

# ZOOTAXA

2409

## The *Akodon boliviensis* species group (Rodentia: Cricetidae: Sigmodontinae) in Argentina: species limits and distribution, with the description of a new entity

J. PABLO JAYAT<sup>1</sup>, PABLO E. ORTIZ<sup>2</sup>, JORGE SALAZAR-BRAVO<sup>3</sup>, ULYSES F. J. PARDIÑAS<sup>4</sup>  
& GUILLERMO D'ELÍA<sup>5,6</sup>

<sup>1</sup> Laboratorio de Investigaciones Ecológicas de Las Yungas (LIEY). Facultad de Ciencias Naturales e Instituto Miguel Lillo, Universidad Nacional de Tucumán, Casilla de Correo 34, 4107 Yerba Buena, Tucumán, Argentina. E-mail: pjayat@proyungas.org.ar

<sup>2</sup> Cátedra de Paleontología, Facultad de Ciencias Naturales e Instituto Miguel Lillo, Universidad Nacional de Tucumán, Miguel Lillo 205, 4000 San Miguel de Tucumán, Tucumán, Argentina. E-mail: peortiz@uolsinectis.com.ar

<sup>3</sup> Department of Biological Sciences, Texas Tech University, Lubbock, TX 79409. E-mail: j.salazar-bravo@ttu.edu

<sup>4</sup> Centro Nacional Patagónico, casilla de correo 128, 9120 Puerto Madryn, Chubut, Argentina. E-mail: ulyses@cenpat.edu.ar

<sup>5</sup> Departamento de Zoología, Universidad de Concepción, casilla 160-C, Concepción, Chile. E-mail: guillermo@udec.cl

<sup>6</sup> Corresponding author. E-mail: guillermo@udec.cl



Magnolia Press  
Auckland, New Zealand

J. PABLO JAYAT, PABLO E. ORTIZ, JORGE SALAZAR-BRAVO, ULYSES F. J. PARDIÑAS & GUILLERMO D'ELÍA

**The *Akodon boliviensis* species group (Rodentia: Cricetidae: Sigmodontinae) in Argentina: species limits and distribution, with the description of a new entity**

(*Zootaxa* 2409)

61 pp.; 30 cm.

24 March 2010

ISBN 978-1-86977-491-2 (paperback)

ISBN 978-1-86977-492-9 (Online edition)

FIRST PUBLISHED IN 2010 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: [zootaxa@mapress.com](mailto:zootaxa@mapress.com)

<http://www.mapress.com/zootaxa/>

© 2010 Magnolia Press

All rights reserved.

No part of this publication may be reproduced, stored, transmitted or disseminated, in any form, or by any means, without prior written permission from the publisher, to whom all requests to reproduce copyright material should be directed in writing.

This authorization does not extend to any other kind of copying, by any means, in any form, and for any purpose other than private research use.

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

## TABLE OF CONTENTS

ABSTRACT .....	3
INTRODUCTION .....	3
MATERIALS AND METHODS .....	4
Genetic and phylogenetic analyses .....	5
Morphological and morphometric analyses .....	5
Species accounts .....	6
RESULTS .....	6
Phylogenetic results .....	6
Patterns of morphometric variation .....	9
Morphological results .....	13
Species account .....	18
<i>Akodon boliviensis</i> Meyen, 1833 .....	20
<i>Akodon caenosus</i> Thomas, 1918 .....	23
<i>Akodon spegazzinii</i> Thomas, 1897 .....	28
<i>Akodon sylvanus</i> Thomas, 1921 .....	32
<i>Akodon polopi</i> , new species .....	34
DISCUSSION .....	42
The polyphyly of the <i>Akodon varius</i> species group .....	42
<i>Akodon boliviensis</i> species group .....	43
ACKNOWLEDGMENTS .....	45
REFERENCES .....	45
APPENDIX I .....	50
APPENDIX II .....	55

## ABSTRACT

*Akodon*, with about 42 living species, is the most diverse genus of the subfamily Sigmodontinae. The *Akodon boliviensis* species group includes small-bodied, morphologically similar forms inhabiting Altiplano grasslands and grassland/forest ecotones of the eastern slope of the Andes, from central Peru to central Argentina. Northwestern Argentina contains the largest diversity of species of the group; the taxonomic treatment of these species has been based largely on unsupported and some weakly based opinions as underscored by recurrent changes. Based on morphologic and molecular data we assessed species limits among Argentinean populations of the *Akodon boliviensis* species group. We conclude that four species of the *A. boliviensis* species group inhabit northwestern Argentina. These are: *A. boliviensis*; *A. caenosus* (under which we synonymize *A. aliquantulus*); *A. spegazzinii* (of which the nominal forms *alterus*, *leucolimnaeus*, and *tucumanensis* are junior synonyms); and *A. sylvanus*. Additionally, we described here a new species of the *A. boliviensis* species group, *Akodon polopi*, which inhabits central Argentina. This is the only species of the *A. boliviensis* species group inhabiting the Sierras Grandes range (ca. 2000 m), mountain system of medium height, isolated (ca., 600 km) from the main Andean chain by low elevation arid and semiarid environments. Additionally, our phylogenetic analyses suggests that the *Akodon varius* species group is polyphyletic.

**Key words:** *Akodon boliviensis*, *Akodon caenosus*, *Akodon polopi* n. sp., *Akodon spegazzinii*, *Akodon sylvanus*, *Akodon varius*, Akodontini, new species, Argentina, Pampa de Achala, taxonomy

## INTRODUCTION

As currently understood, *Akodon* Meyen is the most diverse sigmodontine genus with ca. 42 living forms recognized at the species level. The taxonomic and nomenclatorial complexity of *Akodon* is now widely recognized (Myers 1989; Myers *et al.* 1990; Pardiñas *et al.* 2005, 2006; Patton & Smith 1992; Reig 1987; Smith & Patton 2007). Although recent contributions (e.g., Braun *et al.* 2000; 2008; Christoff *et al.* 2000; Geise *et al.* 1998, 2001; Hershkovitz 1998; Jayat *et al.* 2007a; Myers 1989; Myers & Patton 1989a; Myers *et al.* 1990;