Mamm. biol. 66 (2001) 379–382
© Urban & Fischer Verlag
http://www.urbanfischer.de/journals/mammbiol

Mammalian Biology
Zeitschrift für Säugetierkunde

Short communication

New distributional records of small mammals at Beni Biosphere Reserve, Bolivia

By Julietta Vargas and J. A. Simonetti

Colección Boliviana de Fauna, Museo Nacional de Historia Natural, La Paz, Bolivia and Departamento de Ciencias Ecológicas, Universidad de Chile, Santiago, Chile

Receipt of Ms. 29. 12. 2000
Acceptance of Ms. 30. 05. 2001

Key words: *Bolomys*, *Marmosops*, *Mycroryzomys*, *Oxymycterus*, Bolivia

The mammalian fauna of Bolivia is among the least known in South America (Pine 1982). Fortunately, the knowledge about the diversity and distribution of this fauna has been increasing in recent years (e. g., Anderson 1997; Eisenberg and Redford 1999). Currently, 316 species are recognized for Bolivia, 71% of which are small mammals. The geographic distribution of most species is based on a handful of records from a few sites (Anderson 1997). Consequently, new distributional records are needed to clarify further the biogeography of Bolivian mammals (e. g., Yensen et al. 1994; Tarifa and Anderson 1997).

Much sampling effort has been devoted to the northern highlands and La Paz valley (Ergueta and Sarmiento 1992). In the Amazonian region, the Beni Biosphere Reserve (EBB) has received considerable attention in recent years (Herrera-MacBryde et al. 2000), including sampling of bats, marsupials, and rodents (Cabbot et al. 1986; Wilson and Salazar 1989; Anderson 1997; Yáñez et al. 1998; Brace et al. 2000; see also Rumiz and Herrera 2000). The reserve lies in the Llanos de Moxos region, a center of high plant biodiversity. Furthermore, it is regarded as a key area for the conservation of threatened birds in the Neotropics (Brace et al. 2000; Moraes et al. 2000). Currently, only 11 species of small mammals have been registered, seven rodent and four marsupials (Cabot et al. 1986; Anderson 1997). However, despite the efforts allocated to inventorying mammals at the EBB, ongoing sampling of mammals at both a terra firme forest and forest fragments at El Porvenir ranch, EBB'headquarters, have revealed four new species for the region. Here we present these noteworthy records.

During 1996 a small live-trapping sampling bout was allocated to three forest fragments at El Porvenir (Yáñez al. 1998). Two others have been sampled since 1999. Forest fragments sampled during 1999 and 2000 are known as "Taita B" (2.2 ha) and "Airstrip B" (0.3 ha) (14°51′37″ S/66°19′68″ W 163; Brace et al. 2000). We also sampled the grassland neighboring a water course and marsh close to the forest fragment named "Porv A". The sampling site at the terra firme forest, known as "Campo Monos" is located roughly 45 km NW from El Porvenir (14°39′59″ S/66°04′60″ W and 130 m asl, see Moraes et al. 2000 for vegetation description). During 1999–2000, sampling consisted of live-trapping and collecting for four consecutive nights each time with 200 medium Sherman traps in linear transects, traps being 10 m apart. We have also examined prey remains

1616-5047/01/66/06-379 $ 15.00/0.

in 440 pellets of the barn owl (*Tyto alba*) collected at El Porvenir (Vargas et al. unpubl.). All specimens collected have been deposited in the Coleccion Boliviana de Fauna (CBF), La Paz.

Marsupialia: Didelphidae

Marmosops dorothea (Thomas, 1912) is endemic to Bolivia and regarded as threatened by the IUCN (Nowak 1999) This marsupial has a disjunct distribution with records in the humid Yungas of La Paz (840–2 300 m asl) as well as in the arid lowlands of Santa Cruz (250–620 m asl; Anderson and Tarifa 1996). Known from 23 localities and 46 specimens, the two areas of distribution are over 400 km apart (Anderson 1997). This broad disjunction led Anderson and Tarifa (1996) to suggest that two taxa could be involved. However, we collected it at Campo Monos, a record in the middle of the distribution gap challenging this contention.

A single subadult female (CBF 6442; TL 208, T 122, HF 15, E 18; 15 g) was captured (July 1999) in a seasonally flooded forest, close to the Curiraba river, the understory dominated by *Heliconia* sp, coinciding with known habitats of *M. dorothea* (Emmons 1999). The single specimen represents 2% of small mammals captured in a total of 424 trap/nights. Besides *M. dorothea*, *Oecomys bicolor*, *Oryzomys capito*, *Philander opossum* and *Proechimys* sp. were also captured in the same habitat.

Rodentia: Muridae

Microryzomys minutus (Tomes, 1860): the pigmy rice rat is known from high elevations (2500–3000 m asl) in the Andes of Ecuador, Peru and Bolivia (Eisenberg and Redford 1999). It has also been reported for the Monte Zerpa's cloud forest in Venezuela (Diaz 1994). In Bolivia, it is known from 10 localities and 28 specimens of the Yungas from Cochabamba, La Paz and Santa Cruz (Anderson 1997). Despite being considered a highland species (e. g., Nowak 1999), a subadult female (CBF 7078; TL 163 mm, T 90, E 14, HF 21, 12 g) was collected at Campo Monos in September 2000. It was captured in a forest tract with an understory dominated by *Heliconia* sp. In this habitat, *Marmosops dorothea*, *Oecomys bicolor*, *Oryzomys capito*, *Philander opossum* and *Proechimys* spec. were also captured. *Microryzomys minutus* represents 2% of the 52 individuals captured at Campo Monos, with a trapping success of 0.2% (one out of 424 trap/nights), suggesting it might be rare.

There were no records of *M. minutus* at the Department of Beni. This record extends its known distribution roughly 150 km NW of its previously recorded limits. Besides it biogeographical relevance, the record of *M. minutus* is of medical concern for EBB human populations, as this species might be a reservoir of human cutaneous leishmaniasis (Alexander et al. 1998).

Oxymycterus spec. (Waterhouse, 1837): burrowing mice inhabit open grassland, marshes, swamps, and grasslands being rare in humid forests (Emmons 1999). Three species including five subspecies are known from Bolivia, but their biology is unknown (Anderson, 1997). Of these species, *Oxymycterus inca iris* (Thomas, 1901), dwells in the humid forest of the Amazonian lowlands. In Bolivia it is known from 20 localities and 63 specimens from La Paz, Santa Cruz and the western portion of Beni. We recorded it as prey of *T. alba* at El Porvenir, extending its distribution 100 km NE. The single skull recovered represents 0.2% of the prey remains of *T. alba* over 1998–1999 (Vargas et al. unpubl.).

Bolomys spec. (Thomas, 1916): a single skull of *Bolomys* spec. was found among the prey of *T. alba* (Vargas et al. unpubl.). While the individual undoubtedly belongs to *Bolomys*, it was not possible to assign it to any of the three species known for Bolivia. *Bolomys amoenus* (Thomas, 1900) is known from four localities and just 13 specimens, being restricted to Cochabamba and Tarija at elevations from 3 800 to 4 000 m asl (Anderson 1997). However, Anderson (1997) includes the southeastern portion of Beni in its distribution with no further support. If our specimen represents *B. amoenus*, this record will increase its distribution 260 km NW denot-

ing also a notorious change of habitat. Another species, *B. lenguarurm* (Thomas, 1898) is widely distributed in the lowlands, including several records from western Beni (Anderson 1997; Anderson and Olds 1989). If the skull recovered at El Porvenir belongs to *B. lenguarum*, it would represent a further 120 km E expansion of its known distribution.

Twenty-two percent of Bolivian mammals are known from one to three localities (Anderson 1997). The four species reported here are hence comparatively better known regarding their geographic distribution. Even though and although EBB could be regarded as a relatively well known region (Herrera-MacBryde et al. 2000), these four new records clearly state that much field work needs to be done to assess fully the diversity and distribution of Bolivian mammals.

Acknowledgements

This work has been supported by Fondecyt 1981050 and 790003 to JAS. C. Miranda, EBB Director granted permit for collecting specimens. Support and encouragement of our collegues A. A. Grez, M. Moraes, and R. O. Bustamente is appreciated. We are indebted to I. Huareco for field assistance.

References

Aguirre, L. F.; De Urioste, R. (1994): Nuevos registros de murciélagos para Bolivia y los Departamentos de Beni y Pando. Ecol. Bol. **23**, 71–76.

Alexander, B.; Lozano, C.; Barker, D. C.; McCann, S. H.; Adler, G. H. (1998): Detection of the *Leishmania (Viannia) brasilienzis* complex in wild animals from Colombian coffee plantations by PCR and DNA hybridization. Acta Tropica **69**, 41–50.

Anderson, S. (1997): Mammals of Bolivia, taxonomy and distribution. Bull. Amer. Mus. Nat. Hist. **231**, 1–652.

Anderson, S.; Olds, N. (1989): Notes of Bolivian mammals. 5. Taxonomy and distribution of *Bolomys* (Muridae, Rodentia). Am. Mus. Novitates **2935**, 1–22.

Anderson, S.; Tarifa, T. (1996): Mamíferos endémicos de Bolivia. Ecol. Bol. **28**, 45–63.

Brace, R.; Hartley, J. C.; Barnard, C. J.; Hurst, J. L. (2000): Ecology, biogeography and conservation of forest-island faunas in lowland Bolivia. In: Biodiversidad, conservación y manejo en la región de la Reserva de la Biosfera Estación Biológica del Beni, Bolivia. Ed. by O. Herrera-MacBryde, F. Dallmeier, B. MacBryde, J. A. Comiskey, and C. Miranda. Washington, D.C.: SI/MAB series No. 4, Smithsonian Institution. Pp. 171–202.

Cabbot, J.; Serrano, P.; Ibañez, C.; Braza, F. (1986) Lista preliminar de ares y mamíferos de la reserva "Estación Biológica Beni". Ecol. Bol. **8**, 37–44.

Diaz, A. (1994): The rodent community of the Venezuelan cloud forest, Merida. Polish Ecol. Studies **20**, 155–161.

Eisenberg, J. F.; Redford, K. H. (1999): Mammals of the Neotropics. Vol. 3. The Central Neotropics: Ecuador, Peru, Bolivia, Brazil. Chicago: University of Chicago Press.

Emmons, L. H. (1999): Mamíferos de los bosques húmedos de America tropical. Una guía de campo. Santa Cruz de la Sierra: Editorial F.A.N.

Ergueta, P.; Sarmiento, J. (1992): Fauna silvestre de Bolivia: diversidad y conservación. In: Conservación de la diversidad biológica en Bolivia. Ed. by M. Marconi. La Paz: Centro de Datos para la Conservación and United States Aid Mission to Bolivia. Pp. 113–164.

Herrera-MacBryde, O.; Dallmeier, F.; MacBryde, B.; Comiskey, J. A.; Miranda, C. (eds.) (2000): Biodiversidad, conservación y manejo en la región de la Reserva de la Biosfera Estación Biológica del Beni, Bolivia. Washington, D.C.; Sl/MAB series No. 4, Smithsonian Institution.

Moraes, M; Ribera, M. O; Villanueva, E (2000): La vegetación de la Reserva de la Biosfera Estación Biológica del Beni y su importancia para la conservación In: Biodiversidad, conservación y manejo en la región de la Reserva de la Biosfera Estación Biológica del Beni, Bolivia. Ed. by O. Herrera-MacBryde, F. Dallmeier, B. MacBryde, J. A. Comiskey, and C. Miranda. Washington, D.C.; SI/MAB series No. 4, Smithsonian Institution. Pp. 59–74.

Nowak, R. M. (1999): Walker's Mammals of the world. Vol. 3. Sixth ed. Baltimore: John Hopkins Univ. Press.

Pine, R H. (1982): Current status of South American mammalogy. In: Mammalian Biology in

South America. Ed. by M. A. MARES and H. H. GENOWAYS. Linesville: Spec. Publ. Ser., Pymatuning Laboratory of Ecology, University of Pittsburgh. Pp. 27–37.

RUMIZ, D., HERRERA, J. C. (2000): Wildlife diversity and selective mahogany logging in Bosque Chimanes, Beni, Bolivia: surveying mammals and other vertebrates by line transects, track quadrants, live-trapping and mist-netting. In: Biodiversidad, conservación y manejo en la región de la Reserva de la Biosfera Estación Biológica del Beni, Bolivia. Ed. by O. HERRERA-MACBRYDE, F. DALLMEIER, B. MACBRYDE, J. A. COMISKEY, and C. MIRANDA. Washington, D.C.; SI/MAB series No. 4, Smithsonian Institution. Pp. 235–262.

TARIFA, T.; ANDERSON, S. (1997): Two additional records of *Glironia venusta* Thomas, 1912 (Marsupialia, Didelphidae) for Bolivia. Mammalia **61**, 111–113.

WILSON, D. E.; SALAZAR, J. A. (1989): Los murciélagos de la Reserva de la Biosfera "Estación Biológica Beni", Bolivia. Ecol. Bol. **13**, 47–56.

YAÑEZ, M. A; VERA, F; SIMONETTI, J. A; GREZ, A. A. (1998): Small mammals of forest islands of the Beni Biological Station, Bolivia. Mast. Neotr. **6**, 135–138.

YENSEN, E.; TARIFA, T, ANDERSON, S. (1994): New distributional records of some Bolivian mammals. Mammalia **58**, 405–413.

Authors' addresses:
JULIETA VARGAS, Colección Boliviana de Fauna, Casilla 8706, La Paz, Bolivia
(e-mail: iecbf@ceibo.entelnet.bo)
JAVIER A. SIMONETTI, Departamento de Ciencias Ecológicas, Universidad de Chile, Casilla 653, Santiago, Chile.