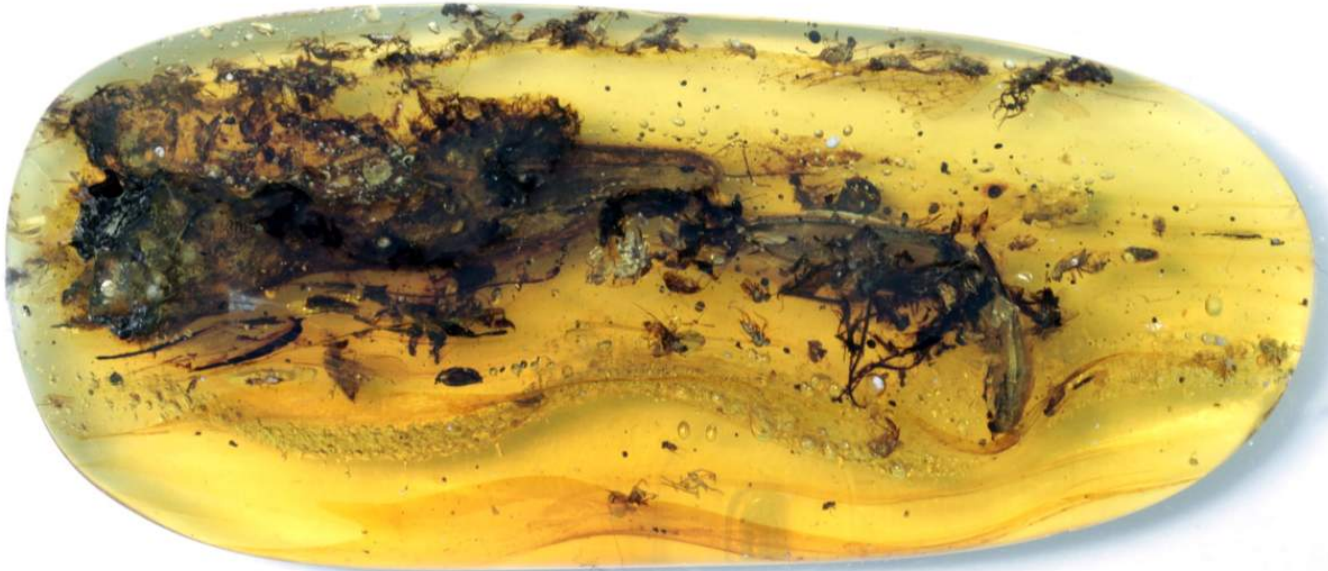


Trapped in amber, a bizarre fossil that had scientists fooled – until now

Chris Davies (<https://www.slashgear.com/author/chris/>) - Jun 14, 2021, 12:26pm CDT



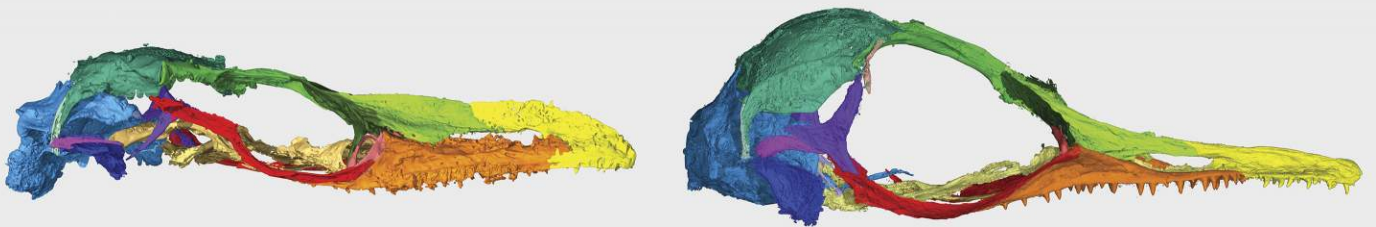
A breakthrough paper casts new light on the identity of a mysterious, tiny dinosaur, with fresh research indicating the fossilized remains are actually of an unknown lizard instead. *Oculudentavis naga* is a new species of a lizard that lived around 99 million years ago, but until recently was thought to be a very different creature altogether.

In fact, it had initially been identified as a dinosaur, only one sized akin to a hummingbird. The first tiny skull discovered trapped in amber from Myanmar featured large eyes and a short vaulted braincase, along with a long-toothed mandible; while a head-scratcher, scientists decided it was a relative of extinct avian dinosaur *Archaeopteryx*.

It proved to be a controversial conclusion (<https://www.slashgear.com/tiny-ancient-skull-belongs-to-the-smallest-dinosaur-12612958/>), though, and the original assessment was retracted in mid-2020. Now, a second specimen from the same area – only far more carefully preserved – has allowed for a reassessment.

“The specimen puzzled everyone involved at first, because if it was a lizard, it was a highly unusual one,” Arnau Bolet of the Institut Català de Paleontologia Miquel Crusafont in Barcelona, Spain, and lead author of the study ([https://www.cell.com/current-biology/fulltext/S0960-9822\(21\)00738-7](https://www.cell.com/current-biology/fulltext/S0960-9822(21)00738-7)) published in Nature, explains (<https://www.icp.cat/index.php/en/press-room/noticies-icp/item/3156-bizarre-lizard-bird-arnau-bolet-icp>). It included not just the skull but some postcranial elements, with a small amount of the vertebral column and the pectoral girdle also encased in the stone.

To compare the two, delicate sets of remains, a micro-computed tomography produced digital segments of the fossils. Comparisons of the two 3D models allowed for a surprise discovery: the two skulls had been deformed while they were being preserved in liquid amber, and that had exaggerated their differences.



In one fossil, the snout had been compressed by the pressure, resulting in a more beak-like profile. In the other, however, the braincase was compressed, causing it to resemble a lizard skull.

“We concluded that both specimens were similar enough to belong to the same genus, *Oculudentavis*,” Bolet says, “but a number of differences suggest that they represent separate species.”

The big takeaway, though, is that while *Oculudentavis* may be bizarre, it’s a bizarre lizard rather than a bizarre bird. “The new interpretation and phylogenetic placement highlight a rare case of convergent evolution in skull proportions but apparently not in morphological characters,” the study concludes. “Our results re-affirm the importance of Myanmar amber in yielding unusual taxa from a forest ecosystem rarely represented in the fossil record.”

The challenge, of course, is that Myanmar is hardly an easy source of fossil remains. With the military taking control in the country earlier this year, ethical acquisition of Burmese amber has become almost impossible. This particular sample was purchased from an authorized, legal exporter, and has an authenticated paper trail including Myanmar export permits. Whether another example will be able to emerge any time soon remains to be seen.



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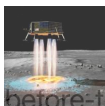
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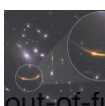
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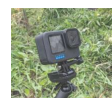
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