



A new hyladelphine marsupial (*Didelphimorphia*, *Didelphidae*) from cave deposits of northern Brazil

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Abstract

Based on very small upper and lower molars recovered from the Quaternary limestone caves in the State of Tocantins, northern Brazil, we describe a new genus and species of a didelphimorphian marsupial. A phylogenetic analysis based on morphological + karyotypic data set recovered the new genus and species as the sister taxon to the living didelphid, *Hyladelphys kalinowskii* Voss, Lunde & Simons. The new taxon differs from the latter in having a slightly larger size, more inflated and blunt cusps, greater reduction in number and size of the styler cusps, in the absence of an anterior cingulum, a deeper ectoflexus in M2, paracone and metacone subequal in M2, and narrower and eccentric protocones. The new marsupial probably weighed no more than 40 g and its molar morphology is suggestive of mixed, insectivorous-frugivorous feeding habits. Although we regard the fauna of Gruta dos Mouras cave as Pleistocene, we do not negate the possibility that a temporal mixing (“time-averaging”) of Pleistocene and Holocene specimens existed and that the newly described taxon is a living marsupial in the study area.

Key words: cave, karst, systematics, *Hyladelphys*, Pleistocene, South America

Introduction

Recent field work in the cave deposits of the southern State of Tocantins, Brazil, have produced a large sample of Quaternary micro- and large mammals, which include numeral remains of marsupials, rodents, cingulates, among others (Avilla *et al.* 2010). A preliminary analysis of the marsupial fauna indicated that none of the studied specimens can be assigned confidently to any known living species cited for the State of Tocantins (see Bezerra *et al.* 2009, Rocha *et al.* 2011). One of the marsupials from the cave deposit of Aurora de Tocantins is of general interest because of its very distinct dental structure in relation to cited living genera for the study area. No comparative dental structure to the marsupial herein described is also observed in the relevant Quaternary cave marsupial faunas described for Brazil, such as Lagoa Santa, State of Minas Gerais and São Raimundo Nonato, State of Piauí (Winge 1893, Guérin *et al.* 1993). Below we describe this marsupial and assign it to the Order Didelphimorphia.

Although the living and late Cenozoic radiations of New World marsupials are of great interest, few studies dealing with materials from caves or other Cenozoic deposits have been conducted in Brazil. Records of late Cenozoic marsupials are very fragmentary and date back to latest Miocene (Huayquerian SALMA). Czaplewski (1996) described the remains of indeterminate didelphids from the late Miocene in the Acre region, while Cozzuol *et al.* (2006) described a new species of *Didelphis* Linnaeus from this same age and region. Abundant late Pleistocene (Lujanian SALMA) marsupial remains have been collected from the limestone caves of Lagoa Santa, State of Minas Gerais (Winge 1893). Other records include the remains of *Didelphis albiventris* Lund, *Monodelphis domestica* Wagner and *Marmosa* Gray from the late Pleistocene of the State of Piauí (Guérin *et al.* 1993), and of *Gracilianus microtarsus* Wagner, *G. agilis* Burmeister, *Monodelphis americana* Müller, *Thylamys velutinus* Wagner,