

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



Zoom Paleo Talks - Classroom Edition

Did you know we occasionally do ZOOM chats with classrooms? We do! There are so many schools scattered across North Dakota, and many do not have the opportunity to visit us in person in Bismarck. Fossil displays can be found in places like Bowman or Valley City as well, but maybe those locations aren't convenient to bus a class to either.

While we generally can't drive out to schools to present (otherwise that's all we'd be doing!), we CAN chat with classes via Zoom or Skype, and are happy to answer questions.



Ask Mr. Lizard

(some questions from our last Zoom session with 3rd graders!)



How many *Tyrannosaurus* have you dug up?

Zero! We dig up dozens of teeth, but haven't yet uncovered more than a couple bones from the body of a *Tyrannosaurus*.

What is your favorite dinosaur?

Becky: *Triceratops*, the three-horned dinosaur

Clint: *Stegosaurus* with the plates and tail spikes

Jeff: *Saurophaganax*, the giant allosaur

How many fossils have you dug up?

If you count big bones, then hundreds. If you count tiny microfossils picked using a microscope - then tens of thousands. A single big bone takes a long time to uncover, but tiny bones are usually collected faster. If you look in our collections, a single drawer may contain a half-dozen big bones, or thousands of microfossils.

How do you know where to dig?

First we look at maps that we or others have made, that graph out different rocks at the surface. It's better to start searching where you know there are rocks of the right age, for what you're looking for. For instance - you won't find dinosaur bones in Oligocene-aged rocks (~32 million years old) - you need to look for Cretaceous-aged rocks (~67 million years old).

Second, we do a lot of walking. Searching for a new site can take minutes, hours, days, weeks, or months, depending on luck. We look for tiny scraps of bone weathering out of the ground or hillside, then trace those scraps to where we think / hope they're coming from.

Then we have to figure out if it's just a single bone, or if there's a layer of bones.

How long does a fossil take to clean?

That really depends on the fossil. You get some that are durable and clean fast, and some that are very fragile and take a lot of time. The fastest fossils to clean (tiny teeth or bones) can take seconds to minutes. A larger dinosaur bone can take months, to carefully scrape away the rock and add glue. Or, take for instance Dakota the Dinomummy - we have been cleaning parts of that fossil since 2008! That's over 14 years!

Walsh County Historical Museum, Minto ND: Exhibit Update



We had a wonderful adventure this fall. We received a request for help from the Walsh County Historical Museum, located in Minto, ND. They had a fossil exhibit, and they needed help making sure their labels were correct, and identifying some of the specimens on display.

Their plan was to completely disassemble the current exhibit, repaint the walls, uniform and modernize the labels, and generally give the fossil section an update. Their curator, Shannon, sent us some photos of what was on exhibit, and we were blown away at the variety of fossils collected across North Dakota. Anything from dinosaur bones, to Oligocene mammals, sea monsters and fish, to plants. Many of the fossils had been collected in the 1970s by an avid rockhound, and then donated to the museum.

The local High School had a team of students who were set to assist with the remodel and labeling – they just needed a little help getting started. November 1st Becky and Trissa packed some supplies, then headed up north to check out the space. Their visit began with an orientation with the High Schoolers that would be helping. Keep things uniform on the labels, and try to find some interesting facts about the fossils – for example – there was a *Subhyracodon* jaw. That's fine and all, but what's neat about that? Is it cool that there were rhinos that once roamed across North Dakota? Or that the rhinos didn't have horns? Or that they had odd-toed feet and are closely related to horses?

Next they stopped in at the museum itself. The museum is a converted multi-story school building, with wooden floors, beautiful stairs and bannisters, and a very large gymnasium space. Every nook and cranny was neatly organized and filled with historical artifacts and natural specimens. The fossil case took up an entire wall, with shelves and old photographs covering the space.

The goal for the paleo team are to clean and repair any damaged or dirty fossils, and get them set up in a fabric-covered cavity mount that we can tilt up for viewing. That

way fossils aren't lying flat on the shelf, which makes viewing them difficult, but still keeps them safe and secure.



Here we have Trissa-for-scale in front of the now empty fossil display.



Above are a series of fish vertebrae. On the left the fossils are covered in shale, and on the right the shale has been cleaned away.

If you've never been to Minto, ND to see the Walsh County Historical Museum, we highly recommend it. Check in with their Facebook page for hours (they are closed in winter).

<https://www.facebook.com/WCHMMinto>

Each year we try to come up with more paleo-themed ornaments. Last year we had a whole tree to decorate! The colored ones below were part of the Department of Mineral Resources tree, while the "skullflakes" are new to this year. Enjoy!

