

NOTA**FIRST RECORDS OF TWO SPECIES OF BATS (MAMMALIA: CHIROPTERA: EMBALLONURIDAE AND PHYLLOSTOMIDAE) FROM PARAGUAY****Robert D. Owen¹, Paul Smith², Celia López-González³ & Mirtha Ruiz Díaz⁴**

¹ Department of Biological Sciences, Texas Tech University, Lubbock, TX 79409 USA, and Raúl Casal 2230 c/ Pizarro, C.P. 1371, Barrio Republicano, Asunción, Paraguay. rowen@tigo.com.py.

² FAUNA Paraguay and Para La Tierra, Reserva Natural Laguna Blanca, Departamento San Pedro, Paraguay.

³ Instituto Politécnico Nacional, CIIDIR Unidad Durango, Calle Sigma 119, Fraccionamiento 20 de Noviembre II, Durango, Durango, México 34220.

⁴ Programa de Conservación de los Murciélagos de Paraguay, Rodríguez de Francia 2030 casi 22 de Setiembre, Asunción, Paraguay, and Guyra Paraguay, Gaetano Martino No. 215 esq. Tte. Ross, Asunción, Paraguay.

ABSTRACT

Information is provided on the first Paraguayan records of two species of bats, *Saccopteryx leptura* (Emballonuridae) and *Mimon crenulatum* (Phyllostomidae). The former represents the first record of the species in the Pantanal ecoregion.

Key Words: Chiroptera, *Mimon crenulatum*, Pantanal, *Saccopteryx leptura*

RESUMEN

Primeros registros de murciélagos (Mammalia: Chiroptera: Emballonuridae y Phyllostomidae) de Paraguay. Se documentan los primeros registros paraguayos para dos especies de murciélagos, *Saccopteryx leptura* (Emballonuridae) y *Mimon crenulatum* (Phyllostomidae). La localidad de *Saccopteryx* representa el primer registro de la especie en la ecorregión del Pantanal.

Palabras Clave: Chiroptera, *Mimon crenulatum*, Pantanal, *Saccopteryx leptura*

Despite one of the longest histories of field investigation on the continent, dating back to the times of de Azara (1801, 1802), new mammals continue to be added to the Paraguayan list on a regular basis (de la Sancha *et al.*, 2007, 2009a,b; D'Elía *et al.*, 2008; Percequillo *et al.*, 2008; Voss *et al.*, 2009; Stevens *et al.*, 2010; de la Sancha *et al.*, 2011; Smith *et al.*, 2012). The last comprehensive review of the chiropterofauna of the country documented the presence of 54 species of bats belonging to six families: Emballonuridae (1), Noctilionidae (2), Phyllostomidae

(20), Natalidae (1), Vespertilionidae (13) and Molossidae (17) in Paraguay (López-González, 2005). With the addition of *Myotis levis* (Geoffroy St.Hilaire), that total was subsequently raised to 55 (Stevens *et al.*, 2010). In this paper we report the presence of two additional species in Paraguay.

Emballonuridae

***Saccopteryx leptura* (Schreber, 1774)**

An adult *Saccopteryx leptura* (field number TK 121819) of undetermined sex was collected by Paul Smith, Mirtha Ruiz Díaz, and Aldo Fretes on 9 July 2012 at Departamento Alto Paraguay; Estación Biológica Tres Gigantes (20°04.63'S, 58°09.85'W; locality 1, Fig. 1) under a collecting permit issued by the Secretaría del Ambiente (SEAM) to MRD (RNVS #1010). The bat was roosting alone on the outer wall of a building at an estimated height of 5 m, just below the level of the roof and exposed to the elements. The specimen was identified following Jones & Hood (1993) and Yancey *et al.* (1998) and prepared as a fluid-preserved specimen with skull removed. The specimen was partially decomposed when examined and it was not possible to observe either external genitalia or internal sex organs. The specimen is deposited as MNHNP 3372 in the Museo Nacional de Historia Natural del Paraguay, San Lorenzo. Measurements are provided in Table 1.

This is the first record of this genus and species for Paraguay, and the second species in the family Emballonuridae recorded for the country (the other being *Peropteryx macrotis*). This locality extends the known distribution of this species 660 km SSE from El Refugio, Parque Nacional Noel Kempff Mercado, Santa Cruz, Bolivia (Emmons, 1998) (locality 2, Fig. 1), and 805 km SW from Araguaiana, Mato Grosso, Brazil (Piccinini, 1974) (locality 3, Fig. 1). Moreover, this is the first record of this species from the Pantanal-Chaco ecoregion complex. This is not the southernmost locality for *S. leptura*; along the Atlantic coast, it is known from as far south as approximately 23°39'S, 45°54'W in São Paulo state, Brazil (Garbino, 2011).

Phyllostomidae

***Mimon crenulatum* (Geoffroy, 1810)**

One *Mimon crenulatum* (field number TK 67230), adult male with scrotal testes, was collected by Ismael Mora and Sixto Fernández on 5 October 2002 at Departamento Alto Paraguay; Estancia Guyra Toro, km 55 Ruta Bahía Negra - Madrejón (19°48.33'S, 58°37.24'W; locality 4, Fig. 1). The specimen was collected under a collecting permit issued by the SEAM to RDO (RNVS #1031). It was prepared as a skin and skull (the skull cannot be located), identified following Williams and Genoways (2007), and deposited as MNHNP 3373 in the Museo Nacional de Historia Natural del Paraguay. External measurements are given in Table 1.

This is the first record of this genus and species for Paraguay, and represents an

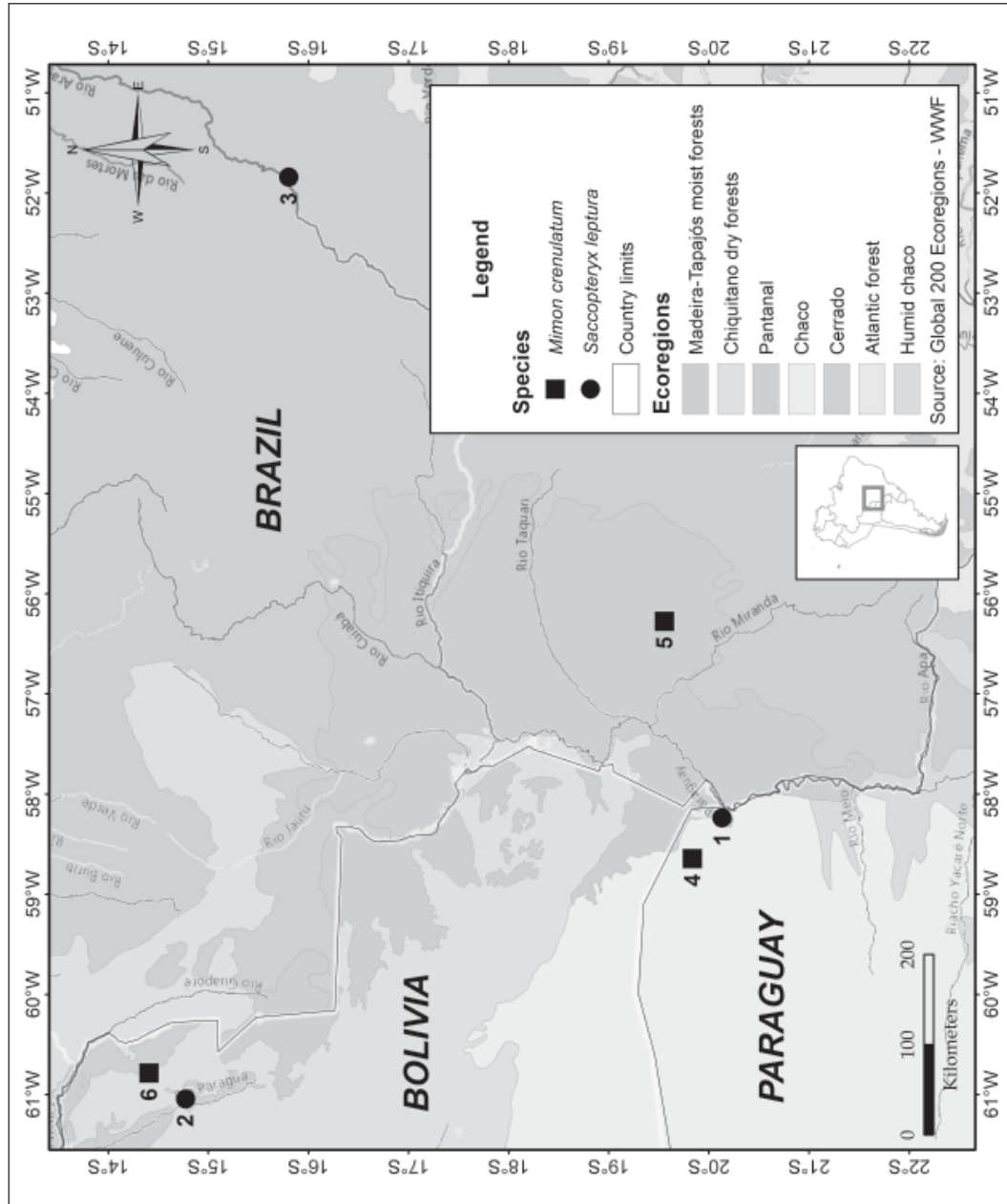


Fig. 1. Collection localities in Paraguay, and closest published records of *Saccopteryx leptura* (MNHP 3372) and *Mimom crenulatum* (MNHP 3373). See text for precise locality descriptions and coordinates.

Table 1. External and cranial measurements of MNHNP 3372 (TK121819) *Saccopteryx leptura*, and external measurements of *Mimon crenulatum*, MNHNP 3373 (TK67230). Combined literature measurements of Bolivian (Anderson, 1997) and south Brazilian (Nogueira *et al.*, 2002) specimens of *S. leptura* for males (m) and females (f); and mixed sex specimens of *M. crenulatum* from Brazil (Willig, 1983; Pedro *et al.*, 1994; Lopes de Oliveira *et al.*, 2013) and Bolivia (Anderson, 1997) are provided for comparison. Cranial measurements are not provided for MNHNP 3373 because the skull cannot be located. Measurements follow López-González (2005). Cranial measurements: GLS, Greatest Length of Skull; CBL, Condylbasal Length; MAB, Mastoid Breadth; ZYG, Zygomatic Breadth; BBC, Breadth of Braincase; INC, Interorbital Constriction; BAC, Breadth Across Canines; BAM, Breadth Across Upper Molars; LNR, Rostral Length; MAX, Length of Maxillary Tooth Row; MTR, Length of Mandibular Tooth Row; MAN, Greatest Length of Mandible. All measurements in mm.

	<i>Saccopteryx leptura</i> MNHNP 3372	<i>Saccopteryx leptura</i> from literature	<i>Mimon crenulatum</i> MNHNP 3373	<i>Mimon crenulatum</i> from literature
Total Length	62	m 58.0-58.6 f 61.0-67.2	88	79-92
Tail Length	18	m 14.3-15.0 f 11.0-18.0	26	22-30
Hindfoot Length	9	m 7.0-8.6 f 7.0-10.0	13*	6-13
Ear Length	14	m 14.0 f 13.0-15.0	29*	21.5-27.5
Forearm Length	43	m 40.0-41.1 f 40.0-43.8	52	45-53
MCIII	44	—	53	—
Mass (g)	5.5	m 4.0 f 4.0-8.0	15	8.8-24.0
GLS	14.0	m 14.5-14.6 f 14.5	—	—
CBL	13.3	m 12.8-13.4 f 12.6-14.1	—	—
MAB	7.6	—	—	—
ZYG	8.7 (est.)	m 9.3 f 8.4-9.9	—	—
BBC	6.8	m 7.1-7.5 f 6.7-7.4	—	—
INC	2.5	—	—	—

Table 1 (Cont.).

	<i>Saccopteryx leptura</i> MNHNP 3372	<i>Saccopteryx leptura</i> from literature	<i>Mimon crenulatum</i> MNHNP 3373	<i>Mimon crenulatum</i> from literature
BAC	3.0	m 3.1-3.3 f 3.2-3.3	—	—
BAM	5.4	m 5.8-6.2 f 6.2-6.3	—	—
LNR	5.5	—	—	—
MAX	5.0	m 5.2-5.5 f 5.6	—	—
MTR	5.2	—	—	—
MAN	9.6	—	—	—

*Collector's notes and specimen label of TK67230 (MNHNP 3373) report the hind foot length as 29 mm and the ear length as 13 mm. Examination of the specimen showed that these are erroneous, and that even on the dried skin values are close to those indicated in this table. We think it is highly likely that the two measurements were reversed by the preparator.

extension of 730 km SSE from the nearest Bolivian locality, Flor de Oro, Parque Nacional Noel Kempff Mercado, Santa Cruz, Bolivia (Emmons, 1998) (locality 6, Fig. 1), and an extension of 255 km W from the closest Brazilian Pantanal locality at Nhecolândia, Mato Grosso do Sul (Camargo and Fisher, 2005) (locality 5, Fig. 1). The specimen was collected in a transitional area between the Pantanal and Dry Chaco ecoregions (Mereles *et al.*, 2013).

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