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, FNa=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). Intragenic phylogenetic relationships have been proposed on the basis of morphology (Hershkovitz 1962; Steppan 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).