

The first record of chigutisaurid amphibian from the Late Triassic Tiki Formation and the probable Carnian pluvial episode in central India

In this study we reported on the world's climate during Late Triassic (Julian - Tuvolian age boundary) approximately 234-232 million years ago and a hidden extinction event.

This is known as the Carnian Pluvial Episode, when it rained intensely around the globe for nearly two million years. This new climate stage made the way for the huge dinosaurs and forested areas but its impact on the extinct temnospondyls is not widely spoken. In India alone, among all the Gondwana countries, the cosmopolitan giant amphibians the metoposaurs were replaced by the large, weird parabolic-faced chigutisaurids.

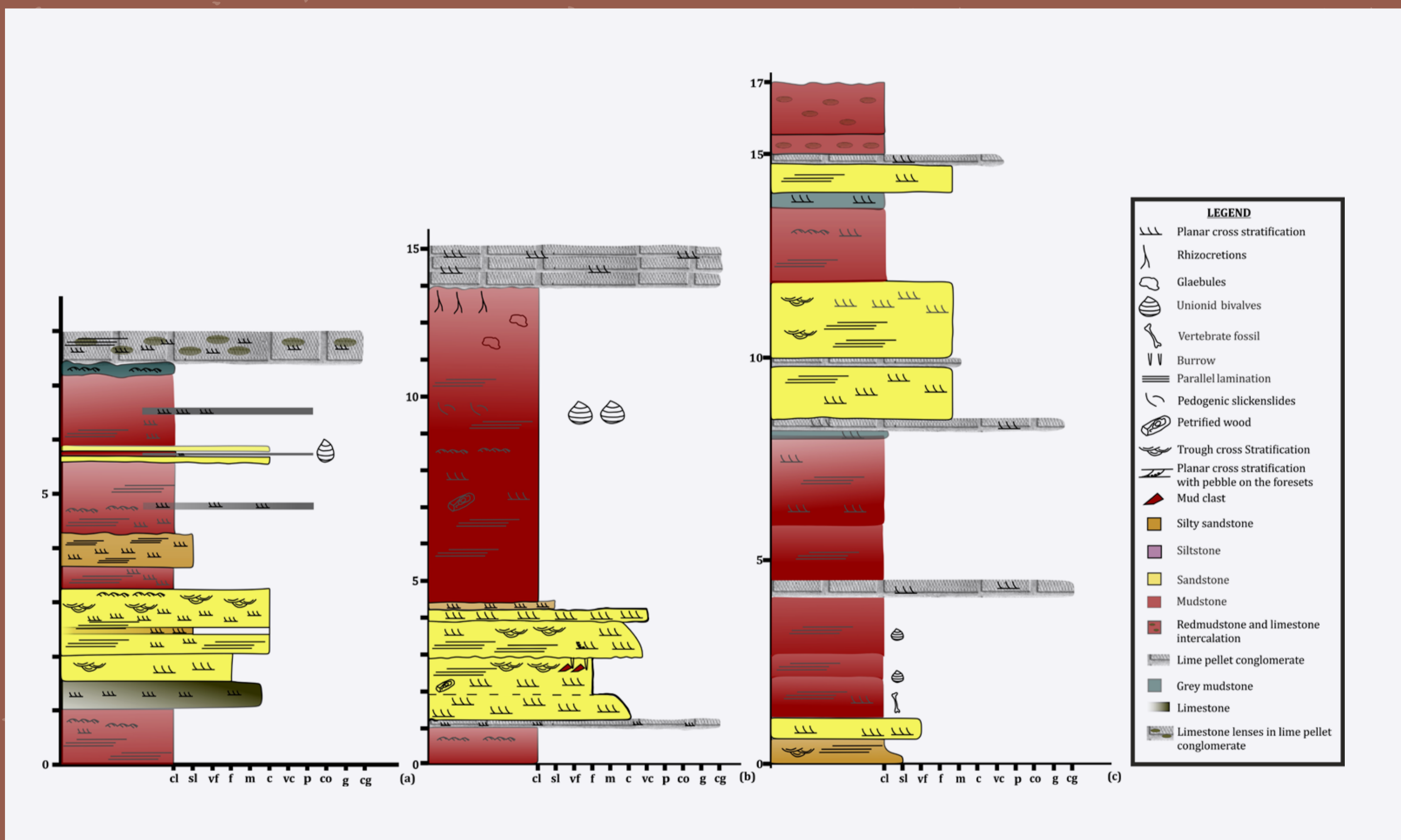
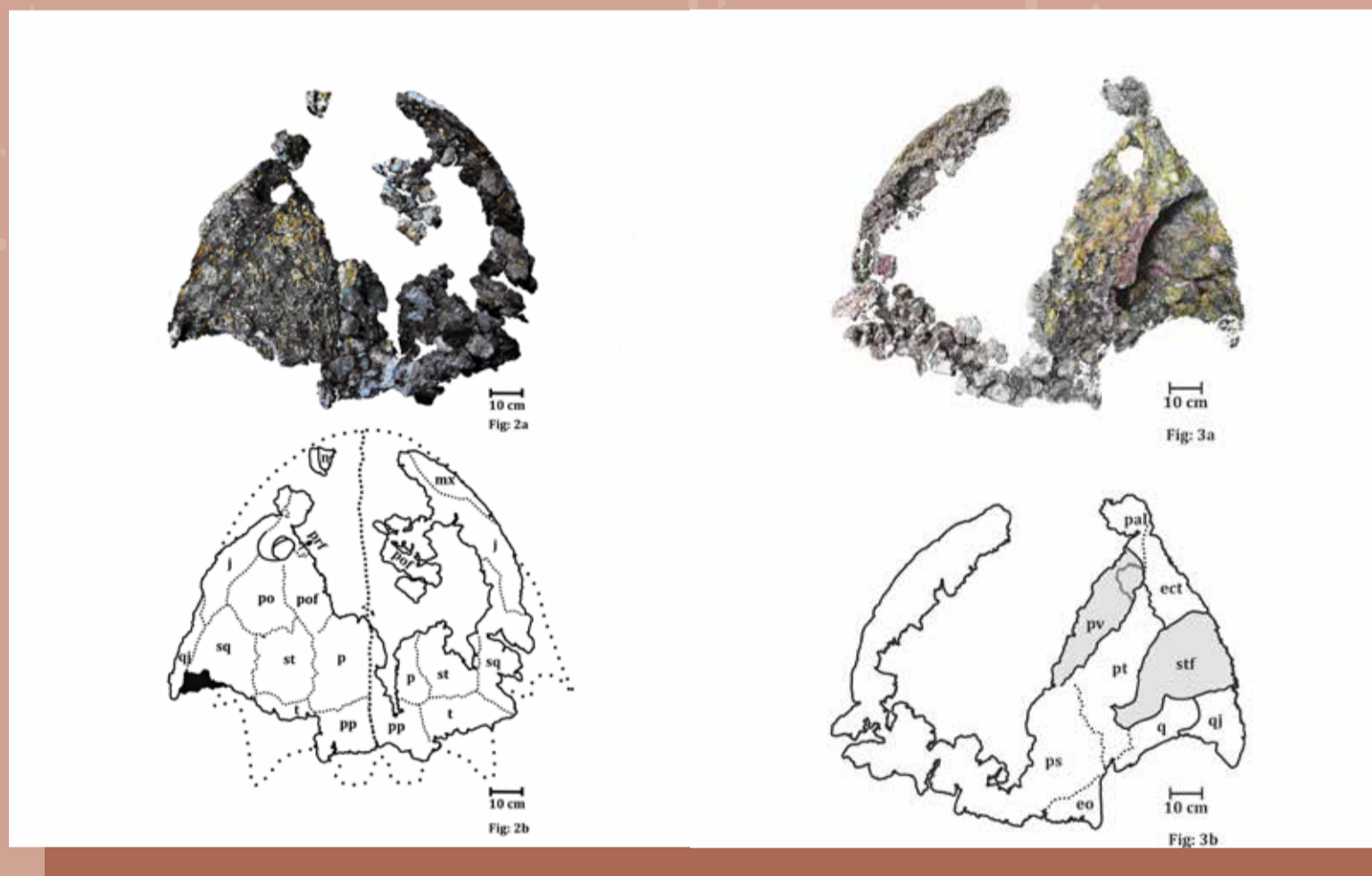


Discovering the first chigutisaurid fossil from the Late Triassic Tiki Formation, India

Though chigutisaurids were common in the other Late Triassic basins in India (The Late Triassic Maleri Formation), it was never found till date from the Late Triassic Tiki Formation. This posed a major challenge in the correlation of the Tiki and Maleri Formation with the Global Late Triassic Formations. Amphibians are one of the most important discoveries since they are the most sensitive indicators of climate. Amphibians living both on land and in the water respond with the smallest climatic changes. Thus, the discovery of chigutisaurids from the Late Triassic Tiki Formation is undoubtedly a ground-breaking discovery in correlating India's response to the global climate changes.



The diversification of the metoposaurids might have been linked to the CPE, and the post-CPE aridification led to the extinction of the metoposaurids especially in the Gondwana countries and Rhaetian in many Laurasian counterparts.



Reporting on confirmed evidence of the Carnian Pluvial Episode for the first time in India.

Though evidence of the Carnian Pluvial Episode has been documented in Italy and other major basins worldwide, it had never been reported in India. This report holds an important significance in the later global correlation of the CPE including India as well.

The new species (*Compsoceros tikiensis*) recovered from the Late Triassic Tiki Formation of India confirms the advent of chigutisaurids in the Norian in the majority of the Gondwana countries (except Australia). The Carnian Pluvial Episode discovered in India shows that the CPE also brought significant changes in the amphibian population. The vacant niches left by the metoposaurids in the Carnian were successfully occupied by the chigutisaurids.