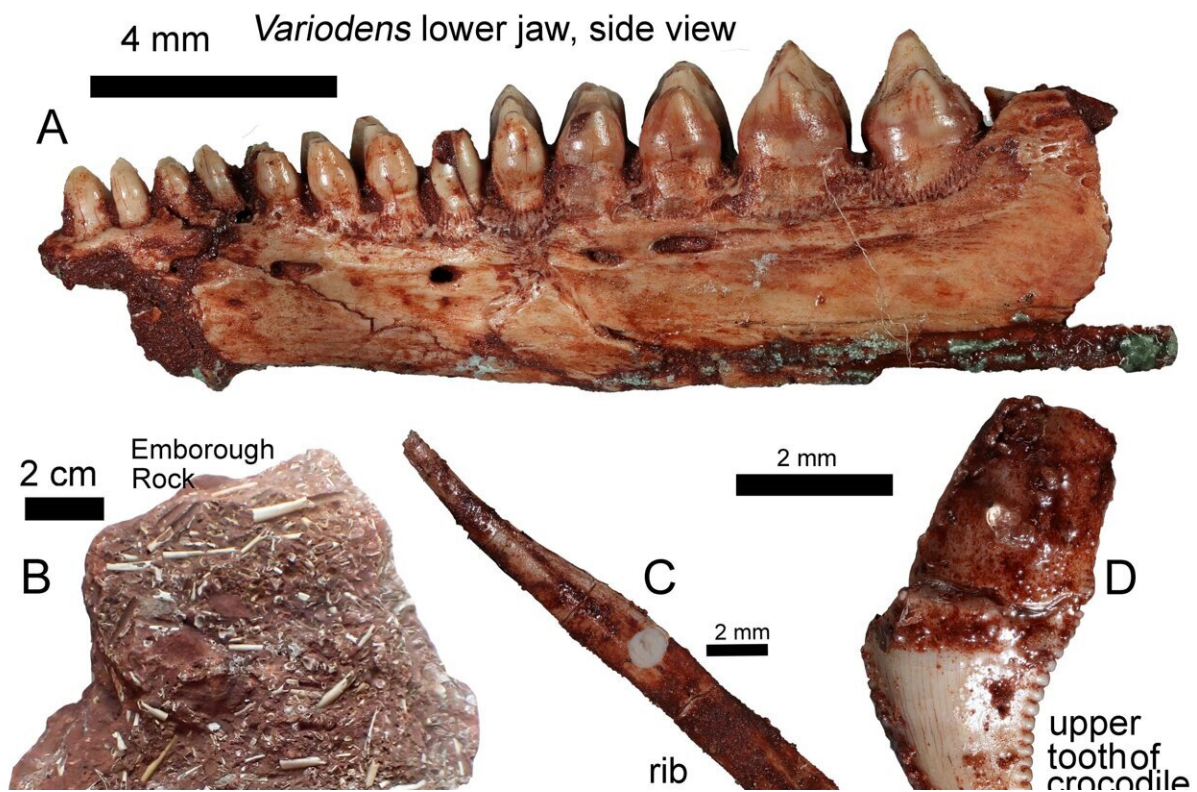


Student discovers 200-million-year-old flying reptile in Somerset

January 22 2024



Partial skeleton of gliding reptile *Kuehneosaurus* on rock from Emborough.
Credit: David Whiteside

Gliding winged-reptiles were among the ancient crocodile residents of the Mendip Hills in Somerset, researchers at the University of Bristol

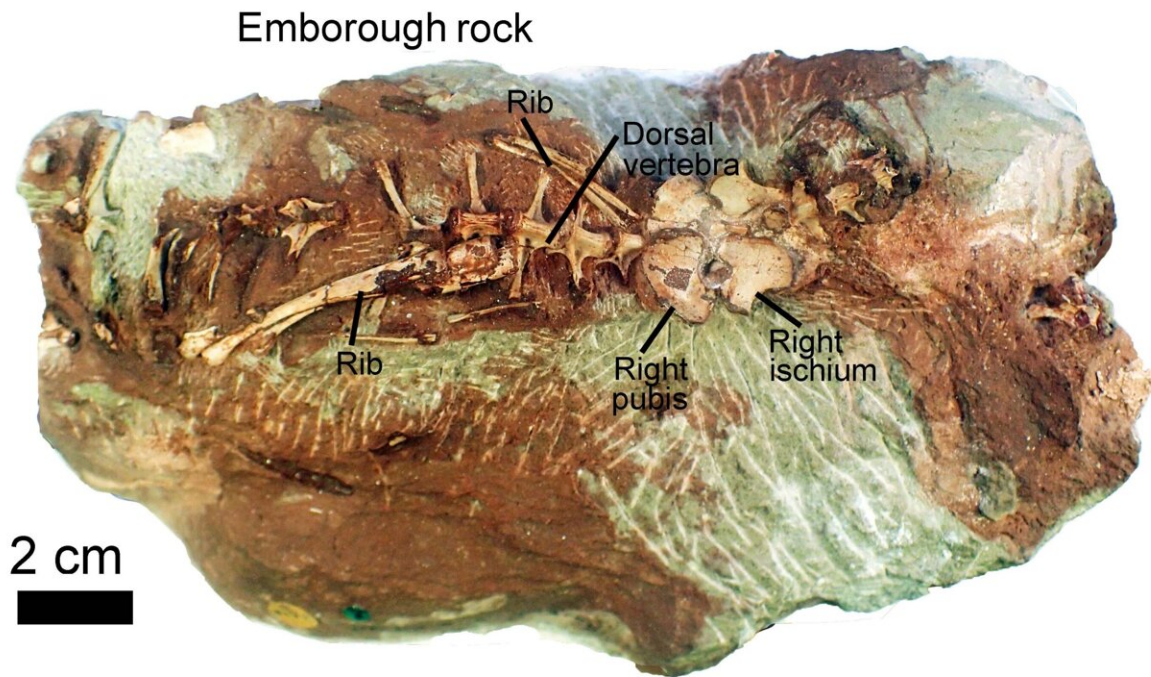
have revealed.

Kuehneosaurs looked like lizards, but were more closely related to the ancestors of crocodilians and dinosaurs. They were [small animals](#) that could fit neatly on the palm of a hand, and there were two species, one with extensive wings, the other with shorter wings, made from a layer of skin stretched over their elongated side ribs, which allowed them to swoop from tree to tree.

Like the modern flying lizard *Draco* from southeast Asia, they most likely wandered about on the ground and climbed trees in search of insect prey. When startled, or if they spotted a tasty insect flying by, they could launch themselves into the air, and land safely 10m away.

The discovery was made by University of Bristol Masters student Mike Cawthorne, researching numerous reptile fossils from limestone quarries, which formed the biggest sub-tropical island at the time, called the Mendip Palaeo-island.

The study, [published in *Proceedings of the Geologists' Association*](#), also records the presence of reptiles with complex teeth, the trilophosaur *Variodens* and the aquatic *Pachystropheus* that probably lived a bit like a modern-day otter likely eating shrimps and small fish.



Kuehneosaurus bones on rock

A Jawbone of unusual Triassic reptile *Variodens* first named from Emborough.
 B) Typical Emborough rock with many bones. C, D and E) bones from land-living relatives of crocodiles. Credit: David Whiteside

The animals either fell or their bones were washed into caves and cracks in the limestone.

"All the beasts were small," said Mike. "I had hoped to find some dinosaur bones, or even their isolated teeth, but in fact I found everything else but dinosaurs.

"The collections I studied had been made in the 1940s and 1950s when the quarries were still active, and paleontologists were able to visit and

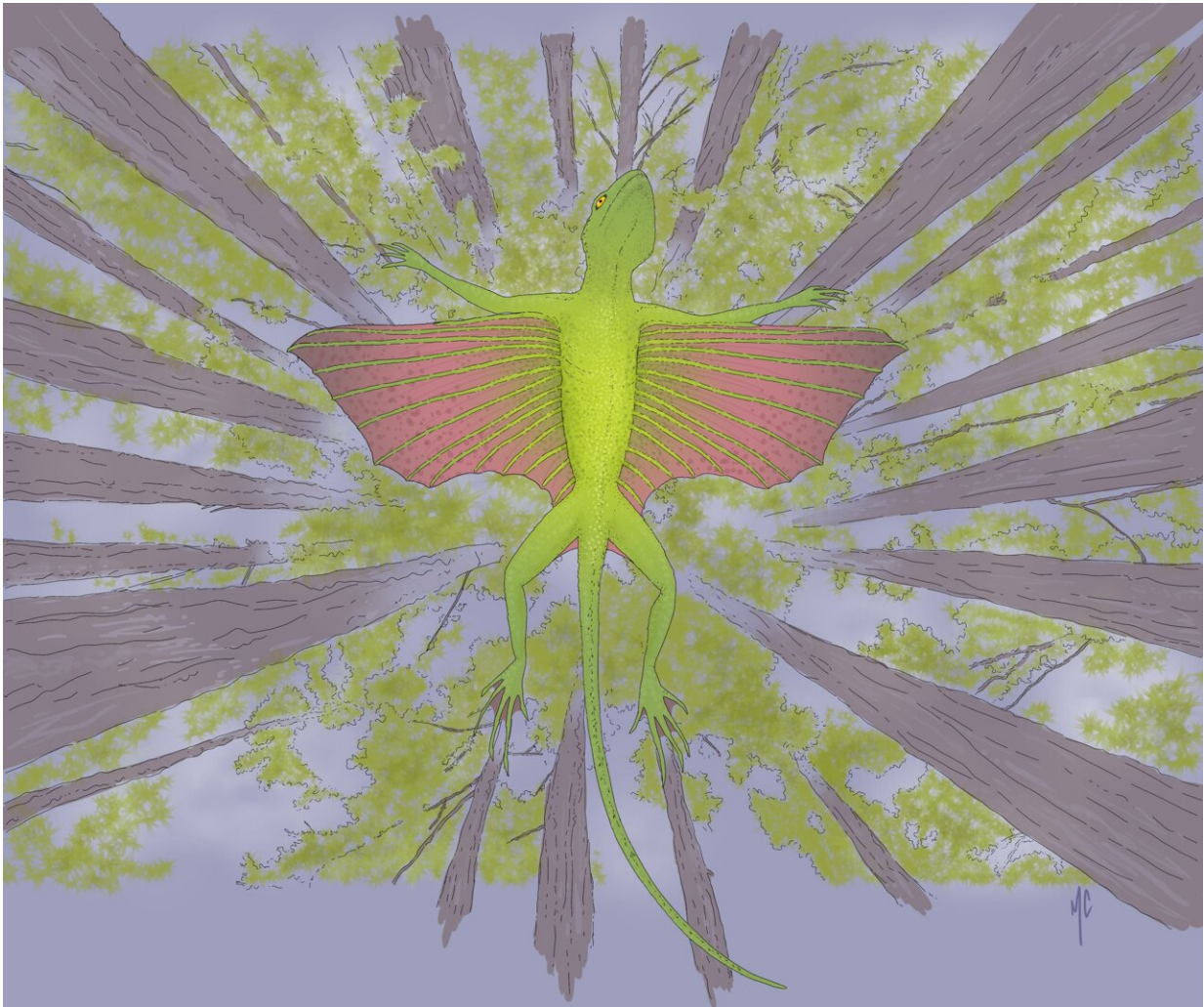
see fresh rock faces and speak to the quarrymen."

Professor Mike Benton Bristol's School of Earth Sciences explained, "It took a lot of work identifying the fossil bones, most of which were separate and not in a skeleton.

"However, we have a lot of comparative material, and Mike Cawthorne was able to compare the isolated jaws and other bones with more complete specimens from the other sites around Bristol.

"He has shown that the Mendip Palaeo-island, which extended from Frome in the east to Weston-super-Mare in the west, nearly 30 km long, was home to diverse small reptiles feeding on the plants and insects.

"He didn't find any dinosaur bones, but it's likely that they were there because we have found [dinosaur bones](#) in other locations of the same geological age around Bristol."



Artist's impression of a gliding reptile Kuehneosaurus. Credit: Mike Cawthorne

The area around Bristol 200 million years ago in the Late Triassic was an archipelago of small islands set in a warm sub-tropical sea.

Bristol's Dr. David Whiteside added, "The bones were collected by some great fossil finders in the 1940s and 1950s including Tom Fry, an amateur collector working for Bristol University and who generally cycled to the quarries and returned laden with heavy bags of rocks.

"The other collectors were the gifted researchers Walter Kühne, a German who was imprisoned in Great Britain in the 2nd world war, and Pamela L. Robinson from University College London. They gave their specimens to the Natural History Museum in London and the Geological collections of the University of Bristol."

More information: Michael Cawthorne et al, Latest Triassic terrestrial microvertebrate assemblages from caves on the Mendip palaeoisland, S.W. England, at Emborough, Batscombe and Highcroft Quarries, *Proceedings of the Geologists' Association* (2024). [DOI: 10.1016/j.pgeola.2023.12.003](https://doi.org/10.1016/j.pgeola.2023.12.003)

Provided by University of Bristol

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