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STATUS AND DISTRIBUTION OF PARAGUAYAN MAMMALIA, HYSTRICOMORPHA 1. ERETHIZONTIDAE AND CHINCHILLIDAE

P. Smith

FAUNA Paraguay, Encarnación, Itapúa, Paraguay. www.faunaparaguay.com
Para La Tierra, Centro IDEAL, Mariscal Estigarribia 321 c/ Tte. Capurro, Pilar, Dpto.
Ñeembucú, Paraguay, www.paratatierra.org. (*Correspondence),
E-jmail: faunaparaguay@gmail.com
P. Smits (<https://orcid.org/0000-0002-8758-4816>)

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Status and Distribution of Paraguayan Mammalia, Hystricomorpha 1. Erethizontidae and Chinchillidae. Smith, P. — Two species of Erethizontidae and one species of Chinchillidae have been recorded in Paraguay. To date no specialized studies have been performed on them and their distribution is poorly known. This study clarifies the available data on the distribution, habitat affinities and nomenclature of the Paraguayan members of these families, and provides a complete Paraguayan bibliography of the species. *Coendou spinosus* is associated with the Atlantic Forest ecoregion and forests influenced by it, exclusively in eastern Paraguay. *Coendou longicaudatus* shows a near parapatric distribution with it, replacing that species in the gallery forests of the Cerrado and Humid Chaco ecoregions. *Lagostomus maximus* is confined to a small area of Dry Chaco along the northern Pilcomayo River in Boquerón department. The distributions of the two species of Paraguayan porcupines with respect to each other requires more data, and citizen science projects can contribute to clarification of the issues.

Key words: Atlantic Forest, Cerrado, Chaco, *Coendou longicaudatus*, *Coendou spinosus*, *Lagostomus maximus*.

Introduction

Three species are represented in two genera amongst the Paraguayan Erethizontidae (*Coendou*) and Chinchillidae (*Lagostomus*) (de la Sancha et al., 2017), none of which have received special attention from Paraguayan researchers. Readers seeking re-

gional information on these species should see the relevant chapters in Patton et al. (2015) and Wilson et al. (2016).

In the context of the Paraguayan literature, Azara (1801, 1802) and Rengger (1830) are the only authors to have provided ecological observations for any of these species, and did so only for the porcupine *Coendou spinosus*. Dobrizhoffer's *Bisaccha* (Dobrizhoffer, 1784) and Azara's *Viscacha* (Azara, 1801, 1802) refer to observations on the plains viscacha *Lagostomus maximus* from Argentina. To date there have been no specific studies on the species in either of these families in Paraguay, and just a single paper has been published on the distribution of one porcupine species (Weiler Gustafson & Owen 2021).

The national conservation status of the species covered here were reviewed by Saldívar et al. (2017) and all were found to be of Least Concern, though an earlier conservation assessment considered *Lagostomus maximus* to be threatened on the basis of a limited range and limited occurrence in protected areas (Gamarra de Fox et al., 1998).

This work is a critical review of all Paraguayan reports of Erethizontidae and Chinchillidae with the aim of providing a reliable and up-to-date illustration of the known distribution of these species in the country. Misconceptions perpetrated in the Paraguayan literature are discussed and resolved and national chresonymies and bibliographies are given for all species.

Material and Methods

Specimens of Erethizontidae and Chinchillidae from the major zoological collections in Paraguay were reviewed during 2010–2023, identifications were confirmed by inspection of the specimens and locality data was collated from museum databases and specimen labels. The location of specimens in non-Paraguayan museums was gleaned from the literature and from Vert Net (which returned 7 results for Erethizontidae and 14 for Chinchillidae on 4 December 2024). Where possible, specimens considered to represent significant geographical range extensions were reviewed with the assistance of museum curators. Those that did not present noteworthy distributions were assumed to be correct and not examined.

Collection acronyms for museums housing Paraguayan specimens are as follows:

CZPLT Colección Zoológica Para La Tierra, Pilar, Paraguay.

MCN Museo de Ciencias Naturales, Madrid, Spain.

MJUF Museo Jakob Unger, Filadelfia, Paraguay.

MHNG Museum d'Histoire Naturelle Genève, Geneva, Switzerland.

MNHNP Museo Nacional de Historia Natural del Paraguay, San Lorenzo, Paraguay.

MSB Museum of Southwestern Biology, Albuquerque.

NHM Natural History Museum, London.

UMMZ University of Michigan, Ann Arbor.

USNM United States National Museum, Smithsonian Institution, Washington.

ZMB Museum für Naturkunde, Berlin.

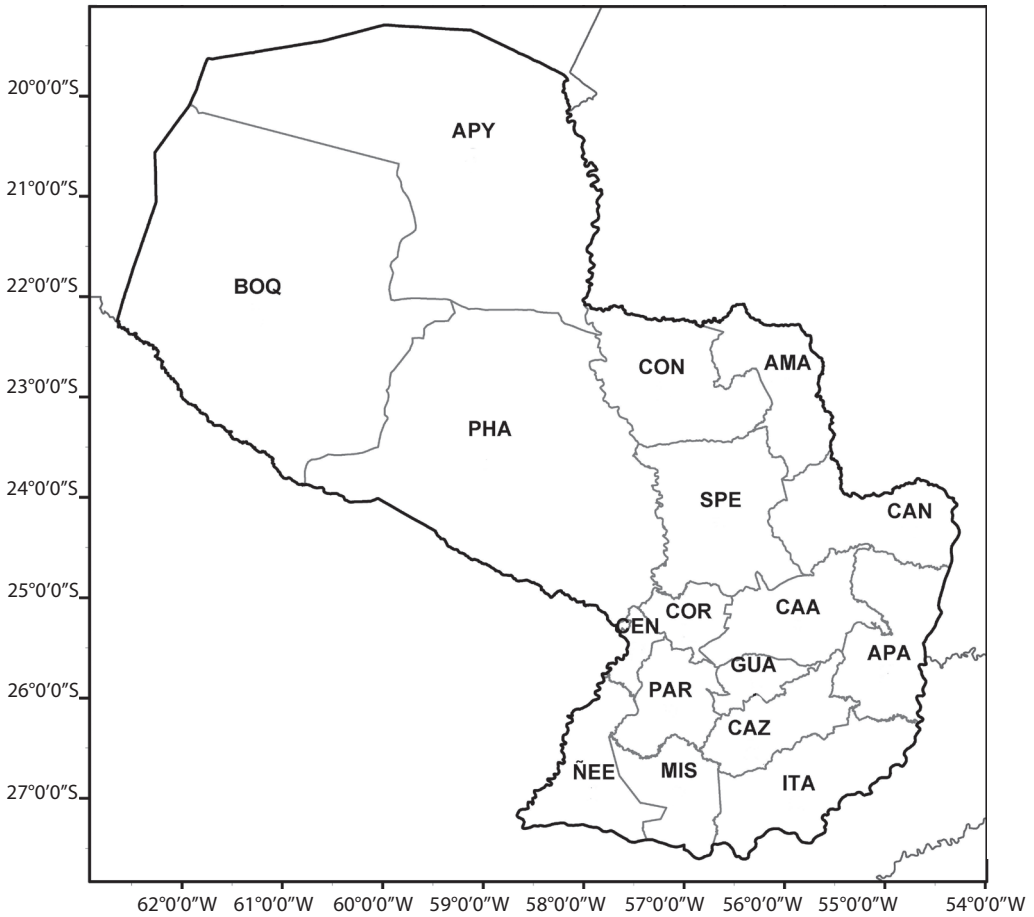


Fig. 1. Map showing the political departments of Paraguay. Departments as follows: Chaco Region — Alto Paraguay (APY), Boquerón (BOQ), Presidente Hayes (PHA); Oriental region — Amambay (AMA), Alto Paraná (APA), Caaguazú (CAA), Canindeyú (CAN), Caazapá (CAZ), Central (CEN), Concepción (CON), Cordillera (COR), Guairá (GUA), Itapúa (ITA), Misiones (MIS), Ñeembucú (ÑEE), Paraguari (PAR), San Pedro (SPE)

Species accounts begin with the scientific name, its author and current common name is presented for each species in bold type following Voss (2011) and Spotorno & Patton (2015). The original described name, author and type locality follow. There then follows a referenced list of the chresonyms used in the Paraguayan literature with a (hopefully self-explanatory) single word descriptor of the subject of the publication, as follows: biogeography (biogeographical relationships), checklist (inclusion in a list or locality list), conservation (dealing with conservation status), description (the original description of the name in question), dictionary (dictionary of local terms), distribution (locality records), ecology (ecological relationships and natural history), ethnography (indigenous knowledge or use), guide (popular identification guide), mention (cited briefly in a publication), parasitology (dealing with the species as a host), specimen/s (citation of specimens), taxonomy (taxonomic reviews), tracks (tracks and signs) and uses (commercial and non-commercial).

The chresonymy deals only with Paraguayan literature or literature citing Paraguayan specimens and is not intended to be a complete synonymy list for the species.

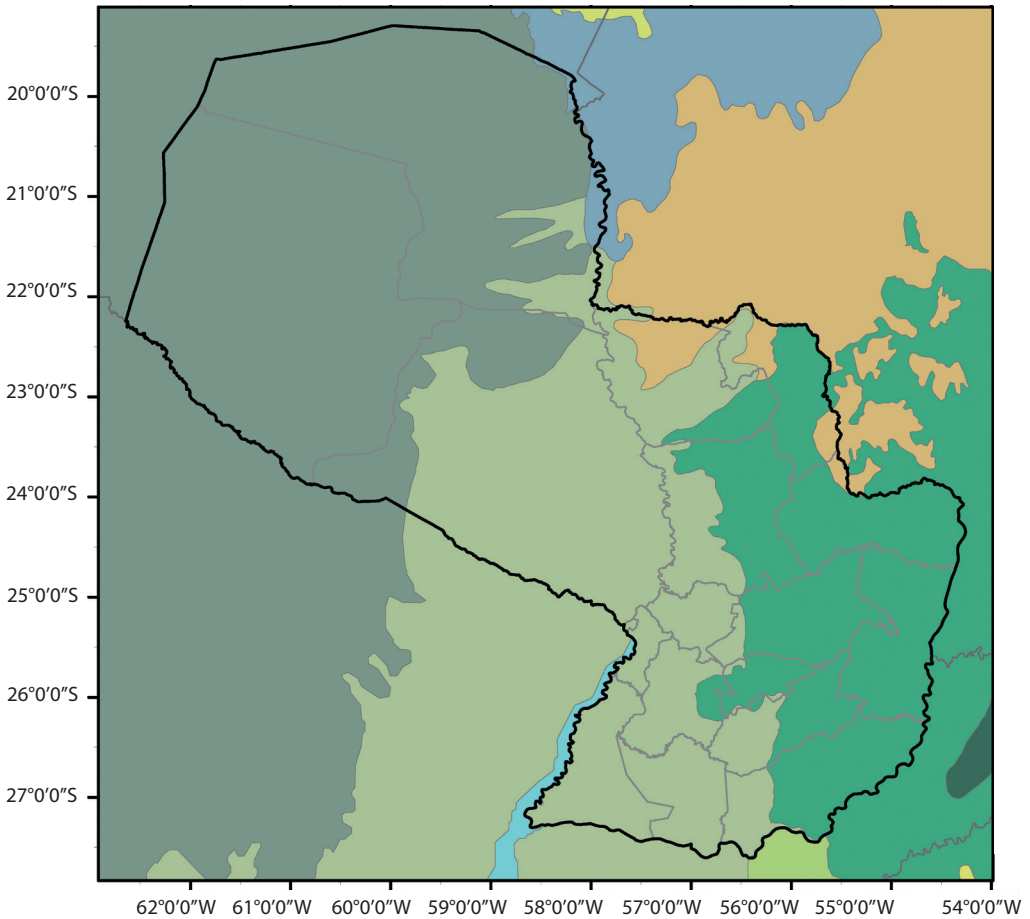


Fig. 2. Map showing Paraguayan ecoregions. Dark Green (Dry Chaco and Cerrados del Chaco); Light Green (Humid Chaco); Orange (Cerrado); Blue (Pantanal) Bright Green (Atlantic Forest and Mesopotamian Grasslands)

Local names. All local common names published in the Paraguayan literature known to me are provided. An attempt to reference the earliest published usage for each name is made.

Comments. Addressing noteworthy or confusing themes in the Paraguayan literature.

There then follows a “hierarchical reliability” approach to the Paraguayan distribution of each species. This approach is taken so as to not unduly bias understanding by depending solely on the limited specimen record. The hierarchies are, in order of documented reliability: 1) examined specimen, 2) specimen not examined, 3) published literature record, 4) published or author examined photographic record, 5) reliable field observation by one of the authors or knowledgeable local observer. Records are presented with the political department in bold capitals, followed by the details of the record (in alphabetical order). For specimen records this involves the specimen number (museum codes above) followed by the locality. These records are also mapped distinguishing the hierarchical categories so that readers may interpret their reliability for themselves (Figs 3–5). Records corresponding to categories

4) published or author examined photographic record and 5) reliable field observation by one of the authors or knowledgeable local observers include only localities that are not covered by any one of the previous three categories.

The criteria for inclusion of literature was that it was published in Paraguay or specifically deals with Paraguay, or in the case of international publications that it makes specific reference to Paraguayan specimens. The maps included in Neris et al. (2002) were omitted from this compilation. These maps were based on interviews with local people and contain numerous, obvious errors that I am keen not to perpetuate here. Also excluded are the results of Rapid Ecological Evaluations produced and published locally, due to the tendency amongst authors to extrapolate distributions without the necessary evidence in an effort to enhance the results produced after limited field time. Every effort was made to be thorough in this regard, though undoubtedly some obscure references will have been missed.

A statement on the ecological affinities of each species in Paraguay is provided based on the ecoregions defined in Guyra Paraguay (2005) and Mereles (2013) (Fig. 2). These can be broadly defined as follows: Atlantic Forest (subtropical humid forests of eastern Paraguay); Cerrado (central South American bushy savanna of northern eastern Paraguay); Dry Chaco (low, arid thorn forest and scrub of the western Occidental region); Humid Chaco (palm savanna and marshlands of the Paraguay River Basin; Pantanal (gallery forests and swamps of the north-eastern Chaco); Cerrados del Chaco (an area of Cerrado in the northern Chaco contiguous with the Chiquitania of Bolivia) and Mesopotamian Grasslands (flooded grasslands of the southern Oriental region).

Results

Erethizontidae

The porcupines of the genus *Coendou* were reviewed by Voss (2011), Voss et al. (2013) and Menezes et al. (2021).

Coendou longicaudatus Daudin, 1802, Long-tailed porcupine

Coendou longicaudatus Daudin, 1802: 172. Type locality “Cayenne, French Guiana”. Based on the “Coendou à longue queue” of Buffon.

Cercolabes Boliviensis Gray, 1850: 380. Type locality “Bolivia”.

Coendou prehensilis Gamarra de Fox & Martin (1996: distribution, specimen); Gamarra de Fox et al. (1998: conservation); Yahnke et al. (1998: conservation, distribution); Villalba & Yanosky (2000: tracks); Esquivel (2001: guide); Myers et al. (2002: checklist, distribution); Fariña & Hostettler (2003: checklist); Neris & Franco Rivarola (2005: guide); Rumbo (2010: biogeography); Voss (2011: specimens, taxonomy); Cartes (2014: ethnography); de la Sancha et al. (2017: checklist, distribution); Saldívar et al. (2017: conservation); Weiler Gustafson & Owen (2021: distribution); Weiler et al. (2023: guide).

Coendou longicaudatus boliviensis Menezes et al., 2021 (distribution, taxonomy).

Local names. **Aché:** Gui’i vachu (Esquivel, 2001); Gui’i vahu (Fariña & Hostettler, 2003); **Guaraní:** Kui’i (Cartes, 2014); Kui’i guasu (Esquivel, 2001); Kui’i guazu (Neris & Franco Rivarola, 2005); **English:** Brazilian porcupine (Brooks et al., 1993); **Spanish:** Coendú grande (Neris & Franco Rivarola, 2005); Puercoespín (Esquivel, 2001).

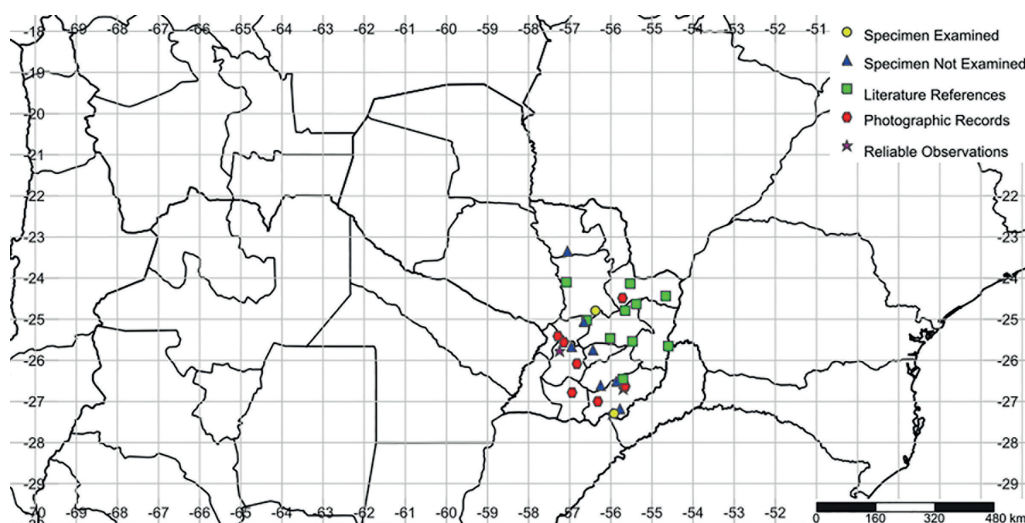


Fig. 3. Distribution of *Coendou spinosus* in Paraguay

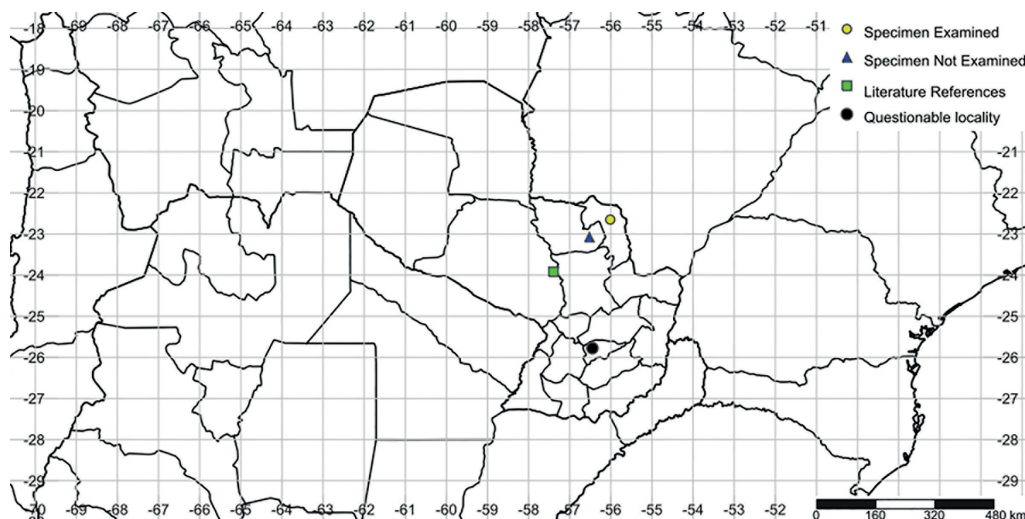


Fig. 4. Distribution of *Coendou longicaudatus* in Paraguay

Comments. According to Menezes et al. (2021) Cerrado and Chaco populations formerly assigned to *Coendou prehensilis* Linnaeus, 1758 are now properly assigned to *Coendou longicaudatus boliviensis* (Gray, 1850: 380). The specimen (MNHNP 765) I examined is mixed brown-and-white, consistent with this taxon according to the characters described by Menezes et al. (2021). It can be further distinguished from *C. l. longicaudatus* by having a long white B3 on tricoloured quills; long, curved, tricoloured quills in the dorsal crest and a yellowish tinge to the rump quills.

I consider that caution is required when examining the published Paraguayan records of this species, as confusion with *Coendou spinosus* is common and care must be taken to avoid over-estimating the range of this rare species. I omit the undocumented Erethizontidae records claimed in Gamarra de Fox & Martin (1996) and Yahnke et al. (1998) as certain localities claimed for this species (and for where

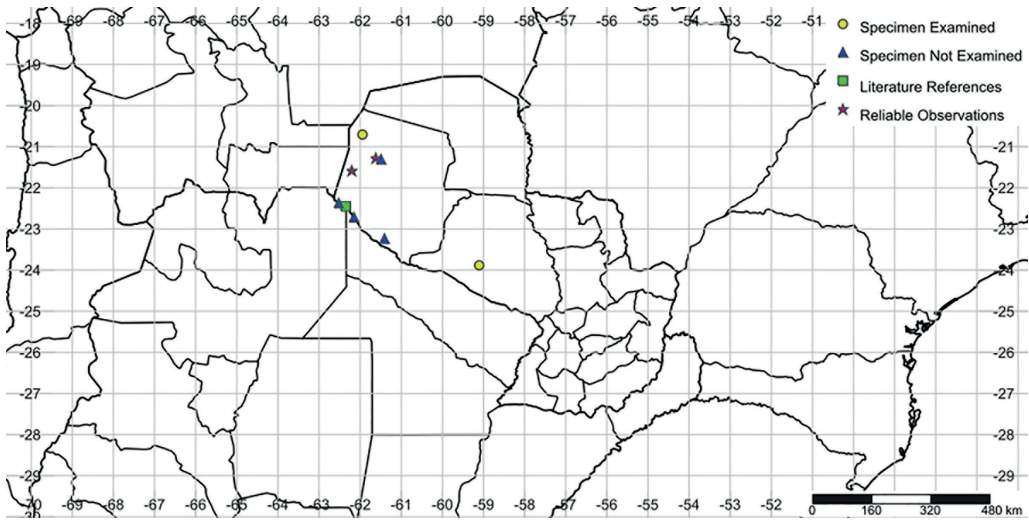


Fig. 5. Distribution of *Lagostomus maximus* in Paraguay

C. spinosus is simultaneously claimed to be absent), are actually well documented for the latter and have no verifiable records of the former.

Brooks et al. (1993: 99) and Lowen et al. (1996) gathered “local reports” of this species apparently using the illustrations in Emmons & Feer (1990). Having examined the illustrations in that work, and taking into consideration the large number of species illustrated on a single plate, I consider the Atlantic Forest records of “*Coendou prehensilis*” in Brooks et al. (1993) and Lowen et al. (1996) to be far more likely to refer to *Coendou spinosus* and include them under that species. I suspect that these reports are responsible for the inclusion of this species in several works on the Reserva Bosque Mbaracayú, Canindeyú department. The report for the Reserva de Patrimonio Aché de Kuetuvy (Centrón et al. 2013) in the same general geographic area is also omitted for the same reason. Though I agree these reports from Canindeyú may be plausible, no documented record exists and thus I await confirmation before including it in the species range.

I also correct the error in Weiler Gustafson & Owen (2021) which listed specimen MNHNP 766 from San Pedro department as this species. That specimen is a *Coendou spinosus*, and the specimen data intended was MNHNP 765 from Amambay department (R. Owen in litt.).

Geographical distribution. Known from only four records from four localities in four departments (Amambay, Concepción, Guairá and Presidente Hayes), suggesting that this species occurs at very low density. Records are from the Humid Chaco, Cerrado and Atlantic Forest ecoregions. I was unable to review or confirm collection data for the specimen from Villarrica (Guairá department) in the NHM London, but note that this was a shipping locality for specimens collected by Francisco Schade that were often collected elsewhere. As the only Atlantic Forest locality to date, I suggest that this locality be treated with some caution pending confirmation.

I hypothesise that in Paraguay this species is associated principally with subhumid and gallery forests of the Cerrado and its interface with Humid Chaco, and that

its distribution likely extends north through the Paraguay River Basin into Alto Paraguay and perhaps south at least as far as San Pedro and Canindeyú departments at the interface with the Atlantic Forest ecoregion. The distribution map in Villalba & Yanosky (2000) is erroneous and greatly over-estimates the known range.

Examined specimens. **AMAMBAY:** Cerro Corá National Park near administration (MNHNP 765, Photographs of specimen FPMAMM1150-1163PH; Gamarra de Fox & Martin, 1996; Yahnke et al., 1998)

Specimens not examined. **CONCEPCIÓN:** 12km S of Yby Yau (UMMZ146507; Gamarra de Fox & Martin, 1996; Voss, 2011); **GUAIRÁ:** Villarrica (NHM 1923.11.27.3)

Literature references. **PRESIDENTE HAYES:** Estancia Coeyú (Weiler Gustafson & Owen, 2021)

***Coendou spinosus* (Cuvier, 1823) Paraguayan hairy dwarf porcupine**

S[phiggure]. *Spinosa* F. Cuvier, 1823 a: 433. Type locality not provided. Fixed by neo-type designation to “Sapucay, Paraguay” by Voss (2011).

Sphiggurus spinosa Rengger (1830: description, ecology)

Sphiggurus villosus Bertoni (1914: checklist, distribution); Jover Peralta & Osuna (1952: dictionary); Nava et al. (2007: parasitology);

Coendou villosus Bertoni (1939: checklist, distribution); Gatti (1985: dictionary)

Coendus villosus Masi Pallarés & Benítez Usher (1982: parasitology);

Coendou spinosus Myers et al. (1982: distribution); van Humbeck & Silvera Avalos (1995: distribution); Esquivel (2001: guide); Voss (2011: specimens, taxonomy); Voss (2015: distribution, ecology, specimens, taxonomy); de la Sancha et al. (2017: checklist, distribution); Saldívar et al. (2017: conservation);

Coendu prehensilis Hill & Hawkes (1983: uses); Brooks et al. (1993: distribution); Lowen et al. (1996: distribution); Itaipú Binacional (2010: guide);

Coendou paraguayensis Brooks et al. (1993: distribution); Hill & Padwe (2000: distribution); Masi Pallarés (2011: guide); Owen & Smith (2019: mention);

Sphiggurus spinosus Gamarra de Fox & Martin (1996: distribution, specimen); Lowen et al. (1996: distribution); Gamarra de Fox et al. (1998: conservation); Myers et al. (2002: checklist, distribution); Neris & Franco Rivarola (2005: guide); Smith et al. (2005: distribution); D’Elía et al. (2008: distribution, specimens); Rumbo (2010: biogeography); Velázquez & Ramírez Pinto (2014: guide); Entidad Binacional Yacyretá (undated: guide);

Sphiggurus spinosus Yahnke et al. (1998: conservation, distribution);

Sphiggurus spinosus Hill & Padwe (2000: distribution); Hill et al. (2003: uses);

Coendou couiy Esquivel (2001: guide)

Spiggurus (Coendou) spinosus Fariña & Hostettler (2003: checklist).

Local names. **Aché:** Gui (Esquivel, 2001); Gui’i (Hill & Hawkes, 1983); **Guaraní:** Cui’y (Azara, 1802); Kui-î (Bertoni, 1914); Cui’i (Jover Peralta & Osuna, 1952); Kui’i sa’yju (Entidad Binacional Yacyretá); **English:** Hairy tree porcupine (Smith et al., 2005); Paraguay hairy dwarf porcupin (sic) (Entidad Binacional Yacyretá); Paraguayan porcupine (Hill & Padwe, 2000); **Spanish:** Coendú (Entidad Binacional Yacyretá); Coendú chico (Entidad Binacional Yacyretá); Coendú paraguay (Masi Pallarés, 2011); Cuerpoespín (Masi Pallarés, 2011); Erizo (Azara, 1802); Puercoespín (Azara, 1802); Puercoespín arborícola (Velázquez & Ramírez Pinto, 2014); Puercoespín peludo paraguay (Esquivel, 2001).

Cartes (2014) considered that the name Kui'i may be onomatopoeic and is a general name applicable to porcupines. However, I am not aware of any reports that the species is capable of vocalisations that may be transcribed in this way (Azara, 1801, 1802; Rengger, 1830).

Comments. This is the *Cuiy* of Azara (1802; 2:55) and *le Couiy* of Azara (1801; 1:105). Several scientific names have been based wholly or in part upon these descriptions including *paraguayensis* Oken, 1816 (unavailable name see Hershkovitz, 1949; ICZN, 1956) and *cuiy* Desmarest, 1822 (in part, *nomen oblitum*). *Sphiggure spinose* Cuvier, 1823 was noted by the author to be the same as Azara's animal, but additional external characters mentioned suggest that he was working from a physical specimen. Cuvier did not provide a type locality and his specimen can no longer be located, so the identity of *C. spinosus* was fixed by a neotype designation (USNM 115122; collected 14 October 1901 by William Foster) by Voss (2011).

Bertoni (1914, 1939) described the species as "very scarce" on the coast of the Paraná River and noted that his brother Tell Bertoni confirmed the observations of Azara with a captive individual. Rengger (1830) made a similar statement a century earlier. The name used by Bertoni (1914, 1939) *S[phiggure]. villosa* F. Cuvier, 1823: 434, (for which no type material exists) was said to differ from *spinosus* by having longer fur, but is now usually treated as junior synonym of it (Voss 2011). Bertoni (1914, 1939) included the porcupines in the family Hystricidae, but the New World porcupines are now included in the Erethizontidae.

The generic nomenclature of Neotropical porcupines was reviewed by Tate (1935), Alberico et al. (1999), and Voss (2011), the latter providing genetic evidence to include *Sphiggurus* F. Cuvier, 1823 b, within *Coendou* Lacépède, 1799.

The species is consumed by the Aché of Canindeyú department (Hill et al., 2003).

Geographical distribution. An Atlantic Forest endemic species that occurs at low density (though easily overlooked) in the humid forests of the Oriental region of Paraguay. The species is absent from the Chaco west of the Paraguay River. I was able to locate documented records of the species in every department in the Oriental region, with the exception of Amambay and Ñeembucú. I consider the presence of the species in Amambay to be probable with further sampling. However, it possible that the species does not reach Ñeembucú department (primarily consisting of aseasonally-flooded palm savannas), though it may occur there marginally into the department in the gallery forests of the Paraná and Paraguay Rivers.

The locality Molinasque was placed in San Pedro by Voss (2011), presumably following Paynter (1989) who located it at "120km N of Villarrica... apparently in southern San Pedro." In fact, the locality is 120 km N of Villarrica by road, not directly north, and almost certainly refers to an Estancia of that name just south of the town of Juan de Mena in Cordillera department.

Examined specimens. **Itapúa:** Puerto de Encarnación (CZPLT-M 1483); **San Pedro:** 50 km N of Coronel Oviedo (MNHNP 766; Gamarra de Fox & Martin, 1996)

Specimens not examined. **Caazapá:** Estancia Dos Marías, 12.2 km SW from houses (UMMZ 174975; D'Elía et al., 2008; Voss, 2011); **Concepción:** Horqueta, 46 km E of the Río Paraguay (UMMZ 68132; Gamarra de Fox & Martin, 1996; Voss, 2011); **Cordillera:** Molinasque (=Estancia Molinas Cué) (ZMB 35756; Voss, 2011).

Guairá: Villarrica (NHM 25.5.1.10, ZMB 40471; Voss, 2011); **Itapúa:** Estancia San Isidro (UMMZ uncatalogued; D'Elia et al., 2008; Voss, 2011); Hotel El Tirol (MSB 54078; Smith et al., 2005; Voss, 2011); **Paraguarí:** Sapucay (=Sapucái) (USNM 115123, 115122; Neotype, Voss, 2011; NHM 2.4.7.28)

Literature references. **Alto Paraná:** Área de Itaipú (van Humbeck & Silvera Avalos, 1995); Puerto Bertoni (Bertoni, 1914, 1939); **Caaguazú:** Caaguazú (Masi Pallarés & Benítez Usher, 1982; Nava et al., 2007); Estancia Kaaguy Rory (Lowen et al., 1996); **Caazapá:** Reserva Privada Ypeti (=Reserva Privada Golondrina I) (Brooks et al., 1993; Lowen et al., 1996); Reserva Natural Tapytá (Velázquez & Ramírez Pinto, 2014); **Caazapá/Itapúa:** Parque Nacional San Rafael (Lowen et al., 1996); **Canindeyú:** Reserva Bosque Mbaracayú (Brooks et al., 1993; Lowen et al., 1996; Hill & Padwe, 2000; Hill et al., 2003); Reserva Natural Privada Itabó (Brooks et al., 1993; Lowen et al., 1996); **Canindeyú/Caaguazú:** Reserva Natural Privada Morombi (=Reserva Privada Golondrina II) (Brooks et al., 1993; Lowen et al., 1996); **Cordillera:** Reserva Natural Privada Sombrero (Lowen et al., 1996); **San Pedro:** Villa de San Pedro (=San Pedro de Ycuamandiyú) (Rengger, 1830)

Photographic records. **Canindeyú:** Curuguaty (FPMAMM547-548PH); **Central:** Ypacaraí (iNaturalist, Lorena Sforza); **ITAPÚA:** Estancia Nueva Gambach (PLT); Isla Alta near Coronel Bogado (FPMAMM539-540PH); **MISIONES:** Estancia Santa María (Asunción Benítez); **Paraguarí:** Mbatovi (Instagram, Ricky Wuep); Parque Nacional Ybycuí (Sergio D. Ríos)

Reliable observations. **Itapúa:** Ynambú (PS); San Juan del Paraná (Jorge Fernández); **Paraguarí:** Carapeguá (Jorge Ayala)

Chinchillidae

Lagostomus maximus (Desmarest, 1817) **Plains viscacha**

Dipus maximus Desmarest, 1817: 117. Type locality not designated. Restricted to “southern Corrientes province, Argentina” by Cabrera (1961: 560).

Lagostomus maximus Cabrera (1912: specimen); Bertoni (1939: checklist, distribution); Krumbiegel (1940: distribution); Seelwische (1980: dictionary); Myers et al. (1982: distribution); Gamarra de Fox & Martin (1996: distribution, specimen); Gamarra de Fox et al. (1998: conservation); Yahnke et al. (1998: conservation, distribution); Villalba & Yanosky (2000: tracks); Neris & Colman (2001: uses); Myers et al. (2002: checklist, distribution); Renshaw (2002: uses); Neris & Franco Rivarola (2005: guide); Guyra Paraguay (2008: conservation, distribution); Ramírez Pinto & Velázquez (2010: distribution); Rumbo (2010: biogeography); de la Sancha et al. (2017: checklist, distribution); Saldívar et al. (2017: conservation); Weiler et al. (2019: guide); Weiler et al. (2023: guide).

Local names. **Guaraní:** Tapiti boliviano (Bertoni, 1939); Tapiti boli (Villalba & Yanosky, 2000); Vizcacha (Neris & Franco Rivarola, 2005); **Nivacle:** Majôtsitaj (Seelwische, 1980); **Spanish:** Viscacha (Bertoni, 1939); Vizcacha (Gatti, 1985);

The origin of the onomatopoeic name viscacha is the Quechua language (Cartes 2014).

Comments. This is the *Vizcacha* of Azara (1802, 2:45) and *le Lièvre pampa* of Azara (1801, 2:51), though he stated that the species does not occur in Paraguay.

Bertoni (1914, 1939) erroneously included the species in the family Leporidae. This seems to have its roots in a misprint in Lahille (1899:193) where the family heading of Leporidae is duplicated and this species is inadvertently listed under it, rather than in “Lagostomidae” as would occur if the duplicated heading was removed (Smith 2023).

De la Sancha et al. (2017) assigned Paraguayan populations to the subspecies *L. m. immolis* Thomas, 1910: 245, but Spotorno & Patton (2015) noted that the validity of the proposed subspecies requires review.

Geographical distribution. Krumbiegel (1940) stated that the species “used to be widespread as far north as Paraguay” but concluded that the failure to mention the species by Rengger (1830) implied that it no longer did so. The species was first cited for Paraguay by Bertoni (1939) who erroneously stated that it “extends widely through the Paraguayan Chaco” (citing Caballero as the collector). In fact, the species seems confined to a rather limited area of the most arid regions of the Dry Chaco ecoregion towards the tri-border area of northwestern Boquerón department and along the Pilcomayo River into southwestern Presidente Hayes. However, it is locally common, if somewhat localized, within its range and is alternatively considered a pest species (because of the large excavations and vegetation clearance associated with nest colonies) or a source of food (Neris & Colman, 2001). I have frequently seen hunters targeting the species in the area around Teniente Enciso National Park, where human presence immediately sends the individuals running for the nest.

A skull specimen MNHNP 3263 (examined) collected during the “Proyecto Macromamíferos de Paraguay” supposedly at Estancia Santa Carolina, Presidente Hayes department on 26 October 1999 (prep. Noriyuki Kato) is geographically extremely distant from other records and in a quite different habitat and ecoregion. I consider that this locality may be a mistranscription and refer to Estancia Santa Catalina in the area of Teniente Estebán Martínez, Presidente Hayes department, this being based on the collection dates and localities of other specimens from this project inferring a locality in the Rio Negro watershed. I map the latter but suggest it be treated with caution. Specimen MHNG 1704-094 listed in the museum database as from Arroyo Pirayú’i, Itapúa department is a clear error. The distribution map in Villalba & Yanosky (2000) is also erroneous and greatly overestimates the range.

Examined specimens. “Chaco” (MJUF); **Boquerón:** Nueva Asunción at military base (CZPLT-M 666, MNHNP 1058; Gamarra de Fox & Martin, 1996); **Presidente Hayes:** Estancia Santa Carolina (= Estancia Santa Catalina?) (MNHNP 3263).

Specimens not examined. “Paraguay” (MCN); **Boquerón:** Estancia La Dorada (MHNG 1957.084); Pozo Hondo (MHNG 1968.047, 1968.048, 1968.096; Ramírez Pinto & Velázquez, 2010; Guyra Paraguay, 2008); Rancho Quemado, Línea 10 Fortín Ayala Velázquez (MNHNP 768, 769, 1056; Gamarra de Fox & Martin, 1996); Parque Nacional Teniente Enciso (MNHNP 772; Yahnke et al., 1998; Guyra Paraguay, 2008);

Literature references. **Boquerón:** Guachalla, Río Pilcomayo (=Pedro P. Peña) (Gamarra de Fox & Martin, 1996); “around Pedro P. Peña” (Renshaw, 2002)

Reliable observations. **Boquerón:** East of Infante Rivarola at km730 Ruta Transchaco (PS); Colonia Madelón (PS)

Discussion

The documented distribution of the species of Erethizontidae in Paraguay comes close to parapatry, with *Coendou spinosus* associated with the Atlantic Forest ecoregion and *C. longicaudatus* associated with the gallery forests of the Cerrado and Humid Chaco ecoregions. However, I caution that there are identification difficulties when distinguishing between these two species, and the area of overlap (if it exists) may be wider than indicated by the necessarily conservative approach that I have adopted here. Documentation of all records of Erethizontidae is desirable, and this clarification could be provided over time through online citizen science projects.

There are currently no records of any species in these families from Alto Paraguay or Ñeembucú departments, and only one department, Concepción, has confirmed records of more than one species.

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