

Ancient river creature yields clue to environment

August 13 2012, By Mark Davis



Cryptobranchus alleganiensis. Image by Brian Gratwicke

The monster rocketed from the water. It wriggled to the right, wiggled to the left, then - splat! - smacked Grover Brown in the guts. A lesser scientist would have quailed. Not Brown.

"Got him!" He grabbed the creature, fell on his butt and held tight while Thomas Floyd and Theresa Stratmann moved in for the capture. They acted quickly, as monster catchers must. They shoved the creature into a net, where he writhed and thrashed.

For a moment, no one said anything, their eyes drawn to the slithery thing they'd discovered in a mountain stream - the eastern hellbender, long on slime, short on personality, 13 inches of cold-blooded indignation.

Don't scoff at the size. Never has a creature managed to pack so much ugly into so few inches, and a hellbender can grow up to 2 feet long. In the world of amphibians, that makes *Cryptobranchus alleganiensis* a monster. In North America, no [amphibian](#) is bigger than this creature that hides under rocks in cold streams, and remember: In China, relatives of the eastern hellbender can exceed 5 feet.

North Georgia may have more eastern hellbenders than anywhere on Earth.

Since midsummer, Floyd, Brown and Stratmann have been looking for the shovel-nosed creepers in Georgia mountain streams, conducting research for the state Department of Natural Resources. It's important, they say: Hellbenders are the aquatic equivalent of the canary in the [coal mine](#), a creature whose well-being measures the quality of their environment. They've caught and released more than 80.

Floyd, 36, a DNR wildlife biologist, has led the probes. Summer employees Stratmann, 21 and a senior ecology major at the University of Georgia, and Brown, 22, who just got his ecology degree from UGA, have been with him every wet step.

"They're so cool," said Stratmann, whose lower right leg sports the tattoo of a loggerhead sea turtle. "They're so misunderstood." It's hard to get warm and fuzzy over hellbenders. Some folks call them "snot otter" - touch one and you'll know why - while others prefer "devil dog" or "mud-devil." No one is sure who gave the hellbender its name, though some folklorists have suggested that American settlers came up with the moniker: Surely such a homely critter was bent toward hell.

It's an unfair rap, said Floyd. "Hellbenders," he said, "are pretty benign." And that's the only time you'll see "pretty" in this story.

Hellbenders were already old when hadrosaurs, duck-billed dinosaurs whose remains have been found in Georgia, roamed the land 65 million years ago. By the time mammoths walked in Georgia, some 50,000 years ago, hellbenders were ancient.

But can they survive *Homo sapiens*? Hellbenders do best in cool, riffling streams, and ecologists fear that the growing popularity of mountain living threatens them.

"Hellbenders require incredibly clean water," said Joe Mendelson, curator of amphibians and reptiles at Zoo Atlanta. "They're our built-in fire alarm. That has direct implications for humans, because we need clean water to survive."

Floyd's prognosis? "Hellbenders are in trouble."

The trouble varies from stream to stream. So far this summer, Floyd and his assistants have visited more than 20 sites. They'll search until mid-August, when hellbender breeding season begins.

On the last day of July, they stood beside a creek in the forested folds of Union County, 100 miles north of Atlanta. In a 2007 survey, biologists caught and released eight hellbenders along a nearly 400-yard stretch of the stream; the trio hoped to at least duplicate that take.

Fat raindrops dripped from a canopy of hardwoods as the trio waded upstream, carrying an armload of scientific instruments. They walked a few feet before stopping at a rock that resembled a giant, fossilized shark's tooth, triangular and black, in less than a foot of water. Stratmann squatted downstream from the stone, placing two fishermen's nets against its edge to snag anything that might slither out.

Brown crouched at her side, his hands hovering like raptors atop a

thermal, waiting to swoop. Floyd grabbed the rock and counted: "One, two, three - " Floosh! Floyd ripped the rock from the creek. Stratmann readied her nets. Brown reached into the dark place where the stone had been.

Floyd looked at Brown, who shook his head. "Nope."

They replaced the rock and turned to another, repeating the process: squat, yank, reach. This went on for about 15 minutes, a slow march in 60-degree water. Their probes netted two crayfish - a hellbender delicacy, but not very hospitable - and a sculpin, a 3-inch fish with oversized spines.

Then, reaching under a partially submerged stone - "Yes!" Brown held a flashing brown something in his hands. Stratmann yelped with delight. Floyd cast a quick look and smiled; it was a young hellbender.

"The fact that we got a young one is great," he said. That meant hellbenders were reproducing. "We don't want to get nothing but a bunch of old men."

Stratmann measured the creature in a PVC pipe cut lengthwise with a ruler affixed inside. The wiggler was 8 inches long. Brown checked for viral infections or fungal growth, taking a swab from its slippery skin. Floyd snipped a minute slice of the creature's tail and deposited it in a tube for future testing. As a final measure, they clipped a tiny, copper-and-glass tag on the creature, tagging it as carefully as they would the family pooch. The nameless animal now has a 15-digit number that will identify the hellbender if another DNR biologist catches it.

Then they returned the hellbender to its rock. It slid under without a backward glance. "This [hellbender](#) will have a story to tell his friends," said Floyd.

The hunt resumed. They stepped over fallen trees furred with moss, pushed past laurels whose leaves clattered against their shoulders. The searchers came across five tiger swallowtail butterflies resting on a log. They looked like Post-it notes come to life.

But they found no hellbenders. Morning made way for afternoon as the trio reached the end of their 400-yard survey.

Then Floyd remembered the one that got away during a visit two weeks earlier. They headed back downstream, found a triangular rock that looked like a huge shark's tooth, and - "Got him!"

It's too soon to assess the findings to determine stream quality, Floyd said, noting that DNR scientists plan to survey this area again in 2015. Hellbenders may be fast, but science is not.

"We'll be back," he said. "We'll see what we find in three years."

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Citation: Ancient river creature yields clue to environment (2012, August 13) retrieved 11 July 2024 from <https://phys.org/news/2012-08-ancient-river-creature-yields-clue.html>

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