

Team Discovers New Dinosaur Species From Montana

October 30 2009



Tatankacephalus cooneyorum. (illustration by William Parsons)

A husband and wife team of American paleontologists has discovered a new species of dinosaur that lived 112 million years ago during the early Cretaceous of central Montana.

The new dinosaur, a species of ankylosaur, is documented in the October issue of the *Canadian Journal of Earth Sciences*. Ankylosaurs are the biological version of an army tank. They are protected by a plate-like armour with two sets of sharp spikes on each side of the head, and a skull so thick that even 'raptors' such as Deinonychus could leave barely more than a scratch.

Bill and Kris Parsons, Research associates of the Buffalo Museum of Science, found much of the skull of the newly described

Tatankacephalus cooneyorum resting on the surface of a hillside in 1997. Because the skull was 90% complete, it was possible to justify this fossil as a new species.

"This is the first member of *Ankylosauridae* to be found within the Early Cretaceous Cloverly Geologic Formation," said Bill Parsons, who characterized the fossil as a transitional evolutionary form between the earlier Jurassic ankylosaurs and the better known Late Cretaceous ankylosaurs.

The skull is heavily protected by two sets of lateral horns, two thick domes at the back, and smaller thickenings around the nasal region. "Heavy ornamentation and horn-like plates would have covered most of the dorsal surface of this dinosaur" said Bill Parsons.

"For years, Bill and Kris have been collecting fossils from a critical time in Earth's history, and their hard work has paid off," said Lawrence Witmer, professor of [paleontology](#) at Ohio University who was not involved with this study. "This is a really important find and gives us a clearer view of the evolution of armored [dinosaurs](#). But this is just the first; I'm sure, of what will be a series of important discoveries from this team."

Parsons also illustrated the dermal armour of this new species based on the theory by Museum of the Rockies [paleontologist](#) John R. Horner that there was an outer keratinous sheathing on it as found in modern turtle shells and bird beaks. In his new reconstruction, Parsons suggests that *Tatankacephalus* exhibited complex and colorful patterns rather than the dull appearance suggested in earlier ankylosaur portraits. "According to Horner's theory, many other dinosaurs also had this kind of sheathing and also may have been diversely colored" said Parsons.

As to its name, the broad, short horns on the back of its skull resemble

the horns found on a modern buffalo [skull](#) and *Tatankacephalus* loosely translates as 'Buffalo head.' Parsons also noted, "of course any further allusions to the city of Buffalo are completely intentional as well".

Bill Parsons works as a teacher at the Gow School in South Wales, NY, and as scientific illustrator for the Buffalo Museum of Science. He is also freelance dinosaur illustrator whose images have appeared on the covers of Science, Nature, Time and Newsweek. The publication of *Tatankacephalus* may be the first time that an established dinosaur illustrator has discovered, prepared, researched, and published on a new dinosaur taxon.

Source: Buffalo Museum of Science

Citation: Team Discovers New Dinosaur Species From Montana (2009, October 30) retrieved 25 April 2024 from <https://phys.org/news/2009-10-team-dinosaur-species-montana.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--