



## **Systematics and phylogeny of the *Proterochampsidae* (Reptilia, Archosauriformes) from the Triassic of Argentina and Brazil**

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The Proterochampsidae includes several taxa of basal archosauriform reptiles recorded exclusively from the Middle and Upper Triassic of Argentina (Chañares and Ischigualasto Formations, Bermejo Basin) and the Middle and Upper Triassic sediments of Brazil (Santa Maria and Caturrita Formations, in the Paraná Basin). Studies on the systematics and phylogeny of the group were developed to test its monophyly and relationships between members of the clade and other basal archosauriforms. The diagnosis of the Proterochampsidae was proposed to include (among other features): frontals with an elevated median section of ridges and grooves and raised orbital rim, large lateral projections on the prefrontal and postorbital, contact between prefrontal and maxilla separating lacrimal from nasal, a notch along the posteroventral margin of the infratemporal fenestra, an external shelf along the dorsal edge of the surangular and transverse processes of caudal vertebrae that are longer than the length of centrum and expanded distally. To test the relationships with archosaurs and other non archosaurian archosauromorphs, a matrix of 15 taxa and 105 characters was built, including characters taken directly from the study of the South African Early Triassic more representative forms, Proterosuchus, Erythrosuchus and Euparkeria. Five genera and six species were included in the proterochampsid clade after this study, and the monophyly of the group arose from the analysis. Chanaresuchus and Gualosuchus appear very closely related, and both Proterochampsia species (*P. barrionuevoi* Reig and *P. nodosa* Barberena) are recognized as valid taxa. Recent studies on the detailed osteology and phylogeny of North American Late Triassic taxa Doswellia and Vancleavea were included to test relationships proposed between the South American putative endemic proterochampsids and these enigmatic forms, and their phylogenetic and paleobiogeographic implications.

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