

Texas fish of dinosaur era found to be new species

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A 90-million-year-old fossil fish, currently on display at the Perot Museum of Nature and Science in Dallas, turns out to be a new species. Research conducted by Kenshu Shimada, Ph.D., professor at DePaul University and research associate of the Sternberg Museum, reveals the 5.5-foot-long fossil fish to possess a tuna-like body with a unique 'hook-shaped sail' on its back. The fish's new species name, *Pentanogmius fritschi*, is in honor of local amateur collector Joseph Fritsch. Credit: Kenshu Shimada, Ph.D.

A 90-million-year-old fossil fish, which has been on display at the Perot Museum of Nature and Science in Dallas, turns out to be a new species. Research conducted by Kenshu Shimada, Ph.D., professor at DePaul University in Chicago and research associate of the Sternberg Museum in Kansas, reveals the 5.5-foot-long fossil fish to possess a tuna-like

body with a unique 'hook-shaped sail' on its back. The fish has been given a new species name, *Pentanogmius fritschi*, in honor of Joseph Fritsch, a local amateur collector who discovered the fossil, dug it up with the help of another avid fossil collector, Kris Howe, and donated it to the Perot Museum.

"At first glance, the specimen looked like a known *Pentanogmius* species, but when I began to trace the curved dorsal fin, its front half kept extending backwards far beyond where I thought it would end relative to its rear half. That's when I realized I have something new to science," said Dr. Shimada.

The fossil fish is a nearly complete skeleton from the Britton Formation of the Eagle Ford Shale in Dallas County. Dr. Shimada's study suggests that *Pentanogmius fritschi* was an active fish in open ocean environments that possibly fed on a variety of small animals like squid and other fish.

Besides its scientific significance, the new study is a success story demonstrating the very function of a collection-based [museum](#) and collaboration between amateur fossil collectors and scientists. Anthony Fiorillo, Ph.D., a paleontologist and the Perot Museum's vice president of research and collections and chief curator, took notice of the remarkable preservation of the fossil fish soon after its discovery. He worked with Fritsch and Howe to make the specimen available to the public and to the scientific community during the developmental stage of the Museum.

Fiorillo had worked closely with Howe years earlier when Howe donated a fossil he unearthed in Grapevine, Texas. Dr. Fiorillo and another Perot Museum paleontologist Ronald Tykoski, Ph.D., determined that the fossil remains represented North America's oldest fossil bird. They named it *Flexomornis howei* in Howe's honor. The fossil is currently on view in the Museum's Rose Hall of Birds.

"We're very excited by the discovery of this new [fossil fish](#) for two reasons. First, it once again illustrates that the Perot Museum of Nature and Science not only inspires but serves as a resource for those in our community curious about the natural world around them," said Dr. Fiorillo. "Secondly, this find also demonstrates the dynamic nature of scientific investigation within our T. Boone Pickens Life Then & Now Hall."

The Museum opened in 2012, but it was not until Dr. Shimada's visit in 2014 that the fish was found to be new to science. His resulting study - entitled "A [new species](#) of the Late Cretaceous 'sail-finned' bony fish, *Pentanogmius* (Actinopterygii: Tselfatiiformes), from Texas, USA" - will appear in a forthcoming issue of the international scientific journal *Cretaceous Research*.

"The really great thing about this fish is that it was found right here in Dallas County," said Fritsch, who lives in Carrollton. "People are led to believe that fossils are found in exotic locations not accessible to the general public. The reality is North Texas is full of fossil hunting opportunity for anyone willing to go out and enjoy a walk in nature."

More information: Kenshu Shimada, A new species of the Late Cretaceous 'sail-finned' bony fish, *Pentanogmius* (Actinopterygii: Tselfatiiformes), from Texas, USA, *Cretaceous Research* (2016). [DOI: 10.1016/j.cretres.2015.12.019](#)

Provided by Perot Museum of Nature and Science

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