

Back to Life

Scientists discover that the trispot darter—a species that hadn't been collected in Alabama's waters since 1947—is alive and well.

By Denise Rowell



Female trispot darter collected in the Big Canoe Creek watershed.

DR. PATRICK O'NEIL / GEOLOGICAL SURVEY OF ALABAMA

It was an unusually cold October morning, when six biologists woke up in the small Alabama town of Gadsden. After a hearty, southern breakfast of biscuits and gravy, U.S. Fish and Wildlife biologist Jeff Powell waited for the fog to lift and the air to warm up. The goal was to perform fish surveys at several sites in the Big Canoe Creek watershed, a part of a statewide effort to reintroduce imperiled aquatic species into the state's most sensitive watersheds.

"We were in the process of selecting sites at which we could begin monitoring baseline conditions, prior to the reintroduction," explained Powell.

Alabama is rich in aquatic diversity, with more than 750 species of freshwater fishes, mussels, snails and crayfish. Protecting and restoring them can be overwhelming, and with hundreds of species in trouble, there's no time to lose. That's why biologists are following the Alabama Field Office's Strategic Five-Year Plan. The plan prioritizes the most imperiled habitat types and species, focusing on six different regions within the state. One of those areas includes the Big Canoe Creek Watershed.

"This basin supports at least one known listed mussel species and is designated critical habitat for seven others. In addition, it's a relatively small watershed,

which makes restoration somewhat easier than if you were working in a large basin that's receiving a myriad of impacts," explained Powell. "You want to try to hit home runs when you can."

Little did they know, they were about to embark on an incredible discovery.

Beneath the murky water was a treasure-chest of species, and it didn't take long for one biologist to strike gold. Dr. Patrick O'Neil, co-author of *Fishes of Alabama*, picked up a small fish out of the seine.

"It was different than any of the other species we had collected that morning," said Powell.

After preserving the fish, O'Neil and Powell took a closer look.

"It had three distinct saddles across its back, a reddish band of spots along its dorsal fin and a dark tear drop under the eye," said Powell.

Its characteristics were eerily similar to that of a species that hadn't been collected in Alabama's waters since 1947. Could they have possibly picked up a trispot darter?

"No one had seen one alive in decades," said Powell. "In fact, it was believed to have been extirpated in Alabama for the more than seventy years."

Could it be that this ghost of a fish had come back to life?

Blown away by their findings, Powell was eager to see if they had indeed discovered the trispot darter. After further examination by O'Neil, it was confirmed. The trispot darter was alive in the state of Alabama. Powell says the magnitude of the discovery is immeasurable.

"It's very important because we thought this species was gone forever," said Powell. "Now, it gives all the more credence to our restoration efforts."

Biologists collected eight darters altogether. So, was the discovery just dumb luck?

Not hardly.

In this case, timing and planning were everything. Trispot darters begin their spawning ritual during late autumn. However, most biologists conduct surveys in the summer.

“During the summer, trispot darters are laying-low in their non-breeding habitat. They lurk under the stream banks and other areas that are often difficult to sample,” explained Powell. “However, they are much more active and vulnerable to collection in the winter. In late autumn, they actually begin an upstream spawning migration in search of small springs and seeps to deposit their eggs. It just goes to

show that you can discover different things at different times of the year.”

So, what’s the next step for this fickle fish? Powell says it’s time to re-evaluate the population status of the species, and begin developing a clear monitoring plan. As for the ground-breaking discovery, Powell says it brings even more motivation to the biologists who have dedicated their lives to conserving and understanding these complex aquatic systems.

“The possibilities are endless,” beamed Powell. “As long as we have a solid strategic plan and a passion to explore, who knows what else we can find?”

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Biologists sorting through a seine full of leak material—the preferred habitat of the trispot darter.



MARTY KODIS / USFWS