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A new genus and species of Planopinae (Xenarthra: Tardigrada) from the Miocene of Santa Cruz Province, Argentina

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Abstract

Prepoplanops boleadorensis, a new genus and species of Planopinae (Xenarthra, Tardigrada), is described herein. The new taxon is based on a nearly complete specimen recovered from the Cerro Boleadoras Formation (Miocene, Río Zeballos Group), in northwestern Santa Cruz Province, Argentina. The shape and length of the prementary region of the skull and the length of the diastema of *Prepoplanops boleadorensis* differ from those present in the species of *Planops*. The posterolateral opening of the mandibular canal and the position of the posterior margin of the mandibular symphysis differ from those of species of *Prepotherium*. In addition, *Prepoplanops boleadorensis* differs from *Planops martini* in the size of the humeral tuberosities, the development of the deltoid crest, the position of the distal margin of the humeral trochlea, the shape and position of the olecranon, the development of the femoral epicondyles, and the shape of the medial margins of the patellar trochlea and medial condyle. On the other hand, it differs from *Prepotherium potens* in the shape of the medial margin of the medial condyle. The recognition of *Prepoplanops boleadorensis* increases the diversity of Planopinae for the Miocene of Patagonia, Argentina.

Key words: Mammalia, Ground sloths, *Prepoplanops*, Neogene, Patagonia, South America

Introduction

Xenarthrans are characterized by a particular suite of skeletal modifications setting them apart from all other placental mammals, e.g. shape and relationship of the vertebral metapophysis on the last thoracic and lumbar vertebra –xenarthral apophysis–, presence of synsacrum, isquio-sacral union, sacroischiatric fenestra, reduction or absence of enamel, monophiodonty, hypsodonty (McDonald 2003). Molecular evidence indicates that they represent one of the four major mammalian clades (Delsuc *et al.* 2001, 2002, 2011; Madsen *et al.* 2001; Murphy *et al.* 2001; Moller-Krull *et al.* 2007; Prasad *et al.* 2008; Delsuc & Douzery 2008). Xenarthra, including fossil species, consists of two major clades: Cingulata (armadillos, pampatheres, and glyptodonts), characterized by the development of bony dermal armor, terrestrial lifestyle (with different degree of digging capacities) and omnivorous, with different degrees of carnivorous or herbivorous diet (see Vizcaíno 2009); and Pilosa, without dermal armor (except for some mylodonts that have dermal ossicles) but with a dense hair covering, which in turn comprise Vermilingua and Tardigrada. While both of the former taxa pursue either terrestrial or arboreal lifestyles, or some kind of combination of them (Toledo 2012), Vermilingua (anteaters) show marked adaptations to myrmecophagy, whereas Tardigrada (sloths and ground sloths) are generally herbivorous (see McDonald & De Iuliis 2008; Vizcaíno 2009; Brandoni *et al.* 2010).

Tardigrada (*sensu* Latham & Davies 1795) or Phyllophaga or Folivora (see further discussion on the use of these terms in Delsuc *et al.* 2001; Fariña & Vizcaíno 2003, McKenna *et al.* 2006) constitute one of the characteristic mammalian groups for the Cenozoic of South America. After the Deseadan (Late Oligocene), Tardigrada become abundant in the fossil record, and are represented by several lineages (e.g. Megatheriidae,