

Comparative bone microstructure of three archosauromorphs from the Carnian, Late Triassic Chañares Formation of Argentina

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The Chañares Formation exhibits one of the most important archosauriform records of early Carnian ecosystems. Here we present new data on the palaeohistology of Chañares archosauriforms and provide new insights into their paleobiology, as well as possible phylogenetically informative traits. Bone microstructure of *Lagerpeton chanarensis* and *Tropidosuchus romeri* is dominated by fibro-lamellar tissue and dense vascularization. On the other hand, *Chanaresuchus bonapartei* is more densely vascularized, but with cyclical growth characterized by alternate fibro-lamellar, parallel-fibred and lamellar-zonal tissues. Dense vascularization and fibro-lamellar tissue imply fast growth and high metabolic rates for all these taxa. These histological traits may be tentatively interpreted as a possible adaptative advantage in front of Chañares Formation environmental conditions.

Key words: Archosauromorpha, *Lagerpeton*, *Tropidosuchus*, paleobiology, paleohistology, Mesozoic, South America.

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