

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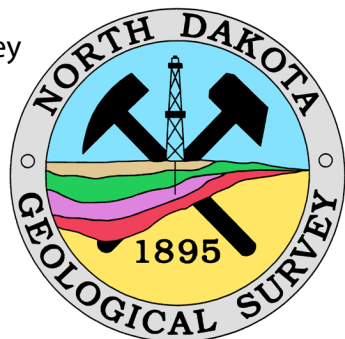
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<https://www.dmr.nd.gov/dmr/paleontology/fossils-north-dakota-find-newsletter>

Feature Fossil: *Aesculus hickeyi*

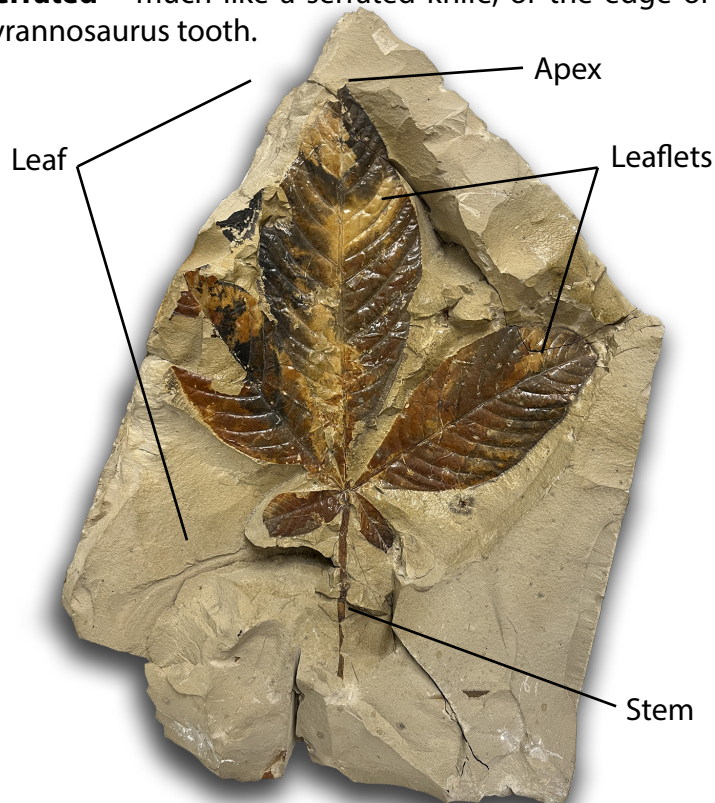
In 1989 paleontologist John Hoganson was contacted by farmer Clarence Johnsrud about an extraordinary collection of Paleocene plant fossils. Clarence had saved and salvaged numerous slabs (many tons worth) of leaves during the 1987 rebuilding of highway 1804, north of Trenton, ND. He had spent the years prior to contacting Dr. Hoganson carefully splitting and trimming down the tons of rock into hundreds of excellent leaf specimens, from dozens of different plants. There were fern fronds, *Metasequoia* (Dawn Redwood) branches, large *Platanus* (Sycamore) leaves – a bronze copy of which now hangs proudly on the fossil lab entrance. There were also detailed compound leaves from *Aesculus hickeyi* – an extinct relative of the Horse chestnut.

Clarence Johnsrud



Clarence Johnsrud

Horse chestnuts and Buckeyes all belong to the genus *Aesculus*, nestled in a Family called Sapindaceae. While horse chestnuts are mildly toxic, you may find their relatives in a grocery store: Rambutan and Lychee. *Aesculus* have **palmate** leaves (Latin for “hand-shaped”) meaning the leaflets all grow out of the same central point. Each leaf has five “leaflets” with a **cuneate** (triangular, or wedge-shaped) stem. They are “spatulate” with a narrow stem, and broad towards the end like a big spoon, but taper to a point at the **apex** (leaf tip). The edge of a leaf is called the **margin**, and *Aesculus* has a jagged appearance called **serrated** – much like a serrated knife, or the edge of a tyrannosaurus tooth.



To produce the chestnuts, or “conkers,” an *Aesculus* tree needs flowers. A single flower has petals that are white on the edges, and yellow or pink near the center. They are arranged in a massive cluster with dozens of flowers called a **panicle**. Generally only a few conkers grow from each cluster of flowers.



Above: Modern *Aesculus* flowers (left) and a fossil panicle (right).

Below: Modern Horse chestnuts (left) and a fossil chestnut showing two seeds (right).



Where does the name “conker” come from? A children’s game in British Isles is played by first gathering the chestnuts and drilling a small hole through the middle of them. They are threaded onto a string or shoelace (about a foot long), and secured with a knot at the bottom. The first player holds their chestnut still (dangling from the string), while the second player attempts to strike it. Taking turns attacking and defending, points are scored with

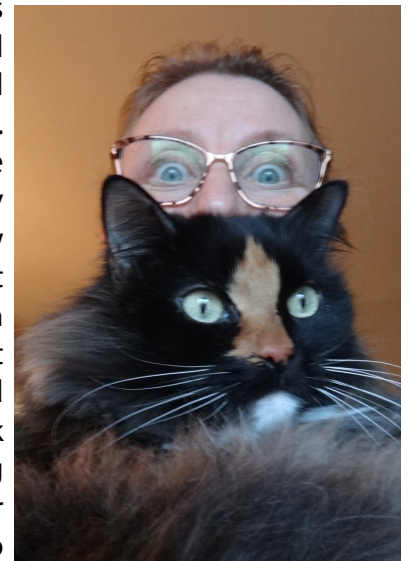
each successful strike, until one of the conkers breaks. There are many variations on points, scoring, and house-rules of what happens if you drop your conker, or if the string breaks – but that’s half the fun, right?

V. I. P. (Very Important Paleontologist)
Catherine (Cathy) Lash



My name is Cathy Lash, I am a paleontologist and a geologist, a crafter and a cat mom. I have lived in six states across the U.S. from the west coast to the east coast, and from the southwest to the midwest. I received my master’s degree in geology from Montana State University and discovered a marine

crocodile in the process. I worked as fossil preparator at Petrified Forest National Park in Triassic-aged rocks containing archosaurs (early crocodile and dinosaur relatives) and the earliest dinosaurs. I also worked at Yale University, Peabody Museum on their new renovation project with a collection from all over the world that is over one hundred years old! I love to work with my hands sewing and all sorts of other crafts from beading to blacksmithing.



You were hired by NDGS Paleo as a fossil preparator – what got you started in paleontology?

I actually came into paleontology in a roundabout way. Ever since I was a kid, I have enjoyed collecting interesting rocks, the fantastical esthetic of things that once were or possibly could have been and creating things with my hands. But I never put it all together until I was in college. It was then that I started looking into volunteering as a fossil preparator and got

my first taste at the La Brea Tar Pits in Los Angeles, California. I fell in love with the work and have been practicing this career ever since.

Do you have a favorite prehistoric plant or animal?

I have a few! But I would say my longest running favorites are the long-necked plesiosaurs, like the elasmosaurs.



What is your favorite kind of fossil to prepare?

I like to prepare just about anything, especially if it's an animal that I have never prepared before. I also like to re-prepare and repair old fossils exhibits that were prepared in the past (for example, 50 to 100 years ago). Since techniques and materials change and become better over time, deconstructing how preparators used to do things is very intriguing to me. It lets me see through a very special window of how preparators thought through their craft in the past.



Preparators are constantly learning new things – we're gearing up to attend the Association of Methods and Materials in Paleontology (AMMP) conference to learn even more. Can you tell us about any cool techniques you've learned?

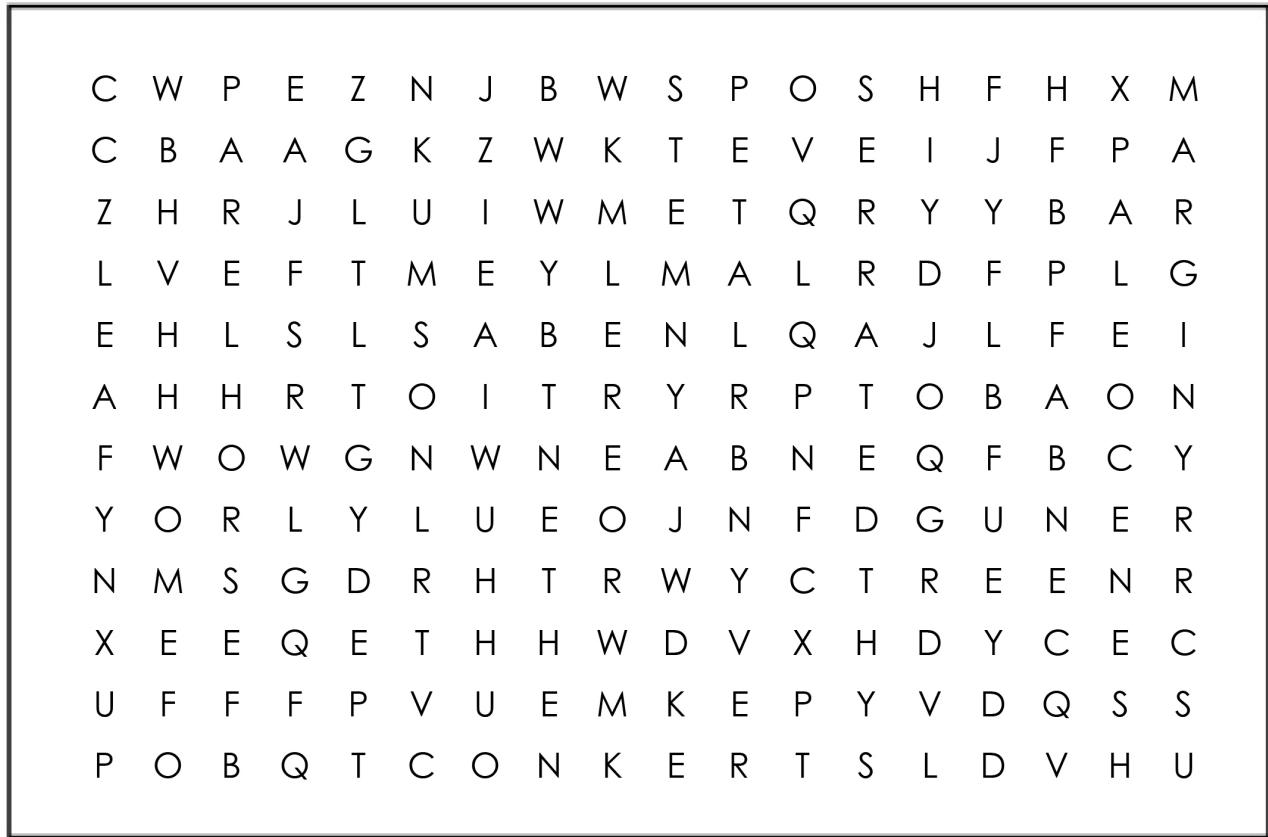
One of the most mind-blowing things I learned was that epoxy adhesive can be removed with fresh

pineapple juice. Pretty cool!

Can you give any advice to readers that may be interested in learning fossil preparation?

Take classes or workshops that relate to preparation even in a seemingly remote way (art, crafting, biology, geology, etc.). Learn techniques. Go to conferences if you can. Talk to people in the field. And volunteer! There is only one way to find out if you like fossil preparation and that is to do it.





Find the following words in the puzzle.
 Words are hidden → ↓ and ↘ .

BRANCH
 CHESTNUT
 CONKER
 FLOWER
 HORSE

LEAF
 MARGIN
 PALEOCENE
 PALMATE
 PETAL

SERRATED
 STEM
 TREE

