

Jurassic crocodile sheds light on family tree

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A newly identified species of 150 million-year-old marine crocodile has given insights into how a group of ancient animals evolved.

The ancestor of today's crocodiles belonged to a group of [animals](#) that developed a tail fin and paddle-like limbs for life in the sea, resembling

dolphins more than crocodiles.

These slender animals, which fed on fast-moving prey such as squid and small fish, lived during the Jurassic era in shallow seas and lagoons in what is now Germany.

Related [species](#) have previously been found in Mexico and Argentina.

Quarry discovery

An international team of scientists, including researchers from Germany and the University of Edinburgh, identified the new species from a remarkably well-preserved skeleton.

The fossil was discovered in 2014 in a quarry near the town of Bamberg in Bavaria, Germany by a team from the Naturkunde-Museum Bamberg, where it is now housed.

The species, *Cricosaurus bambergensis*, takes its name from the town.

Researchers compared the fossil with those from other [museum collections](#), and confirmed that it was a previously unseen species.

Anatomical features

The skeleton has several distinguishing features in its jaws, the roof of its mouth and tail, some of which have not been seen in any other species.

Experts created digital images of the fossil in high resolution, to enable further research. They expect the fossil will aid greater understanding of a wider family of ancient animals, known as metriorhynchid, to which

this species belonged.

The research, carried out with Naturkunde-Museum Bielefeld, Eberhard-Karls Universität Tübingen and commercial partners Palaeo3D, is published in *Acta Palaeontologica Polonica*.

"The rock formations of southern Germany continue to give us fresh insights into the age of dinosaurs. These [rock layers](#) were deposited at a time when Europe was covered by a shallow sea, with countries such as Germany and the UK being a collection of islands," said Dr. Mark Young of the School of GeoSciences, University of Edinburgh.

"The study reveals peculiar features at the palate that have not been described in any fossil crocodile so far. There are two depressions which are separated by a pronounced bar. It is not clear what these depressions were good for," said Sven Sachs of Naturkunde-Museum Bielefeld.

More information: Sven Sachs et al. A new species of the metriorhynchid crocodylomorph *Cricosaurus* from the Upper Jurassic of southern Germany, *Acta Palaeontologica Polonica* (2019). [DOI: 10.4202/app.00541.2018](#)

Provided by University of Edinburgh

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