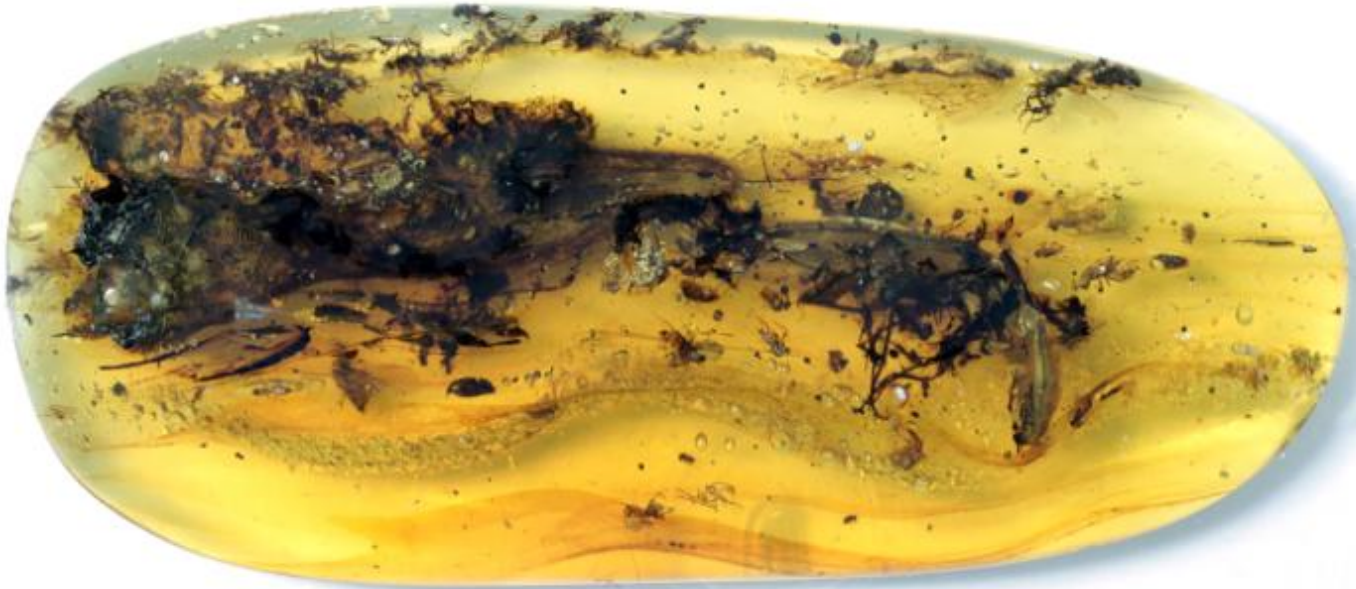


# World's smallest dinosaur is actually a 'weird' prehistoric lizard, scientists say

By **Katie Hunt**, CNN

🕒 Updated 1703 GMT (0103 HKT) June 14, 2021



ADOLF PERETTI/HANDOUT/PERETTI MUSEUM FOUNDATION/CURRENT BIOLOGY

The amber helped to preserve the tiny lizard in great detail, with CT scans revealing its scales, skin and soft tissue.

**(CNN)** — A tiny skull entombed in 99-million-year-old amber that became the subject of scientific debate last year was initially thought to belong to the world's smallest dinosaur species.

However, the [high-profile March 2020 scientific paper](#) that unveiled the discovery of *Oculudentavis khaungrae* was retracted later that year. New research published on Monday, based on another, better-preserved amber specimen, suggests that the skull was from a prehistoric lizard.

"It's a really weird animal. It's unlike any other lizard we have today," said co-author of the new study Juan Diego Daza, a herpetologist and assistant professor of biological sciences at Sam Houston State University in Texas, in a news release.

"We estimate that many lizards originated during this time, but they still hadn't evolved their modern appearance," he said. "That's why they can trick us. They may have characteristics of this group or that one, but in reality, they don't match perfectly."

The authors of the new paper published in the journal *Current Biology* named the creature *Oculudentavis naga* in honor of the Naga people of India and Myanmar, where the amber was found. They said it was from the same family or genus as *Oculudentavis khaungrae*, but likely a different species.

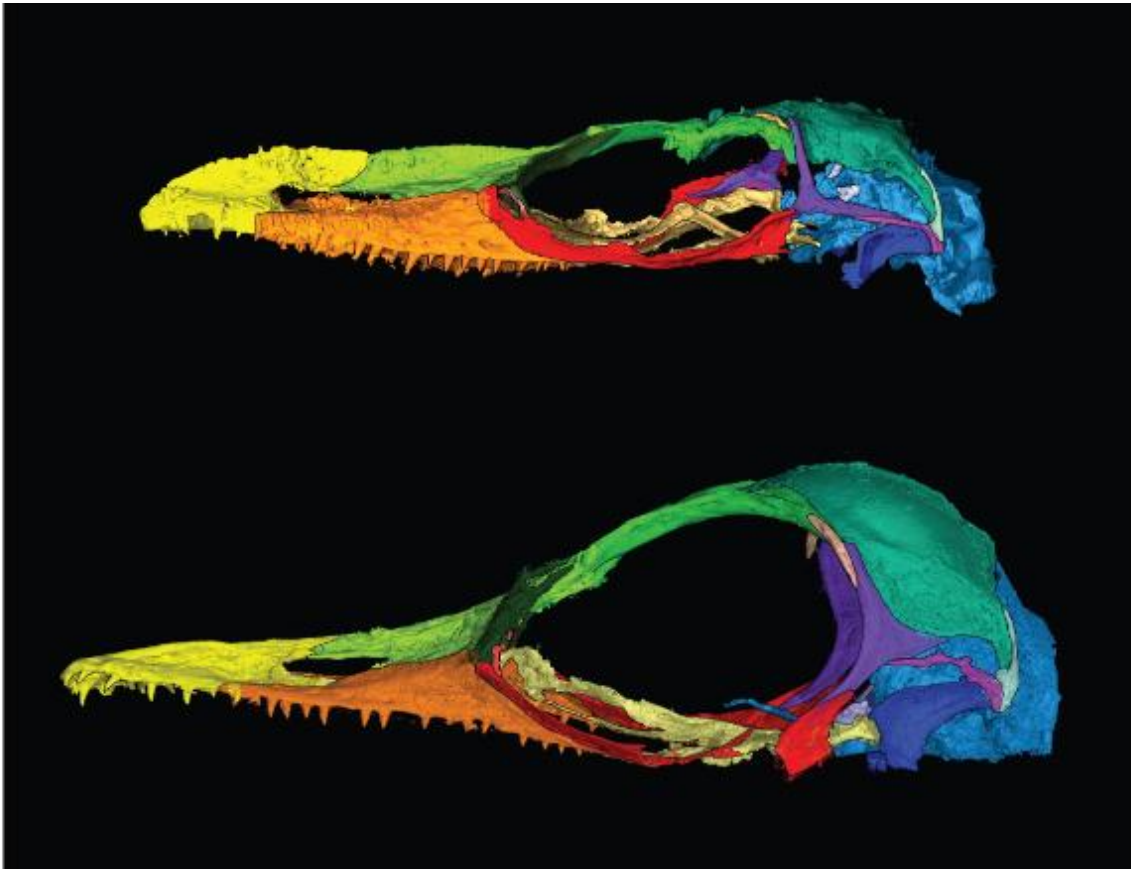
*Oculudentavis* means "eye tooth bird" in Latin, but Daza said taxonomic rules for naming and organizing animal species meant that they had to continue using it even though it wasn't accurate.

taxonomy can be sometimes deceiving.

The better-preserved amber, which was found in the same amber-mining region in Myanmar as the first described *Oculudentavis* specimen, held part of the lizard's skeleton, including its skull, with visible scales and soft tissue. Both pieces of amber were 99 million years old.



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*Oculudentavis naga*, top, is in the same family as *Oculudentavis khaungraae*, bottom. Both specimens' skulls deformed during preservation, emphasizing lizardlike features in one and birdlike features in the other.

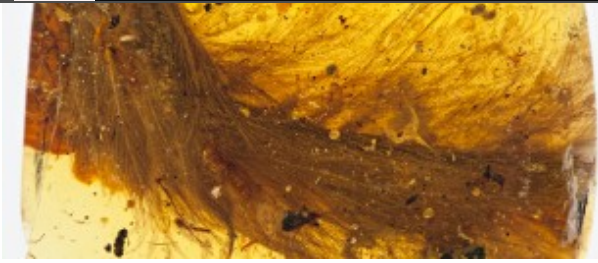
## Distorted skulls

The authors said the creature was difficult to categorize, but by using CT scans to separate, analyze and compare each bone from the two species, they detected characteristics that identified the animals as lizards.

These included the presence of scales; teeth attached directly to the jawbone rather than nestled into sockets, as dinosaur teeth were; lizardlike eye structures and shoulder bones; and a hockey-stick-shaped skull that is universally shared by other scaled reptiles.

In the better-preserved specimen, the team spotted a raised crest running down the top of the snout and a flap of loose skin under the chin that may have been inflated in display, characteristics shared by other lizards.

The authors believe that both species' skulls had become deformed as the amber, made from globs of resin from ancient tree bark, hardened



naga's braincase was compressed.

The distortions magnified birdlike features in one skull and lizardlike features in the other, said coauthor Edward Stanley, director of the Florida Museum of Natural History's Digital Discovery and Dissemination Laboratory.

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STEPHANIE ABRAMOVICEZ/PERETTI MUSEUM FOUNDATION/COURTESY BIOLOGY

Oculudentavis naga, depicted in this artist's impression, is a bizarre lizard that research initially categorized as a tiny, birdlike dinosaur.

"Imagine taking a lizard and pinching its nose into a triangular shape," Stanley said in a statement. "It would look a lot more like a bird." Birds are the only living relatives of dinosaurs.

## An ethical minefield

Some of paleontology's most exciting finds in recent years have emerged from northern Myanmar's rich amber deposits. Much of the amber finds its way to markets in southwest China, where it is bought by collectors and scientists. However, [ethical concerns about who benefits from the sale of amber have emerged](#), particularly since 2017, when Myanmar's military took control of amber mines. Government forces and ethnic minorities have fought in this region for years, and a [United Nations report](#) has accused the military of torture, abductions, rape and sexual violence.

The study authors said in the news release that the amber was purchased by gemologist Adolf Peretti before 2017 from an authorized



They said use of the specimen followed guidelines set out by the Society of Vertebrate Paleontology, which has asked colleagues to refrain from working on amber sourced from Myanmar since June 2017.

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"As scientists we feel it is our job to unveil these priceless traces of life, so the whole world can know more about the past. But we have to be extremely careful that during the process, we don't benefit a group of

people committing crimes against humanity," Daza said.

"In the end, the credit should go to the miners who risk their lives to recover these amazing amber fossils."



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