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Book of Abstracts

Palaeontology in the virtual era

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A new way to make science

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New analysis of *Vetelia gandhii* (Xenarthra, Cingulata) gives a novel hypothesis: was this armadillo a carnivorous tolypeutine?

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Vetelia is a genus of armadillos traditionally included within the subfamily Euphractinae (Chlamyphoridae), restricted to the Miocene of Argentina. It includes the species *V. puncta* (early and middle Miocene, Santacrucian, Friasian s.s., and Colloncuran), *V. perforata* (middle and late Miocene; Mayoan, Chasicosan, and Huayquerian), and *V. gandhii* (late Miocene; Chasicosan, Huayquerian), mostly known by isolated osteoderms. In this contribution, we analyze and describe both cranial and postcranial remains assigned to *V. gandhii* (PVSJ-289; PVSJ-154) from the late Miocene of Loma de Las Tapias Formation (Chasicosan) of San Juan Province, Argentina. The morphology of the osteoderms of the dorsal carapace suggest a higher affinity with the extant representatives of Tolypeutinae, including *Priodontes*, *Cabassous*, and *Tolypeutes*, rather than those of Euphractinae, based on: i) similar ornamentation pattern of both fixed and mobile osteoderms; ii) mobile and fixed osteoderms with external rugose surface; and iii) fixed osteoderms becoming subcircular towards the carapace lateral margins. Though molecular analyses already place the tolypeutines at ~26 Ma, and the most ancient record is represented by the Oligocene *Kuntinaru*; remains of these armadillos are extremely scarce in the fossil record; a circumstance that could be enhanced by a historic misidentification of Tolypeutinae diagnostic characters. Additionally, we carry out for the first time an anatomical analysis on *Vetelia* cranio-mandibular features, which is characterized by a dorsoventrally expanded rostrum, very robust horizontal ramus, powerful anterior dentition, presence of premaxillary teeth, massive chisel-shaped molariforms, and absence of anterior dental diastema, suggesting a trend or specialization towards carnivory.



South America
Xenarthra
Cingulata
Tolypeutinae
Vetelia



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