



Publicación Electrónica
ASOCIACIÓN PALEONTOLÓGICA ARGENTINA

1° REUNIÓN VIRTUAL DE COMUNICACIONES
DE LA ASOCIACIÓN PALEONTOLÓGICA ARGENTINA



LIBRO DE RESÚMENES
25 al 26 de noviembre de 2020



ISSN 2469-0228

Argentina

1 ° Reunión Virtual
de Comunicaciones de la
Asociación Paleontológica Argentina



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DIVERSITY AND PHYLOGENY OF THE GLYPTODONTIDAE (XENARTHRA, CINGULATA) FROM THE CHASICOAN STAGE/AGE (LATE MIOCENE) OF ARGENTINA

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Great diversity of Glyptodontidae (Xenarthra, Cingulata) has been mentioned for the Chasicoan Stage/Age (late Miocene), particularly in the Pampean region of Argentina, including representatives of the tribes Palaehoplophorini, Plohophorini, and "Sclerocalyptini". In this contribution, we carried out a detailed revision including the most complete specimens known for this lapse: 1) PV-UNS-260, from Arroyo Chasicó Formation (Buenos Aires Province), composed of fragmented skull, almost complete dorsal carapace, caudal tube with first ring, and right femur; and 2) PVSJ-366, from Loma de Las Tapias Formation (San Juan Province), composed of almost complete skull, dorsal carapace fragments and caudal rings. Both specimens develop dorsal carapaces with a uniform ornamentation pattern ("rosette pattern") and a similar caudal tube morphology. Additionally, other specimens of this lapse are mainly represented by isolated osteoderms, which also show the same ornamentation pattern. Our comparative study suggests, contrary to the high diversity previously mentioned, the presence of a single morphotype for this lapse, which would represent a new taxonomic entity that, for the moment, cannot be assigned to the known tribes. This better anatomical characterization allowed to include Chasicoan glyptodonts into a morphological phylogenetic analysis for the first time. Obtained results place them as sister group of all the following Neogene and Quaternary diversity, condition supported by the development of a unique caudal tube morphology, representing the first appearance of some derived characters in this structure, such as peripheral figures and lateral figures increasing their size towards the apex.

Contribution: PIP Q002/17; PGI 24/H154.

INDETERMINATE FRAGMENTS, LOST INFORMATION, AND UNDERESTIMATED TREASURES IN THE COLLECTIONS: AN EXAMPLE FROM SOUTHERN BRAZIL

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Fragmentary remains (identifiable or not) are much more common than complete and articulated ones in the fossil record. They do not receive the same attention by the paleontologists and loss of information can be higher depending on the post-collection care of these materials. We examined specimens stored at the Vertebrate Paleontological Collection of the Federal University of Rio Grande do Sul (Porto Alegre, Brazil). After the analysis of more than 500 bone elements coming from a fossil site of the Santa Cruz Sequence (lower Carnian, Santa Maria Supersequence), we discuss the results under the light of new observations, contributing to the determination of the genesis of the deposit, previously attributed mainly to biogenic action (selective predation and scavenging) with a predominance of cranial elements, but not based on all known specimens. However, there is very little evidence of this (e.g. bite traces). The analysis of the non-biostratigraphic non-diagenetic fractures, joining complementary broken elements, and the presence of previously not considered postcranial elements suggest that, perhaps, selective predation was not a determining factor. Furthermore, diagenetic evidence supports different depositional phases, despite an apparent homogeneity of the sediments that can hide a plurality of events. Finally, new evidence of insect-bone interaction, hitherto unknown, has been recognized, providing new biostratigraphic information. Further analysis and a complete knowledge of all the specimens from this outcrop (housed in other Brazilian institutions) will help reducing possible biases and, perhaps, revising its history.

Financial support: CNPq proc. 168678/2018-7.