

# MEET BHARITALASUCHUS TAPANI, A CARNIVOROUS REPTILE THAT LIVED 240 MILLION YEARS AGO

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**Reconstructed fossil:** Bharitalasuchus tapani were approximately the size of an adult male lion and might have been the largest predators in their ecosystems.

In the mid 20th century, researchers from the Indian Statistical Institute, Kolkata, carried out extensive studies on rocks of the Yerrapalli Formation in what is now Telangana, uncovering several fossils. By studying some of these specimens stored at the Institute, an international team has now thrown light on a carnivorous reptile that lived 240 million years ago.

This reptile belongs to a genus and species previously unknown to science. They named it *Bharitalasuchus tapani*. In the Telugu language, *Bhari* means huge, *Tala* means head, and *Suchus* is the name of the Egyptian crocodile-headed deity. The species is named after paleontologist Tapan Roy Chowdhury in honour of his contribution to Indian vertebrate paleontology and especially his extensive work on the Yerrapalli Formation tetrapod fauna.

Further studies revealed that the reptile belonged to a family of extinct reptiles named Erythrosuchidae. “A precise identification had not been possible earlier because the family was not known from other examples in India. It was neglected because the fossil specimen was not as complete as those of other erythrosuchids from other countries. Also, because the few palaeontologists with expertise in the family had not examined the fossil or carried out the detailed comparative work needed,” explains David Gower from the Natural History Museum London, in an email to *The Hindu*. He is one of the authors of the paper recently published in *Ameghiniana*.

The team notes that *Bharitalasuchus tapani* were robust animals with big heads and large teeth, and these probably predated other smaller reptiles. They were approximately the size of an adult male lion and might have been the largest predators in their ecosystems.

“The first Erythrosuchidae remains were discovered in South Africa in 1905 and more were found in China and Russia. The South African one is about 245 million years old, while the ones from China and Russia are around 240 million years old. So the Indian one is one of the youngest fossil records we have of an erythrosuchid,” explains the first author Martin D. Ezcurra from the Argentinian Museum of Natural Sciences in Buenos Aires.

He adds: “It was surprising to find tooth marks in the first trunk vertebra of Bharitalasuchus, indicating that a smaller animal took a bite probably after the death of the specimen. This is a nice example of evidence of biological interaction that occurred 240 million years ago.” One of the authors Saswati Bandyopadhyay from the Indian Statistical Institute adds: “Apart from this erythrosuchid reptile, the fossil assemblage of the Yerrapalli Formation includes many other extinct creatures such as ceratodontid lungfish, rhynchosaur and allokotosaurian.”

She adds that future exploration and excavation in this unit are important in finding new fossils. “Unfortunately, deforestation, mining, agricultural expansion, urbanisation are gradually destroying the fossiliferous localities of India, and the Yerrapalli Formation of the Pranhita-Godavari Basin is not an exception,” she concludes.

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The study was carried out by researchers from National Institute of Virology, ICMR and Bharat Biotech.

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