



A new species of *Calomys* (Rodentia: Sigmodontinae) from Eastern Brazil

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Abstract

On the basis of combined analyses of karyotypic, molecular and morphologic data, we herein describe a new *Calomys* species collected in a transitional area between the Atlantic Forest and the Cerrado morphoclimatic domains of eastern Brazil. This new taxon differs from all other Brazilian *Calomys* species by its diploid number ($2n=38$), the lowest among Brazilian *Calomys* species, and by its yellowish snout. Phylogenetic analyses based on cytochrome *b* DNA suggest that this species belongs to the larger-bodied species group within *Calomys*, together with *C. expulsus*, *C. callidus*, *C. callosus*, and *C. tocantinsi*.

Key words: molecular phylogeny, karyotype, cytochrome *b*, morphometrics, description

Introduction

Calomys Waterhouse, 1837 is a genus of small sigmodontine rodents, mainly distributed in dry vegetation areas across a wide geographic range in South America. The latest taxonomic compilation (Musser & Carleton 2005) included 12 species in the genus, five of which occur in Brazil: *Calomys callosus* (Rengger, 1830), *Calomys expulsus* (Lund, 1841), *Calomys tener* (Winge, 1837), *Calomys laucha* (Fischer, 1914), and *Calomys tocantinsi* Bonvicino, Lima and Almeida, 2003. Another species, *Calomys callidus* (Thomas, 1916), was recently reported from the Brazilian state of Rondônia (Mattevi *et al.* 2005). The description of a new karyomorph ($2n=36$, $FN_{a}=66$; Geise *et al.* 1996) and associated molecular analysis indicating the presence of an additional evolutionary lineage within the genus (Almeida *et al.* 2007), raises to seven the number of *Calomys* species occurring in Brazil. Previous works considered *C. fecundus* (Thomas, 1926) a valid species (Salazar-Bravo *et al.* 2001; Almeida *et al.* 2007), but we follow Musser and Carleton (2005) in considering *C. fecundus* a junior synonym of *C. boliviae* (Thomas, 1901). Many of these species inhabit the open vegetation formations of the Caatinga and Cerrado morphoclimatic domains, which cover a very large part of South America (ca. 2,650,000 km²). Together with the Chaco, this area is referred to as the open diagonal belt, due to its predominant xeric formations and grasslands dissected by semi-deciduous forests (Eiten 1972; Reis 1976).

Recent taxonomic studies of Cerrado species based on karyological and molecular analyses have contributed to a better understanding of *Calomys* in Brazil, with the description of new species (Bonvicino & Almeida 2000; Bonvicino *et al.* 2003) and the recognition of species previously known from elsewhere in South America (Mattevi *et al.* 2005). Intrageneric phylogenetic relationships have been proposed on the basis of morphology (Hershkovitz 1962; Stepan 1995), karyology (Pearson & Patton 1976; Espinosa *et al.* 1997), and molecular data (Salazar-Bravo *et al.* 2001; Almeida *et al.* 2007). This last study focused on Brazilian species and confirmed the occurrence of an undescribed form from the Brazilian Cerrado included in the larger-bodied species group, a monophyletic assemblage including *C. expulsus*, *C. callosus*, *C. venustus*, *C. tocantinsi*, and *C. fecundus* (= *C. boliviae*) (Almeida *et al.* 2007).