Scientists Identify Remains of Bird-Like Dinosaur in North America

Also, researchers find skeletons of small dinosaurs that lived in North America 70 million years ago; plus, small T-Rex found in Alaska; and, two studies show the daily life of dinosaurs | *Science in the News*

From VOA Learning English, this is *Science in the News*.

I'm Anna Matteo.

And I'm Christopher Cruise.

Today on the program, we tell about some of the many recent discoveries about dinosaurs. These creatures died out long ago, but scientists are still learning lots of things about them.

The "Chicken from Hell"

Dinosaur experts have identified the remains of an ancient, bird-like creature formerly unknown to scientists. The animal lived in what is now North America almost 70 million years ago. It was large and covered with feathers. Experts say the dinosaur belongs

to a group of plant- and meat-eating creatures that once lived in Central and East Asia.

Scientists say the animal looked like a mix between a very large chicken and a big reptile or lizard. In the words of one researcher, it looked like a "stretched-out chicken."

Scientists are calling the dinosaur "Anzu Wyliei." They say it had a beak, or hard nose, but no teeth for breaking down food. It had a long neck, a bony crest on the top of its head and very sharp claws.

Hans-Dieter Sues is a paleontologist with the Smithsonian Institution's National Museum of Natural History in Washington, DC.

"So you basically have this, this great big, bird-like creature with a long tail, long arms ending in huge claws, feathers over all of its body."

The dinosaur was identified from three sets of fossil remains. The fossils were discovered in a place called the "Upper Cretaceous Hell Creek Formation." It is in the American states of North and

South Dakota. So, paleontologists are calling the creature the "Chicken from Hell." They say it was more than three-and-a-half meters tall and weighed between 200 and 300 kilograms.

There is an almost-complete skeleton of Anzu Wylei at the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania. Researchers with the Smithsonian discovered one of the fossils. They helped describe the findings in a report in the journal *PLoS One.*

Hans-Dieter Sues says the large, feathered animal belongs to a family of dinosaurs called "Oviraptorosauria." He says Anzu is named for a mythological bird-like creature from Mesopotamia. It ate both plants and animals, and lived in wetlands.

Anzu was one of the last dinosaurs to live in what is now the United States. Mr. Sues says it lived in the same area -- and around the same time -- as the horned triceratops and Tyrannosaurus Rex. But Anzu had long, powerful legs and sharp edges on its wings. As a result, it was not easy to kill.

"Anyone who has ever sort of tried to corner an ostrich today has lived to regret this because these animals are certainly, when,

when they are cornered, they will certainly defend themselves very effectively, and particularly this animal with its huge hand claws would certainly (have) shredded any attacker."

The dinosaur family to which Anzu and its Asian relatives belong also includes creatures as small as another modern bird, the turkey.

Scientists have suspected for almost a century that giant oviraptosaurs once lived in what is now North America. The latest fossil evidence proves that their theories were correct. Hans-Dieter Sues says there may be bones in other collections that will help paleontologists get a better understanding of "The Chicken From Hell."

Found: A Tiny T-Rex

Paleontologists recently found the fossilized remains of a very small Tyrannosaurus Rex in northern Alaska. They say the creature lived in the Arctic about 70 million years ago. It was half the size of its relatives living farther to the south.

Most cars weigh more than the small T. Rex did. Researchers have named it "Nanuqsaurus." The name means "polar bear lizard" in the Alaskan Inupiat language. Its scientific name is *Nanuqsaurus hoglundi*.

Scientists say when the dinosaur was fully-grown, it was about six meters long and weighed just 450 kilograms. They say the creature looked just like its huge relative, except that it was just half the size.

The paleontologists work for the Perot Museum in Dallas, Texas. They reported finding part of a skull and upper and lower jaw bones of the small T. Rex. They made the discovery while digging up the remains of another small, horned creature formerly unknown to scientists.

Anthony Fiorillo found the bones of Nanuqsaurus in the Prince Creek Formation in Alaska's North Slope.

"I am absolutely thrilled by this discovery. And the fact that we found not one, but two brand-new animals in the very same hole in the ground is absolutely mind-boggling to me."

The discovery of Nanuqsaurus did not come as a complete surprise to the researchers. They had suspected the existence of a meat-eating predator in the Arctic. That is because they had found teeth marks on the bones of the horned dinosaur. They say it was probably a victim of the small T. Rex.

Matt Lamanna is with the Carnegie Museum of Natural History in Pittsburgh. He says because the Arctic is dark for half of the year, there was probably not much for the Nanuqsaurus to eat.

"There was evolutionary pressure on it to develop small size because the environment it was living in probably would have had less food -- or at least less consistently-available food -- than environments further south that were, you know, far less seasonal that didn't have long periods of darkness and long periods of light."

Experts say Nanuqsaurus was not the only ancient creature that learned how to survive in extreme environments. Some mammoths the size of cows once lived on an island along Russia's Arctic coast.

Anthony Fiorillo and his team describe their discovery of the small Tyrannosaur in the journal *PLoS One*.

Losing Teeth: The Daily Life of Dinosaurs

Plant-eating dinosaurs that lived between 76 and 150 million years ago are the subject of two recent studies. One study examined a newly-discovered species, or class, of dinosaur. The other looked closely at the teeth of these ancient creatures.

Grand Staircase Escalante National Monument is considered the last great, largely unexplored area for dinosaur fossils in the United States. You can find it in the high desert of southern Utah.

In recent years, paleontologists working there have found evidence of about 20 species. Their latest discovery is called "Nasutoceratops," which means "big-nosed, horn face." It appears to be a new member of the horned dinosaur family related to the Triceratops.

Sampson led the project as chief curator of the Natural History Museum at the University of Utah. He says Nasutoceratops lived 76 million years ago.

"He, and/or she is unique in having this tiny little horn over the nose and then these big long horns over the eyes, which is very different from the closest relative within that group of horned dinosaurs."

The four-legged, plant-eating creature was five meters long from head to tail and weighed about 2.5 tons. Scott Sampson says the discovery includes a nearly complete 1.5 meter-long skull, and pieces of two or three other skulls.

"With that mostly-complete skull there is a neck and part of the back that is the vertebrae in the backbone. We also have a forelimb shoulder and forelimb all the way down to the foot on that one animal. So, we're missing the back end of Nasutoceratops right now."

Nasutoceratops will be on permanent display at the Natural History Museum of Utah. The discovery was reported last year in the British scientific journal *Proceedings of the Royal Society B*.

Dinosaurs' Teeth Tell the Story of Their Daily Life

Another scientific journal -- *PLoS One* -- recently told about one of the largest plant-eaters ever discovered: the long-necked, long-tail, large-bodied sauropod. Michael D'Emic is a paleontologist at Stony Brook University in New York State. He and other researchers studied two distantly-related dinosaurs -- Diplodocus and Camarasaurus. They are each large in size, but have different body types.

Diplodocus has low shoulders and a whip-like tail. It also has a very long neck and a skull shaped like that of a horse. Camarasaurus had a shorter neck and thicker tail, larger teeth and a wider skull.

"Our starting question was: 'How did these animals live for so long, side-by-side in the same ecosystem?'"

Michael D'Emic believed that what the animals ate may have helped them live together. So he and other researchers removed teeth from the skulls of two of the animals to search for clues.

"We looked at their tooth shapes, their tooth sizes, and their tooth formation and replacement rates and we found that those things were very different in these two animals."

About 150 million years ago, Diplodocus and Camarasaurus ate plants like ferns and hard-to-chew evergreen vegetation like conifers. These cones could quickly wear down the dinosaurs' teeth. But sauropod teeth grew quickly: when one tooth fell out, another was ready to replace it.

Michael D'Emic says the study showed how quickly that happened.

"Diplodocus was an extreme case. So, it would have had a new tooth in each tooth socket about every month. Camarasaurus, a little bit slower -- about one tooth every two months. Now because Camarasaurus' teeth are so much bigger and broader though than were Diplodocus' were, it was actually producing and going through a lot more material faster."

He says eating customs helped the two large dinosaurs survive in the same ecosystem. He says Camarasaurus was careful about

what it ate. But Diplodocus put its head to the ground and eat as much as it could as fast as it could.

He says studies like his tell us about the daily life of dinosaurs.

This *Science in the News* was based on stories from VOA reporters Jessica Berman and Rosanne Skirble. It was written and produced by Christopher Cruise.

I'm Anna Matteo.

And I'm Christopher Cruise.

I hope you will join us again next week for more news about science on the Voice of America.

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