

An Arizona museum tells the stories of ancient animals through their fossilized poop

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Fossilized crocodilian excrement is displayed at the "Poozeum", Friday, June 7, 2024, in Williams, Ariz. The museum in northern Arizona along Route 66 features the fossilized feces of prehistoric animals. Frandsen has been collecting the fossils known as coprolites for nearly three decades. His museum features roughly 7,000 fossils, including one suspected to be from a Tyrannosaurus rex. Credit: AP Photo/Ty O'Neil

One way to help tell how a Tyrannosaurus rex digested food is to look at its poop.

Bone fragments in a piece of fossilized excrement at a new [museum](#) in northern Arizona—aptly called the Poozeum—are among the tinier bits of evidence that indicate T. rex wasn't much of a chewer, but rather swallowed whole chunks of prey.

The sample is one of more than 7,000 on display at the museum that opened in May in Williams, a town known for its Wild West shows along Route 66, wildlife attractions and a railway to Grand Canyon National Park.

The Poozeum sign features a bright green T. rex cartoon character sitting on a toilet to grab attention from the buzzing neon lights and muffled 1950s music emanating from other businesses.

Inside, display cases filled with coprolites—fossilized feces from animals that lived millions of years ago—line the walls. They range from minuscule termite droppings to a massive specimen that weighs 20 pounds (9 kilograms).

Poozeum's president and curator, George Frandsen, bought his first chunk of fossilized feces from a shop in Moab, Utah, when he was 18, he said. He already loved dinosaurs and fossils but had never heard of fossilized poop. From there, his fascination grew.



President and curator George Frandsen stands for a photograph inside his "Poozeum", Friday, June 7, 2024 in Williams, Ariz. The museum in northern Arizona along Route 66 features the fossilized feces of prehistoric animals. Frandsen has been collecting the fossils known as coprolites for nearly three decades. His museum features roughly 7,000 fossils, including one suspected to be from a Tyrannosaurus rex. Credit: AP Photo/Ty O'Neil

"It was funny. It was gross," he said. "But I learned very quickly it could tell us so much about our prehistoric past and how important they are to the [fossil record](#)."

Coprolites aren't tremendously common but they can make up the majority of fossils found at some sites, and people have learned more and more about them over the past few decades, said Anthony Fiorillo,

executive director of the New Mexico Museum of Natural History and Science.

It can be hard to identify them and in some cases, specimens that appeared to be coprolites—with their pinched ends and striations—were examined further and ultimately reclassified as something else.

"There's a number of sedimentary processes that can produce an extrusion of soft mud to a different layer," he said. "So think about your toothpaste, for example. When you squeeze it, there can be some striations on that toothpaste."

Fossil enthusiast Brandee Reynolds recently visited the museum with her husband after finding it was a short detour from a road trip they had planned.



President and curator George Frandsen stands for a photograph inside his "Poozeum", Friday, June 7, 2024 in Williams, Ariz. The museum in northern Arizona along Route 66 features the fossilized feces of prehistoric animals. Frandsen has been collecting the fossils known as coprolites for nearly three decades. His museum features roughly 7,000 fossils, including one suspected to be from a Tyrannosaurus rex. Frandsen holds two Guinness Book of World Records titles for parts of his collection. Credit: AP Photo/Ty O'Neil

"I mostly find sharp teeth and things like that," she said. "I haven't really found a whole lot of coprolite, but who doesn't love coprolite?"

A highlight of Frandsen's collection is a specimen that holds a Guinness World Record for being the largest coprolite left by a carnivorous animal. Measuring more than 2 feet (61 centimeters) long and over 6 inches (15 centimeters) wide, Frandsen said it's believed to be from a T. rex, given where it was found on a private ranch in South Dakota in 2019.

Frandsen also holds the record for the largest certified coprolite collection of 1,277 pieces, earned in 2015 when it was verified at the South Florida Museum in Bradenton, Florida.

His collection now stands at about 8,000 specimens. He doesn't have the room to display it all in the museum in Williams and features some online.

No need to worry about any smell or germs, Frandsen said. Those evaporated millions of years ago, when the feces were covered with sediment and replaced by minerals, making them rock-hard.



A fossilized coprolite in a casting at the "Poozeum" is shown, Friday, June 7, 2024 in Williams, Ariz. The museum in northern Arizona along Route 66 features the fossilized feces of prehistoric animals. Frandsen has been collecting the fossils known as coprolites for nearly three decades. His museum features roughly 7,000 fossils, including one suspected to be from a Tyrannosaurus rex. Frandsen holds two Guinness Book of World Records titles for parts of his collection. Credit: AP Photo/Ty O'Neil



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Location, shape, size and other materials like bones or plants can determine if something is a [coprolite](#), but not necessarily which creature deposited it, Fiorillo said.

"I think the majority of us would say, let's pump the brakes on that and just be happy if we could determine carnivore, herbivore and then look at possibly those food cycles within each of those broad groups," said

Fiorillo, a trained paleontologist and author of books on dinosaurs.

Ideally, Fiorillo said he hopes fossils that are rare and can add to the understanding of the prehistoric world find their way into the public sphere so researchers can use them as they form hypotheses about life long ago.

Like Frandsen, Fiorillo said he was captivated by fossils when he was young. He pointed to private quarries in Wyoming's Fossil Basin where the public can hunt for fossilized fish, plants and even coprolites. People also can visit a research quarry to learn about paleontology at the nearby Fossil Butte National Monument.

If a child goes home inspired after finding a fossil or seeing one on display at a museum, then that's awesome, Fiorillo said.

"Maybe they'll be the next generation," he said.

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