

Jurassic crocodile identified in fossil study

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Artist's impression. Credit: Julia Beier

A prehistoric crocodile that lived around 180 million years ago has been identified—almost 250 years after the discovery of its fossil remains.

A [fossil skull](#) found in a Bavarian town in the 1770s has been recognized as the now-extinct species *Mystriosaurus laurillardi*, which lived in tropical waters during the Jurassic Period.

For the past 60 years, it was thought the animal was part of a similar species, known as *Steneosaurus bollensis*, which existed around the same time, researchers say.

Mysterious specimens

Palaeontologists identified the animal by analyzing fossils unearthed in the UK and Germany.

The team, which included Edinburgh scientists, also revealed that another skull, discovered in Yorkshire in the 1800s, belongs to *Mystriosaurus laurillardi*.

"Unravelling the complex history and anatomy of fossils like *Mystriosaurus* is necessary if we are to understand the diversification of [crocodiles](#) during the Jurassic. Their rapid increase in biodiversity between 200 and 180 million years ago is still poorly understood," says Dr. Mark Young, School of GeoSciences.

Marine species

The [marine predator](#)—which was more than four meters in length—had a long snout and pointed teeth, and preyed on fish, the team says. It lived in warm seas alongside other animals including ammonites and large marine reptiles, called ichthyosaurs.

The discovery of fossils in present-day Germany and the UK shows that the species could easily swim between islands, much like modern

saltwater crocodiles, researchers say.

The study, led by Naturkunde-Museum Bielefeld in Germany, is published in the journal *Acta Palaeontologica Polonica*. It was supported by the Palaeontographical Society, Leverhulme Trust and the Natural Sciences and Engineering Research Council of Canada.

"*Mystriosaurus* looked like a gharial but it had a shorter snout with its nasal opening facing forwards, whereas in nearly all other fossil and living crocodiles the nasal opening is placed on top of the snout," says Sven Sachs, Naturkunde-Museum Bielefeld.

More information: *Acta Palaeontologica Polonica* (2019). DOI: 10.4202/app.00557.2018

Provided by University of Edinburgh

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