Scientists name two new species of horned dinosaur

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An illustration of Unescoceratops koppelhusae, a plant-eating dinosaur from the Late Cretaceous period that lived approximately 75 million years ago. © Julius T. Csotonyi

Two new horned dinosaurs have been named based on fossils collected from Alberta, Canada. The new species, *Unescopceratops koppelhusae* and *Gryphoceratops morrisoni*, are from the Leptoceratopsidae family of horned dinosaurs. The herbivores lived during the Late Cretaceous period between 75 to 83 million years ago. The specimens are described in research published in the Jan. 24, 2012, online issue of the journal *Cretaceous Research*.

"These dinosaurs fill important gaps in the evolutionary history of small-bodied horned dinosaurs that lack the large horns and frills of relatives

like Triceratops from North America," said Michael Ryan, Ph.D., curator of vertebrate paleontology at The Cleveland Museum of Natural History, lead author on the research. "Although horned dinosaurs originated in Asia, our analysis suggests that leptoceratopsids radiated to North America and diversified here, since the new species, *Gryphoceratops*, is the earliest record of the group on this continent."

An illustration of Gryphoceratops morrisoni, a plant-eating dinosaur from the Late Cretaceous period that lived approximately 83 million years ago. © Julius T. Csotonyi

Unescoceratops koppelhusae lived approximately 75 million years ago. It measured about one to two meters (6.5 feet) in length and weighed less than 91 kilograms (200 pounds). It had a short frill extending from behind its head but did not have ornamentation on its skull. It had a parrot-like beak. Its teeth were lower and rounder than those of any other leptoceratopsid. In addition, its hatchet-shaped jaw had a distinct portion of bone that projected below the jaw like a small chin.

The lower left jaw fragment of *Unescoceratops* was discovered in 1995 in Dinosaur Provincial Park, a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site by Philip Currie, Ph.D., now of the University of Alberta. Originally described in 1998 by Ryan and Currie, the dinosaur was referred to as Leptoceratops. Subsequent research by Ryan and David Evans, Ph.D., of the Royal Ontario Museum in Toronto, Canada, determined the specimen was a new genus and species. The genus is named to honor the UNESCO World Heritage Site designation for the locality where the specimen was found and from the Greek "ceratops," which means "horned face." The species is named for Eva Koppelhus, Ph.D., a palynologist at the University of Alberta and wife of Currie.

Gryphoceratops morrisoni lived about 83 million years ago. It had a shorter and deeper jaw shape than any other leptoceratopsid. Researchers believe the individual was a full-grown adult. Based on unique characters of the jaw and its size, the researchers believe that *Gryphoceratops* was an adult that did not exceed one-half meter in length. This means it is the smallest adult-sized horned dinosaur in North America and one of the smallest adult-sized plant-eating dinosaurs known.

Lower right jaw fragments of *Gryphoceratops* were discovered in southern Alberta in 1950 by Levi Sternberg while he worked for the Royal Ontario Museum. The genus is named for "Gryphon," a mythological Greek figure with the body of a lion and the head of an eagle, which is a reference to the animal's beaked face. The species name honors Ian Morrison, a Royal Ontario Museum technician.

Second author Evans, associate curator of vertebrate palaeontology at the Royal Ontario Museum and assistant professor at the University of Toronto, said, "Small-bodied dinosaurs are typically poorly represented in the fossil record, which is why fragmentary remains like these new

leptoceratopsids can make a big contribution to our understanding of dinosaur ecology and evolution."

Provided by Cleveland Museum of Natural History