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Taxonomic revision of the Andean leaf-eared mouse, *Phyllotis andium* Thomas 1912 (Rodentia: Cricetidae), with the description of a new species

EDGARDO M. RENGIFO^{1,3} & VÍCTOR PACHECO^{1,2}

¹Departamento de Mastozoología, Museo de Historia Natural de la Universidad Nacional Mayor de San Marcos. Av. Arenales 1256, Lima 14, Lima, Perú. E-mail: edgar_mrv@outlook.com.

²Instituto de Ciencias Biológicas “Antonio Raimondi”, Facultad de Ciencias Biológicas, Universidad Nacional Mayor de San Marcos. Av. Arenales 1256, Lima, Peru. Lima 14. E-mail: vpachecot@unmsm.edu.pe

³Corresponding author

Abstract

The Andean Leaf-eared mouse, *Phyllotis andium* Thomas 1912, has been considered a widespread medium-size sigmodontine rodent (230 mm of total length and 35 grams approximately) that occurs from Tungurahua, Ecuador, through the Andes, to Lima, Peru. Previous studies performed on *Phyllotis* noted evidence of morphological geographical variation within the species, which is likely because of the several potential geographical barriers that exist within the distribution range of *P. andium*. We carried out a taxonomic revision of this species based on qualitative and quantitative morphological analyses of 330 specimens from 92 localities. This included appropriate comparisons with other species of the *andium/amicus* group and performed molecular analysis based on cytochrome *b* sequences. As a result, morphologic qualitative analysis suggested the recognition of three different taxa, which are supported by morphologic quantitative and molecular analyses. The three taxa here identified have allopatric distributional ranges separated by important geographic barriers. Following these identification criteria, *P. andium* is now recognized for the samples from Tungurahua, Ecuador to Huánuco, Peru, and includes *melanius* and *fruticicolus* as synonymous; the southern populations from the Ancash and Lima departments, in the western Peruvian Andes, are proposed to represent a new species; and we recognize *P. stenops* as a valid species with *tamborum* as a synonym. Finally, we postulate that the diversification of these three species is related to key events in the Andean orogeny.

Key words: Andes, new species, Phyllotini, *Phyllotis*, Sigmodontinae, taxonomy

Introduction

The Andean leaf-eared mouse, *Phyllotis andium* Thomas 1912, is a medium-sized sigmodontine rodent (230 mm of total length and 35 grams approximately) that occurs from Tungurahua province in Ecuador, through the Andes, to the Lima region of Peru, including the western bank of the Marañón River (Musser & Carleton 2005). This mouse is found mainly in brushy habitats (Pearson 1972; Arana *et al.* 2002), from 200 to 4800 m in elevation (Hershkovitz 1962).

Phyllotis andium was described based on specimens from Cañar, Cañar Province, Ecuador (Thomas 1912); currently no subspecies are recognized, but four taxa are considered synonymous: *melanius*, *stenops*, *tamborum* and *fruticicolus* (sensu Musser & Carleton 2005). Thomas (1913) described *P. melanius*, but Pearson (1958) found that the type specimen was a mismatch composed of a skin of *Akodon aerosus* and a skull of a *P. andium*. Osgood (1914) described *P. andium stenops* and *P. tamborum*, but Thomas (1926) treated them as synonymous since he was not able to differentiate them from *P. andium*. Later, Anthony (1922) described *P. fruticicolus*; however, Pearson (1958) showed that the description was based on juvenile specimens, which were not distinguishable from *P. andium*.

Pearson (1958) and Hershkovitz (1962) presented, independently, a general taxonomic revision of *Phyllotis*, concurring that *P. andium* is a monotypic species. Nonetheless, they observed some morphological variation, such