



A new species of *Juliomys* (Mammalia: Rodentia: Cricetidae) from the Atlantic forest of southeastern Brazil

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Abstract

In the present paper, we describe *Juliomys ossitenuis*, a new species of sigmodontine rodent from the Atlantic forest biodiversity hotspot in South America. This new species can be distinguished from the two congeners by clear morphological, molecular, and karyological characters. *Juliomys ossitenuis* is known from rain and semi-deciduous forests above 800 meters of altitude in southeastern Brazil, ranging from the state of Espírito Santo to São Paulo. Molecular phylogenetic analyses based on the mitochondrial cytochrome *b* gene confirmed that members of this new species form a well-supported monophyletic group, highly divergent from the other two species in the genus.

Key words: new species, *Juliomys*, Cricetidae, Sigmodontinae, Atlantic forest, Brazil

Introduction

The Atlantic forest of eastern South America is one of the most important biodiversity hotspots on earth, harboring at least 261 mammal species, 73 of them endemic (Myers *et al.* 2000). Southeastern Brazil contains the greatest number of diverse and deep lineages of sigmodontine rodents, being an important geographic center in the diversification of this group (Smith & Patton 1999). Species of the genus *Juliomys* are arboreal red-rumped mice endemic to the Atlantic forest, extending from Minas Gerais and Espírito Santo in southeastern Brazil to the province of Misiones, in northeastern Argentina. This genus was recently described (González 2000) to accommodate the distinction between *J. pictipes* (Osgood 1933) and *Wilfredomys oenax* (Thomas 1928). *Juliomys* remained monotypic for a couple years until the description of *J. rimofrons* Oliveira and Bonvicino, 2002. The two currently recognized species of *Juliomys* belong to a Neotropical radiation comprised of 74 genera and 377 recent species of cricetid rodents classified in the subfamily Sigmodontinae (Musser & Carleton 2005). The phylogenetic position of *Juliomys* within this subfamily is still uncertain, and several authors pointed out that this genus cannot be unambiguously placed into any monophyletic tribe (*e.g.*, Smith & Patton 1999; D'Elía 2003). Recent phylogenetic analysis using DNA sequences of the nuclear interphotoreceptor retinoid binding protein (IRBP) gene suggested a novel clade composed of *Juliomys* and *Irenomys* (Weksler 2003) or *Juliomys* and (*Irenomys* + *Euneomys*) (D'Elía *et al.* 2006).

Smith and Patton (1999) analyzed the suprageneric phylogenetic relationships of sigmodontine rodents using sequences of the mitochondrial cytochrome *b* (cyt *b*) gene. They obtained DNA sequences from *Juliomys pictipes* (treated then as *Wilfredomys pictipes*) and from a highly divergent undescribed species showing 14.4% Kimura two-parameter (K2p) genetic distance from the former. The same sequences were later used by Oliveira and Bonvicino (2002) when describing *J. rimofrons* and the levels of cyt *b* divergence