



Museum of Nature and Science

## FOR IMMEDIATE RELEASE

### NEW SPECIES OF FOSSIL CROCODILE NAMED FOR LONG-TIME VOLUNTEER IS A 'LITTLE NIPPER' OF A BIG DISCOVERY

**ARLINGTON, Texas (June 11, 2019)** – In the heart of the Dallas-Fort Worth region, paleontologists have partnered with a dedicated team of local volunteers and fossil enthusiasts to excavate a treasure trove of fossils dating from 96 million years ago, during the last period of the Age of Dinosaurs. Now, a new species discovered at the site is being named in honor of one of these citizen scientists, Arthur Sahlstein.

“The AAS wouldn’t be the success it is if it weren’t for the small army of dedicated volunteers donating their time, energy, expertise, and resources,” says Dr. Christopher Noto, lead author and Associate Professor of Biological Sciences at the University of Wisconsin–Parkside. “It is only fitting that we honor one of our most valuable and prolific members.”

Sahlstein co-discovered the Arlington Archosaur Site in 2003 and brought it to the attention of paleontologists. He has remained a fixture at the site ever since, discovering numerous fossils including an unusual jaw from a small crocodyliform (a distant crocodile relative), now named *Scolomastax sahlsteini*.

Sahlstein says, “The discovery of the Arlington Archosaur Site 16 years ago was a watershed moment that launched an amazing period of personal and academic discovery. I am very humbled to have this ‘Little Nipper’ carry my name. This partnership will be a model for future major excavations.”

This isn’t the first time the team has named a new species for one of the Arlington Archosaur Site volunteers. In 2017, another new crocodyliform, this one a 20-foot-long top predator, was named *Deltasuchus motherali* after Austin Motheral, who was just 15 years old when he uncovered the fossils that would eventually bear his name.

The name *Scolomastax* means “pointed jaw” in Greek, referring to its tapered, V-shaped mandible. The 1-to-2 meter-long new species is named in the current issue of the journal *Anatomical Record*.

“People sometimes think that crocs haven’t changed much since the Age of Dinosaurs, but that just isn’t true,” says paper co-author Stephanie Drumheller-Horton, from the Department of Earth and Planetary Sciences at the University of Tennessee. “This little croc has several weird features that make us think it ate hard prey items and maybe even plants. We don’t have anything like it alive in the world today.”

But *Scolomastax* is important in other ways, too.

“This new species belongs to an extinct group of crocs called paralligatorids,” explains Dr. Alan Turner, an Associate Professor at Stony Brook University and a co-author on the study. “They have an extensive fossil record during the Cretaceous period in Asia but remain less well-known in North American deposits. *Scolomastax* is important in part for expanding our knowledge of this intriguing group.”

The landscape where *Scolomastax* lived also differed greatly from modern day. In the mid-Cretaceous, the heart of North America was covered in a shallow inland sea, cutting the continent in two. The Arlington Archosaur Site represents a rare assemblage from the eastern land mass, known as Appalachia. It would have appeared not unlike the Mississippi River delta 96 million years ago, with warm, swampy conditions and a variety of organisms living across land and water. *Scolomastax* and several other species of crocodyliform would have lived side by side with a diverse assemblage of dinosaurs, turtles, amphibians, mammals, fish, invertebrates and plants, several of which are also new species awaiting description.

“The discovery of *Scolomastax* is a great example of how fossils – even partial ones – can hold an incredible amount of important information for paleontologists. This single, scruffy-looking jaw provides a better glimpse of what north Texas and the rest of North America looked like 96 million years ago,” said Ronald S. Tykoski, Ph.D., Director of the Arctic Paleontology Center & Curator of Vertebrate Paleontology for the Perot Museum of Nature and Science. “On a more scientific level, this species strengthens a growing body of evidence showing intermittent linking of North America and Asia across Beringia (what is today Alaska and eastern Siberia) by at least 115 million years ago, and it also shows how groups of animals began to evolve and differentiate from their shared ancestors after a few million years of continents getting cut off from one another by rising seas and continental drift.”

Work at the Arlington Archosaur Site is supported in part by the National Geographic Society, who provided a grant to complete field work at the site, and the Perot Museum of Nature and Science in Dallas, who curates all the fossils found at the site and organizes the many volunteers who work there. Currently excavations at the AAS are on hiatus as the research team works on describing the thousands of specimens that have already been discovered. Notes Sahlstein, “The site has not ceased to give up its secrets.”

In addition to lead author Dr. Christopher Noto, co-authors were Thomas Adams Ph.D., Curator of Paleontology and Geology, Witte Museum; Stephanie Drumheller-Horton Ph.D., Department of Earth and Planetary Sciences, University of Tennessee-Knoxville; Alan Turner, Department of Anatomical Sciences, Stony Brook University; Ron Tykoski Ph.D., Director of the Arctic Paleontology Center & Curator of Vertebrate Paleontology, Perot Museum of Nature and Science; and Anthony Fiorillo Ph.D., Vice President of Research and Collections and Chief Curator, Perot Museum of Nature and Science.

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#### **CAPTIONS AND CREDITS - *Scolomastax sahlsteini***

**Photo1:** Photos of Arthur Sahlstein, co-discoverer of the Arlington Archosaur Site and the new fossil crocodyliform *Scolomastax sahlsteini*, which is named in his honor. Image by Chris Noto.

**Image 2: (top)** Location of the Arlington Archosaur Site in Texas, which is found in the Woodbine Formation. (bottom) Lower jaw of fossil crocodyliform *Scolomastax sahlsteini*, with a reconstruction of its body next to an average human for scale. Image by Chris Noto.

**Illustration 3:** Artistic reconstruction of *Scolomastax sahlsteini* in its environment at the Arlington Archosaur Site, feeding on the remains of a lungfish 96 million years ago. Image by Brent Adrian.

**Abstract:** Created by Chris Noto