

Fossils In North Dakota

FIND is a newsletter dedicated to helping young readers (in age or spirit) express their love of fossils and paleontology, and to help them learn more about the world under their feet. Each issue will be broken up into sections including Feature Fossils, Travel Destinations, Reader Art, Ask Mr. Lizard, and more!

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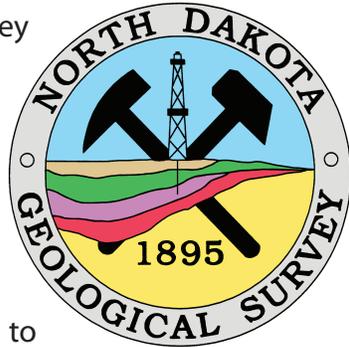
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<https://www.dmr.nd.gov/dmr/paleontology/fossils-north-dakota-find-newsletter>



Feature Fossil: *Eoarctos vorax*

About 32 million years ago, during the Oligocene in North Dakota, our landscape looked similar to what you might find today, but inhabited by different plants and animals. The climate was cooling from the "Eocene thermal maximum", scrublands and grasslands were taking hold of larger areas, tropical plants were disappearing or being pushed further south to warmer, wetter areas, along with larger reptiles that also needed warmer temperatures to live comfortably. It was even cool enough for glaciers to start forming in Antarctica.

If you have ever visited the Big Badlands in South Dakota, these are the same age of rocks that we find in the Little Badlands of North Dakota, south of Dickinson. Many of the same species can be found in both places, however the numbers of each are different. For instance, in South Dakota, there tend to be more oreodonts – small mammals that were similar in appearance to a sheep-camel-pig, that has no modern day descendants. North Dakota, on the other hand, has a higher number of *Subhyracodon* (FIND 21), a hornless water-loving rhino. This could be explained by a difference in habitat – perhaps ND had more waterways, rivers, or lakes, than SD had.

Inside those waterways lived a variety of creatures such as snails, clams, small alligators, turtles, and fish. Where there is food in water, there will be things waiting to eat that food. One such creature was

a small mammal just discovered and named *Eoarctos vorax*. **Eos** comes from Greek referencing the goddess of the dawn, and **Arctos** is Greek for bear. **Vorax** is Latin for devouring, or voracious. While the "Devouring Dawn Bear" sounds intimidating, the actual creature is about the size of a housecat. While working on it, we dubbed it the kitten-otter-bear. Cat sized, otter shaped, but at the base of the bear evolutionary tree. What about the "devouring" or "voracious" part? Turns out the teeth of this creature were a lot more squashed and ridged than what we would expect for a small carnivore. Teeth that were becoming suited to crushing hard objects, like clams or snail shells – but not perfect at it. Of the multiple jaws found, most had broken teeth and jaw infections. The animal cast on display in the newest paleo exhibit at the Heritage Center and State Museum in Bismarck had broken teeth and a jaw infection on one side, so the animal switched to chewing on the other side – then broke those teeth as well! The jaw that was found here in ND didn't have any infection, but it did have broken teeth. We would say this creature practiced "durophagy" – or the eating of hard things.

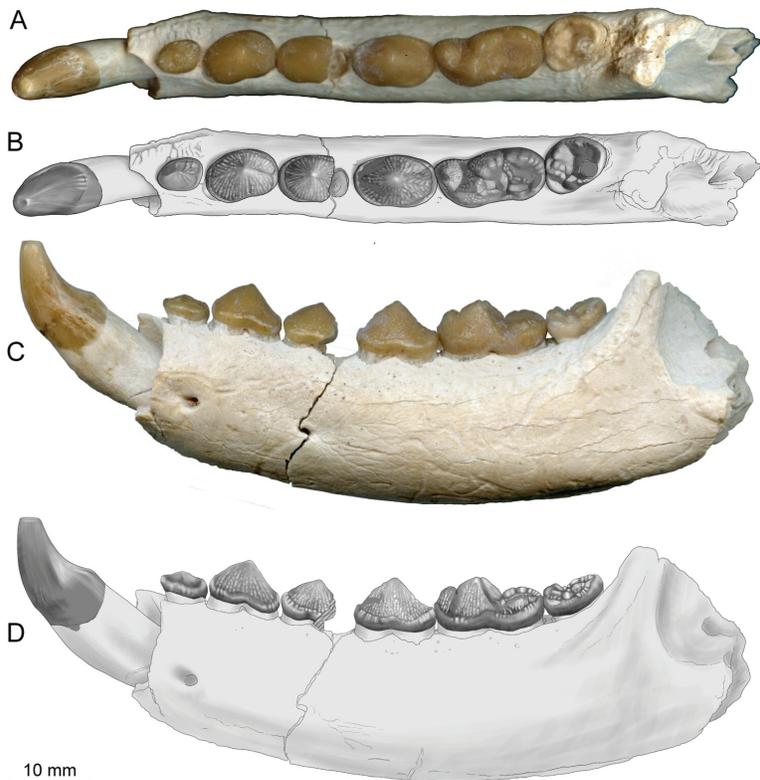


Image submitted for the publication, with the NDGS 1539 jaw photographed, then illustrated to show the ridged teeth.



Eoarctos had a long tail, but not prehensile. It's hands and feet were similar to what you might see in a raccoon – good for grasping. It could most likely climb trees, but didn't live in them. Imagine an otter or fisher body, with longer raccoon like legs, and that would be pretty close to what it looked like. You can see a gorgeous illustration by Mark Hallett hanging above the new display (below).



Want to read more about *Eoarctos*? We just published an in-depth article in the Journal of Vertebrate Paleontology here:

<https://tinyurl.com/eoarctos>

Bears bears everywhere!

How many names and words do we use that reference bears? A ton! People seem to love bears, and their names pop up everywhere.

Ursus/Ursa is Latin for he-bear/she-bear – the name “Ursula” translates to “little she bear”. The constellation of stars we call the Big Dipper, is known as Ursa Major (great bear), while the little dipper is called Ursa Minor (lesser bear).

Arktos is Greek for bear. We often see the k replaced with a c, such as in the Arctic or Antarctic. The Arctic is the northern polar region which contains bears, such as **Ursus arctos** (the brown bear) – literally meaning “bear bear”. The “ant” preceding “arctic” for Antarctic means opposite of, or without. Ancient Greeks knew of a northern land, under Ursa Major, which they called “Arktos” and thought it was balanced by another landmass to the south, in opposite - “Ant Arktos”. It also happens to not have any bears...

We also see “bear” pop up in names for people. Arthur is a Celtic name for bear - maybe you've read tales of King Arthur? Nanurluk is an Inuit name, meaning polar bear. Bern come from German, and is the root for names such as Bernhardt and Bernadette. Garcia is a popular Spanish and Portuguese last name, also meaning bear. Ohto, Otto, and Otso have Finnish origins, meaning bear. If you use Duolingo, one of the cartoon characters is a bear by the name of Falstaff (seen at right) - but I discovered when learning Finnish, he introduces himself as Otso - bear! Bjarni and Bjorn are popular Scandinavian bear words. Old English and Dutch gave us Bruin. Oberon from Shakespeare's *Midsummer Night's Dream*, and Teddy, popularized with Theodore Roosevelt, also refer to bears. And that's just a start!



Check out the new skulls at the Walhalla Public Library! New mosasaur from the Pembina Gorge, and *Ichthyodectes* the fish.

