



Junior Paleontologists Journal – Week 3

Welcome back, Junior Paleontologists!



Are you ready to continue your adventures with dinosaurs and other fossils for another week?

Dinosaur Detectives:

Did you figure out what the tracks of *Dilophosaurus* looked like?

Here is a picture of *Dilophosaurus* tracks from our exhibit at MNA:



Does this look like the tracks you drew or imagined?

There are some tracks like these in sandstones near Tuba City, Arizona.

Now for Week 3:

Our first dinosaur was *Coelophysis* from the Triassic Period. Our second was *Dilophosaurus* from the Jurassic Period. This week we will look at a dinosaur from the Cretaceous Period.

It is a very different dinosaur, with the very difficult name *Nothronychus*. Besides its strange name, this dinosaur might be the strangest, weirdest dinosaur in the world!

This is my favorite middle-size dinosaur because it is so weird, and because with a field crew I excavated it from southern Utah. This one is a little bigger than *Dilophosaurus* from last week, and much heavier. We have a complete skeleton on display at the Museum of Northern Arizona.

First, let's have some fun with two very hard words: "*Nothronychus*" and "*therizinosaurus*." This dinosaur's name is *Nothronychus*. Say it out loud: NO-throw-NIE-kus.

Practice that, say it three times in a row.

NO-throw-NIE-kus NO-throw-NIE-kus NO-throw-NIE-kus

This dinosaur has a family with other dinosaurs, all of them very weird. The family is called the "*therizinosaurus*" or THAIR-uh-ZINE-o-saurus. The first part of the name sounds like the TH in "throw."

Now say it three times in a row.

THAIR-uh-ZINE-o-saurus THAIR-uh-ZINE-o-saurus THAIR-uh-ZINE-o-saurus

Now practice: say "*Nothronychus* is a *therizinosaurus*" three times in a row. Congratulations, you are becoming a Junior Paleontologist!

Secret: Grownups have a hard time with these two names, but I'm sure you can learn to say them right away.

The family is named for sickle claws on some relatives from Mongolia. That family is called the "*therizinosaurus*."

What does *Nothronychus* mean? It is named for claws on the front feet – the name means “slothful claw.” The front feet both have three very sharp, curved claws, that look a lot like the claws of a tree sloth. The claws also look like a tool that farmers use called a “sickle” or a “scythe.” This is a picture of a scythe that farmers use to cut grass or wheat, and a picture of a man cutting grass.



And here is a photograph of the claws on the front feet of the mounted skeleton at the Museum of Northern Arizona. The claws look like the claws on a house cat, but they are more than 10 times bigger, and just as sharp!



Dinosaur Detectives:

Before you look at the entire skeleton on the next page, try to imagine how *Nothronychus* used these claws.

Your ideas: _____

Hint: it is a mystery, and no one knows for sure!

Do you have any questions for Dinosaur Dave?

Question: _____

Dinosaur Detectives: Did you come up with any ideas on how *Nothronychus* used those claws on the front feet?

Here is a photograph of the skeleton from the front. From this angle it looks like the hands would reach out and grab you. But it doesn't look very fierce.

Does this change your ideas of what the claws were for?

Have you ever seen a dinosaur that looks like this?

Is it like *Coelophysis* or *Dilophosaurus*?

Or is it like a long-neck (sauropod) or a T. rex or a Triceratops?



In this standing posture the skeleton is 13 feet tall, that's taller than the ceiling in most homes.

Dinosaur Detectives: Today's puzzle is to think about what this strange dinosaur ate. Look at the head and teeth. Can you even see the teeth? Can you see any teeth at all in the front of the mouth?

What do you think *Nothronychus* ate? Was it a meat eater? A plant eater?

Your answer: _____

Dinosaur Artists: In the space below, draw a picture that shows *Nothronychus* feeding on whatever you think was its food. Be sure to put its name and your initials on the picture.

Dinosaur Detectives: Did you come up with answers from yesterday's puzzle? What did *Nothronychus* eat? Here are some more pictures that might help test your idea.



Some clues are the tiny teeth and very small head and jaws. If you look closely, you see that *Nothronychus* has no teeth in the front of the upper jaws or lower jaws. And no big chompers like you would expect for a predator. The answer is still a puzzle. We think it must have been a plant eater, but what kind of plants? We don't really know.

Dinosaur Artists and Dinosaur Detectives: Can you make a drawing of *Nothronychus* that shows how it used those claws and jaws for feeding?

How did it gather food?

How did it get the food to its mouth?

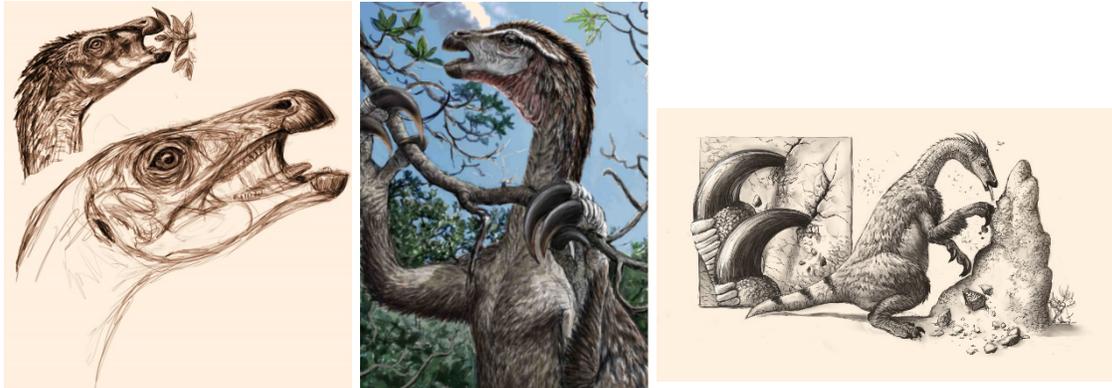
Let's call this the CLAWS AND JAWS PUZZLE! Make your drawing on the next page and be sure to put its name and your initials on the drawing. I love to see your artwork!

Or, write a poem or story about how *Nothronychus* used the claws and jaws for feeding. I love to read your ideas!

My answer to the CLAWS AND JAWS PUZZLE:

Dinosaur Artists and Detectives: What is the answer to the JAWS AND CLAWS PUZZLE?

Did you think *Nothronychus* was a plant eater? Maybe and maybe not! Here are three paintings by artist Victor Leshyk that show what the head looked like and how *Nothronychus* might feed on leaves, or maybe even on ants and termites:



Dinosaur Detectives:

The biggest puzzle of all: Which dinosaur family does *Nothronychus* belong in? Look at the picture of the whole skeleton.



Can you see how big the rear legs are?

And can you see how big the belly is?

And how long the neck is?

In Victor Leshyk's painting below you can see *Nothronychus* swimming in the ocean. Can you see anything in this painting that might be a clue about its family?



Dinosaur Artists and Detectives: Think about all the dinosaurs you already know. Write a story or poem in the space below about the dinosaur you think is a close relative of *Nothronychus*. Be sure to put its name and your initials on it.

Or, draw a picture in the space below of the dinosaur that you think is a closest relative, like a cousin, to our *Nothronychus*. Be sure to put its name and your initials on the drawing.

Dinosaur Detectives and Dinosaur Artists

Did you see anything in the painting that gave you a clue? Look carefully.

Can you see the feathers???



This is one of the dinosaurs that is a relative of *Nothronychus*.

Can you tell which dinosaur this is?



Yes! This is *T. rex*, with feathers!

Meat-eating dinosaurs, called carnivores, all had feathers. These two drawings show what *T. rex* looked like in life, with feathers. We know that *Nothronychus* had feathers too, because a small therizinosaur cousin from Asia has feather impressions in the rock attached to its skeleton. Surprise! *T. rex* and *Nothronychus* are also cousins.

The answer to yesterday's question: The closest relatives of *Nothronychus* are the carnivorous dinosaurs like *Coelophysis* and *Dilophosaurus* and *T. rex*. But *Nothronychus* had one very big difference -- it probably not a meat-eater, but instead ate plants.

Dinosaur Detectives and Dinosaur Artists:

I have one more mystery: What is the bone that is V-shaped in the middle of the chest in this photograph of *Nothronychus*?



Detectives: What is this bone?

Write your answer here: _____

Detectives and Artists:

Can you think of another animal that has a bone like this?

Make a drawing of it here and be sure to put its name and your initials on the picture.

Or write a story or poem about another animal that has a bone like this.

Hint: think Thanksgiving!

We will post the answer next week. This is the biggest surprise of all!