored other sand ridge habitats in Florida for pygmy mole crickets. Since the scrub-adapted ones are flightless, there is a high potential that new species are scattered around the state,” he explained. Encouraged by Archbold Entomologist Dr. Mark Deyrup, Woo has been visiting various scrub habitats to find more of these crickets. He has confirmed that the Archbold Pygmy Mole Cricket also lives at the Avon Park Air Force Range, and has found what appears to be a new species of Pygmy Mole Cricket in the Ocala National Forest. In addition, Deyrup collected specimens of yet another new species from the northern Lake Wales Ridge in Polk County. Woo is currently describing this species. “I think these crickets really show that anyone, young people included, can go out into the field and make important discoveries. Archbold is a great place to jump-start such an adventure,” he says.

Even on Archbold’s property, there are probably thousands of species still awaiting discovery. Many of us are familiar with ‘sea monkeys,’ tiny creatures more properly called fairy shrimp, whose eggs are available online and hatch out within a few days in water. Until a few years ago it was thought that there were no fairy shrimp in central Florida, but in 2016 Ann Dunn, then an undergraduate student at Cornell University, stumbled upon a population of them in a seasonal pond at Archbold. She consulted with a shrimp expert, Dr. Christopher Rogers of University of Kansas, who confirmed that this was a new species. Dunn, now graduated, is back at Archbold this summer to learn more about this odd new creature. “It turns out that they are found in several of Archbold’s ponds, and swimming along with

them are other small crustaceans called clam shrimp and water fleas,” she explains. What is known about any of these freshwater shrimp? “Next to nothing, except for the fact that they only live in temporary bodies of water where fish cannot get to them. The area is ripe for discovery.”

And lest you think that new findings are restricted to creatures without backbones, here is one more example. Madison Harman, intern in the Archbold Herpetology lab, is currently studying the south Florida subspecies of the Eastern Newt, a gray-colored salamander that is widespread across the eastern U.S. “The species is well known from the northern parts of its range, but the Florida subspecies is spottily distributed and typically bypasses the colorful ‘eft’ development stage that these newts are known for in other places,” Harman says. “Almost nothing is written about its specific life history or biology. One might think that more would be known about such an interesting salamander by now – but here we are.”

There has been a constant stream of scientists and researchers at Archbold since its founding in 1941, and yet even so, they have still barely scratched the surface of discovery. “The diversity of life in central Florida is so vast that there are still countless unknowns everywhere,” continues Woo. “They are all completely fascinating and need these wild places to exist – which is why habitat conservation is so important. Sure, pygmy mole crickets, shrimp, and newts may have no direct relevance to humans – but they’re just so darn interesting! They deserve to exist, so that future generations can go out into the scrub, find a cool animal, and be amazed.”



Photo 1: New species of fairy shrimp discovered in 2016 at Archbold by then undergraduate student Ann Dunn. Photo by Brandon Woo.



Photo 2: New species of pygmy mole cricket collected at Ocala National Forest by undergraduate student Brandon Woo. Photo by Brandon Woo.

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