New Species of Massive Mosasaur with Serrated Teeth is Named *T. rex*

The Holotype Fossil, for Which the Species is Named, is Exclusively On View at the Perot Museum of Nature and Science

Researchers describe *Tylosaurus rex* from more than a dozen previously known fossils and update dataset crucial for studying mosasaur evolution

DALLAS, TX (May 21, 2026) - There's a new *T. rex* in the fossil record, only this one terrorized the ancient seas. New research led by scientists at the American Museum of Natural History (New York City, NY), the Perot Museum of Nature and Science, and Southern Methodist University (SMU) uncovers a new, massive species of mosasaur, a marine reptile that lived during the age of the dinosaurs. One of the largest mosasaurs known to date—stretching up to 43 feet long—this top predator was described from 80-million-year-old fossils that were found primarily in northern Texas over the span of several decades. It was named *Tylosaurus rex*, or *T. rex* for short, meaning "king of the Tylosaurus." The holotype fossil—the name-bearing specimen—for this new species is part of the Perot Museum's collection and is exclusively on view in the *T. Boone Pickens Life Then and Now* exhibit hall.

"Active paleontological research is central to the work we do at the Perot Museum, and as a leading science and nature institution, we are committed to sharing these discoveries as they emerge," said Dr. Linda Silver, Eugene McDermott chief executive officer of the Perot Museum. "We are particularly excited to have not only contributed to the important research on the *T.* rex, but to be the home of the holotype sharing this new specimen with our community. This commitment to access and research is especially important for prehistoric animals native to North Texas, many of which can be seen in our Museum halls."

Amelia Zietlow, a research associate at the American Museum of Natural History who is now at the History Museum at the Castle in Wisconsin, began this work as a comparative biology Ph.D. student in the Museum's Richard Gilder Graduate School, when she came across a mosasaur fossil in the research collection that appeared to be misidentified as *Tylosaurus proriger*.

After comparison with *T. proriger's* holotype fossil which was described more than 150 years ago and is in the collections at the Harvard Museum of Comparative Zoology, Zietlow and colleagues suspected that the American Museum of Natural History specimen, as well more than a dozen similar fossils held at other institutions, were a different animal. Larger in stature than *T. proriger*, these fossils also have finely serrated teeth, a trait that's uncommon among mosasaurs. And while the majority of *T. proriger* specimens are found in what is now Kansas and are estimated to be about 84 million years old, these other fossils are predominantly from Texas and are 4 million years younger.

"Everything is bigger in Texas and that includes the mosasaurs, apparently," said Amelia Zietlow, lead author of the new study, which was published today by the *Bulletin of the American Museum of Natural History*.

The researchers gave the name *T. rex* to this group, an homage to paleontologist John Thurmond, who, in the late 1960s, first recognized that tylosaurs from northeast Texas stood out for their size and might belong to a new species. Thurmond, at that time an SMU paleontology graduate student, informally referred to them as "*Tylosaurus thalassotyrannus*," or "sea tyrant," along with a note acknowledging the cliché.

The holotype for the newly described *T. rex* is a giant specimen displayed at the Perot Museum that was first discovered in 1979 at Lake Ray Hubbard near Dallas. Beyond *T. rex*'s impressive size, ranging from 25 feet to 43 feet—about the length of a school bus—the new species had a suite of adaptations for exceptionally strong jaw and neck muscles, suggesting that it was a powerful predator.

"Besides being huge, roughly twice the length of the largest great white sharks, *T. rex* appeared to be a much meaner animal than other mosasaurs," said study co-author Dr. Ron Tykoski, vice-president of science & curator of vertebrate paleontology at the Perot Museum. "Through our study and examination of well-preserved fossils collected throughout the north Texas region, we have evidence of violence within this species to a degree not previously seen in other *Tylosaurus* specimens."

Some of this aggressive behavior can be seen in a *T. rex* specimen housed in the Perot Museum's collection nicknamed "The Black Knight," which is missing the tip of its snout and has a fractured lower jaw, damage that researchers say could only be inflicted by its own species. Other well-known mosasaur specimens that were previously known as *T. proriger* and will now take the name *T. rex* include "Bunker," a massive specimen on display at the University of Kansas that was discovered in 1911, and "Sophie," which is on display in the Yale Peabody Museum.

The research also addresses a long-standing problem in mosasaur evolutionary studies. The dataset traditionally used to analyze relationships among mosasaurs has remained largely unchanged for nearly three decades. As part of the new *T. rex* study, the researchers assembled a comprehensively revised dataset and a new arrangement of evolutionary relationships among tylosaurs. These results suggest that mosasaur relationships need to be re-examined, as most prior studies relied on the same, minimally modified dataset for decades.

"This discovery is not just about naming a new species," Zietlow said. "It highlights the need to revisit long-standing assumptions about mosasaur evolution and to modernize the tools we use to study these iconic marine reptiles."

Co-author Dr. Michael Polcyn, an SMU paleontologist, added: "These findings reshape both the physical and evolutionary picture of mosasaurs, underscoring Texas as a key region for understanding ancient marine ecosystems and signaling a new era of research into the evolutionary history of these formidable predators."

Many of the fossils in this study were discovered by amateur fossil hunters in the north Texas area, underscoring the important role of the citizen scientist. The Perot Museum and Shuler Museum of Paleontology at SMU paleontologists have worked closely with the amateur community for decades to ensure these important fossils are preserved in perpetuity for research and education.

Support for the *T. rex* research was provided in part by the National Science Foundation, Grant # 1938103, the Dallas Paleontological Society, the Society of Systematic Biologists, the Richard Gilder Graduate School, the Gingrich Fund, and the Carter Fund.

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Images: A reconstruction of *Tylosaurus rex* in the Cretaceous-era Western Interior Seaway of North America Courtesy of Alderon Games - Path of Titans; *Tylosaurus rex* (*T. rex*), Courtesy of Perot Museum of Nature and Science

About the American Museum of Natural History
The American Museum of Natural History in New York City, founded in 1869 with a dual mission of scientific research and science education, is one of the world's preeminent scientific, educational, and cultural institutions. The Museum encompasses more than 40 permanent exhibition halls, galleries for temporary exhibitions, the Rose Center for Earth and Space including the Hayden Planetarium, and the Richard Gilder Center for Science, Education, and Innovation. The Museum's scientists draw on a world-class permanent collection of more than 30 million specimens and objects, some of which are billions of years old, and on one of the largest natural history libraries in the world. Through its Richard Gilder Graduate School, the Museum offers two of the only free-standing, degree-granting programs of their kind at any U.S. museum: the Ph.D. program in Comparative Biology and the Master of Arts in Teaching (MAT) Earth Science residency program. Visit amnh.org for more information.

About the Perot Museum of Nature and Science
Located in the heart of Dallas, Texas, the Perot Museum of Nature and Science is a nonprofit educational and research organization dedicated to inspiring minds through nature and science. Visitors will find everything from dinosaurs to diamonds and space to sports, packed into five levels of hands-on discovery and adventure. Through its state-of-the-art exhibits, educational programming and community outreach, the Museum offers exciting and innovative experiences for learners of all ages. For more information, visit perotmuseum.org.

About Southern Methodist Shuler Museum of Paleontology
The Shuler Museum of Paleontology houses research and teaching collections of fossil vertebrates, invertebrates and plants. The museum supports the preparation, curation and loan of fossils, and fosters paleontological research at SMU by undergraduate and graduate students, faculty, staff, and visiting scholars. Current research emphasis is on fossil vertebrates and plants. Vertebrate collections have special strengths in the Mesozoic and Cenozoic of Texas, and the Mesozoic of the southwestern U.S.

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