

NEW HORNED DINOSAUR GENUS FOUND IN THE BADLANDS OF SOUTHERN ALBERTA, CANADA

A new genus of horned dinosaur that lived during the Late Cretaceous Period, about 77-78 million years ago in what is now southern Alberta, Canada, is rewriting the evolutionary history of these weird animals.

Dr. Michael J. Ryan, curator and head of the Department of Vertebrate Paleontology for The Cleveland Museum of Natural History made the announcement today to coincide with the publication of the new genus in the latest volume of the *Journal of Paleontology*.

The new genus of dinosaur, named *Albertaceratops nesmoi*, belongs to the group of plant-eating dinosaurs related to the well-known *Triceratops*, but lived over 10 million years earlier. The skull of the new dinosaur was discovered in the badlands along the Milk River in southern Alberta close to the Montana border. The dinosaur is estimated to have been 20 ft long and would have weighted almost 1 ton.

Albertaceratops is the first example of a centrosaurine with long brow horns like *Triceratops*. Typically members of this subfamily of the horned dinosaur family Ceratopsidae have very short horns over their eyes, a long horn over their nose and either spikes or hooks coming off of the frill that projects from the back of their skulls. Chasmosaurines like *Triceratops* have long horns over their eyes, a short nasal horn, and very little in the way of ornamentation on their frills.

“When we uncovered the skull and saw these long brow horns attached to a skull with a centrosaurine frill our jaws dropped”, said Ryan, a Canadian who was working on his Ph.D. through the University of Calgary at in 2001 when the specimen was found.

“We knew right away that we had something special—something that had never been seen before. This specimen meant that it just wasn’t the horned dinosaurs like *Triceratops* that had giant horns, centrosaurs did too”, Ryan added.

In addition to having the long brow horns, it lacks a nasal horn but instead has a long, low banana shaped bump in its place. And curling forward from the corners of its frill are two large, thick hooks.

This new specimen sent Ryan back to the drawing board to rethink the evolutionary history of horned dinosaurs. Once he finished his analysis he had determined that *Albertaceratops* was the most primitive [least derived] member of the

centrosaurs, and that it is placed just above the split that separated them from the group that includes *Triceratops*.

“This news isn’t completely unexpected”, said Don Brinkman, Curator at the Royal Tyrrell Museum in Drumheller, Alberta, where the specimen is currently housed.

“*Zuniceratops* from older sediments in New Mexico has long brow horns and is the closest relative to the family Ceratopsidae. So it’s not surprising that a ceratopsian has long horns, but it is surprising that a centrosaur would have them”, Brinkman added.

Ryan had been looking for long-horned centrosaurs in southern Alberta for about four summers before he and a volunteer found the prized skull. A few years earlier he had been shown material owned by Canada Fossils. Ltd., Calgary, which had been collected from just across the border in Montana. Although incomplete, it suggested the presence of a new long-horned dinosaur in the region.

Albertaceratops nesmoi is named to honour both the province where the new dinosaur was found and Cecil Nesmo, a local rancher living near Manyberries, Alberta, who has long supported the study of palaeontology and other research in the area.

“The most southern part of Alberta has a tremendous potential for discovering new dinosaurs, but it has been less intensely searched in the past because of the remoteness of the region compared to more well known localities such as the UNESCO World Heritage Site Dinosaur Provincial Park”, said David Evans, incumbent Associate Curator of Dinosaurs at the Royal Ontario Museum in Toronto.

For this reason, Ryan and Evans established the Southern Alberta Dinosaur Research Group (SADRG) (www.dinoresearch.ca) along with colleagues from the Royal Tyrrell Museum, and the universities of Alberta and Calgary.

In addition to facilitating the exchange of scientific information and educating students, the SADRG helps researchers coordinate their work with each other, government agencies, and the local residents so that everyone’s concerns are met.

“The only way that we can do our field work is through the continued support that we get from the local ranchers and families living across the southern part of the province,” said Ryan.

Ryan and the SADRG already have their next three field seasons mapped out, and he says that he has at least one more new, strange horned dinosaur to announce in a year or two.

Reference: A NEW BASAL CENTROSAURINE CERATOPSID FROM THE
OLDMAN FORMATION, SOUTHEASTERN ALBERTA. 2007. Michael J. Ryan.
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