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**The Reptiles of Paraguay:
Literature, Distribution,
and an Annotated Taxonomic Checklist**

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DEDICATION

This work is dedicated to Martha Motte, SEAM. Without her careful maintenance of the specimens in the Museo Nacional de Historia Natural, over more than 25 years, we would not have been able to assemble this checklist.

FOREWORD

Paraguay lies between Argentina and Brazil and has relied for years on the herpetological information generated by researchers from or operating in these countries. Both countries have a long history of herpetological research, with many researchers and institutes dedicated partially or totally to the study and conservation of reptiles. On the other hand Paraguay, located between these two big countries, has a scarce, fragmentary, and sporadic production in herpetological terms. The myriad publications on Argentinean and Brazilian herpetology in the last century have served Paraguay well. Paraguay shares with these two countries its five most important ecoregions, and many of their species are expected to occur in Paraguay, given the similarities of landscapes. Paraguay itself has been the study focus of a very limited number of investigators, nationals being outnumbered by foreigners and, in most cases, the foreigners “adopted” national herpetologists and jointly advanced the discipline in a silent but sustainable way.

Checklists serve to organize scientific knowledge to provide records of the species communities at different sites or to identify the taxa involved. Paraguay suffers from a lack of taxonomic checklists in herpetology and, as a young discipline in the country, new records and new species are now relatively common because of the recent impetus given to herpetology by young national and foreign researchers. For several years, there has been a need to provide a checklist of reptiles occurring in Paraguay as a means of documenting the natural reptile capital of the country as well as giving sources of reference for the existence of particular taxa. This is happening during a strong acquisition of herpetological empowerment nationally and increased foreign support, and the updated taxonomic checklist of Paraguayan reptiles will give guidelines to the new generation of herpetologists.

“The Reptiles of Paraguay: Literature, Distribution, and an Annotated Taxonomic Checklist” comes out at a perfect time, as the need for this checklist has been felt for years, especially with the accelerated land-use changes and habitat transformation in the country. Cacciali, Scott, Aquino-Ortiz, Fitzgerald, and Smith combine their capacities and years of experience

to provide this material. This is not a field guide; this is a taxonomic list of reptiles from Paraguay, expected to establish the baseline to guide future scientific work with the Paraguayan reptiles.

While this material was being prepared, a milestone was reached in the herpetology of Paraguay.. The Chaco is losing its natural habitat at an alarming rate, perhaps the highest in the planet, with deforestation of more than 1,000 hectares per day—and we do not know exactly how reptiles are being affected. During book preparation, a species new to science was discovered in this devastated ecoregion (Cabral and Cacciali, 2015). This finding was published by two young herpetologists, one of them a co-author of this book, and the species was dedicated to the most respected and largest contributor to Paraguayan herpetology, Norman J. Scott Jr., also a co-author.

The Checklist opens with a history of herpetological expeditions and literature for the Paraguayan reptile fauna, which sets the stage for the importance of Paraguay in herpetological research. This is the basis for the list of taxa present in Paraguay, with the literature for each species and updated taxonomy, distribution maps, and links to photographs. In the Comments sections, the authors provide comments or clarifications of taxonomy and distribution and they restrict the type locality of the yellow anaconda, *Eunectes notaeus*.

This material not only provides a taxonomic tool for understanding the distribution and diversity of reptiles in the country but also allows understanding of the importance of species in the degraded habitats they live in, and their conservation needs, to guide wise decisions in the face of all the environmental challenges to the sustainable development of Paraguay.

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INTRODUCTION

Our goal is to provide a current list of reptile species of Paraguay, with maps of their known occurrences. Surprisingly little research has been conducted on the reptile fauna of Paraguay. In contrast, Brazil and Argentina have a long history of herpetological investigation, each country having produced hundreds of publications on reptiles and amphibians in the last century. Paraguay, lying between the two countries, has been the focus of only a handful of investigators, mostly foreign, and there have been few publications on the herpetofauna. This checklist of reptiles in Paraguay will enhance understanding of biogeographic linkages between reptile faunas in the Southern Cone.

Now, more than 150 years after Cope's seminal records and more than 35 years since the last list (Talbot, 1979), we have elaborated another list of the entire Paraguayan reptilian fauna including its literature, distribution, and taxonomy. The original draft of this list was based on Cacciali's (2010a) Master's Thesis at the Universidad de la República, Montevideo, Uruguay. It is based on the literature, specimens in major museums in Europe and the Americas, personal observations, and photographic records in the collection of Fauna Paraguay.

GEOGRAPHY

Paraguay is in the Southern Cone of South America, between Brazil, Argentina, and Bolivia (Fig. 1). The republic takes its name from the river that divides it east from west. The Oriental Region east of the river covers 159,827 km² (39% of the country) and the Occidental Region, better known as the Chaco, occupies 246,925 km² (61%). The Chaco is sparsely populated and ~95% of Paraguayans live in Paraguay Oriental. Paraguay is divided politically into departamentos (Fig. 1).

The two largest rivers are the Paraguay and the Paraná. Important eastern tributaries to the Paraguay, from north to south, are the rios Apa (on the Brazilian border), Aquidabán, Ypané, Jejuí-Guazú, Tebicuary, and Paraná on the Argentine border; the western tributaries entering from the Chaco include the rios Salado, Verde, Montelindo, Negro, Confuso, and Pilcomayo (which borders Argentina). The Paraná forms part of the eastern border of Paraguay with Brazil and the southern border with Argentina. Most of the Paraguayan tributaries to the Paraná are short and relatively small, the largest being the Monday and Ñacunday rivers.

The rios Paraguay and Paraná have had a tremendous influence on the geology, biology, and economy of Paraguay. Being land-locked, the rivers provided an outlet to the Atlantic that powerfully influenced early settlement and transportation into and out of the country. However, of probably more importance was the role of the Río Paraguay in shaping Paraguay's present-day topography and ecology. Pliocene uplift of the Cordillera de los Andes produced huge quantities of alluvium that washed eastward, covering

the southern three-quarters of the Paraguayan Chaco with a 300-m-thick cap of silt and sand. The resultant outwash plain obliterated most cerros, arroyos, and valleys, leaving exposed only Cerro León in the northern Chaco. Otherwise, the Chaco is flat and topographically featureless.

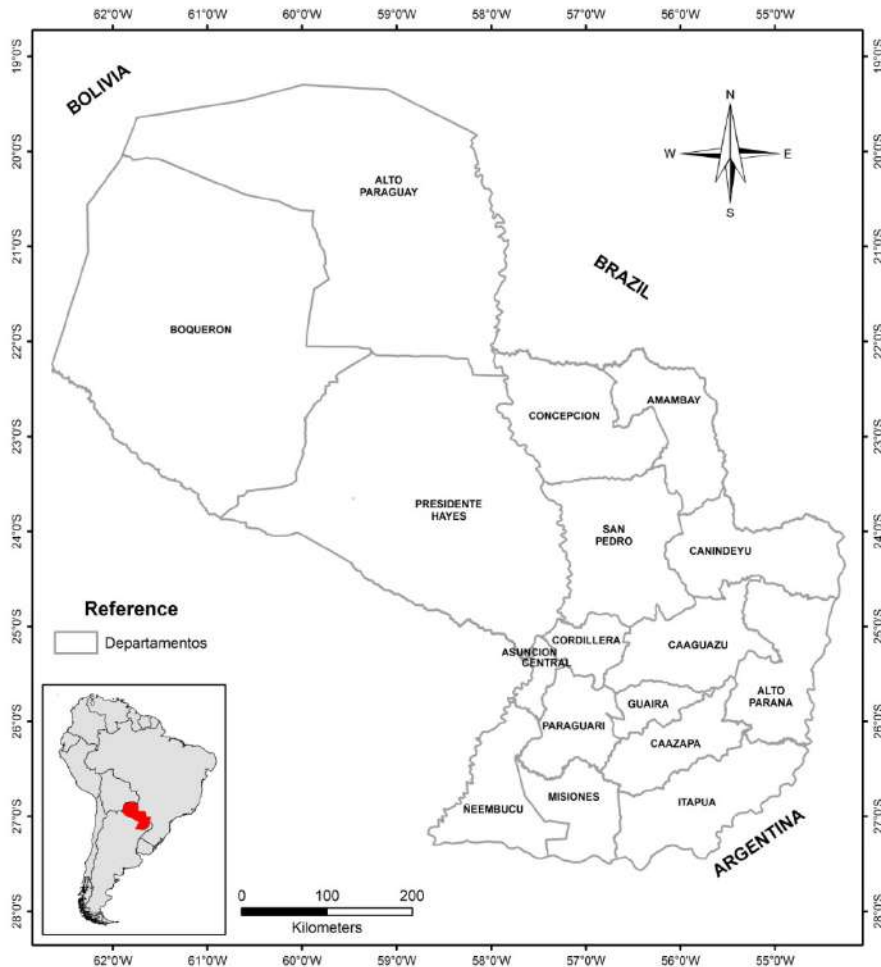


Figure 1.
Map showing the South American location of Paraguay and its departments.

The Andean alluvium flowed eastward as far as the Río Paraguay, where much of it was diverted southward toward the Atlantic Ocean, thus protecting the topography of Paraguay Oriental from being smothered in sand and silt. The result is a flat, western Paraguayan Chaco (100–400 m elevation), the highest point Cerro León (600 m), with indefinite drainages that meander across its surface and an eastern Paraguay Oriental with a rolling topography of arroyos, rivers, low mountain ranges, and isolated cerros (300–830 m elevation).

CLIMATE

Paraguay intersects two important South American ecological gradients. An east–west rainfall gradient runs from wet coastal Brazil to the dry Monte desert in the Andean foothills of Argentina, with Paraguayan Atlantic Forest, Central Forest, and Chaco spanning the middle. Various wet forest and dry forest species of reptiles reach their western and eastern limits, respectively, in Paraguay (Fig. 2). In addition, a north–south temperature gradient through Paraguay connects a tropical Brazilian climate with temperate Argentina (Fig. 3). Accordingly, several tropical species of reptiles reach their southern limit in Paraguay.

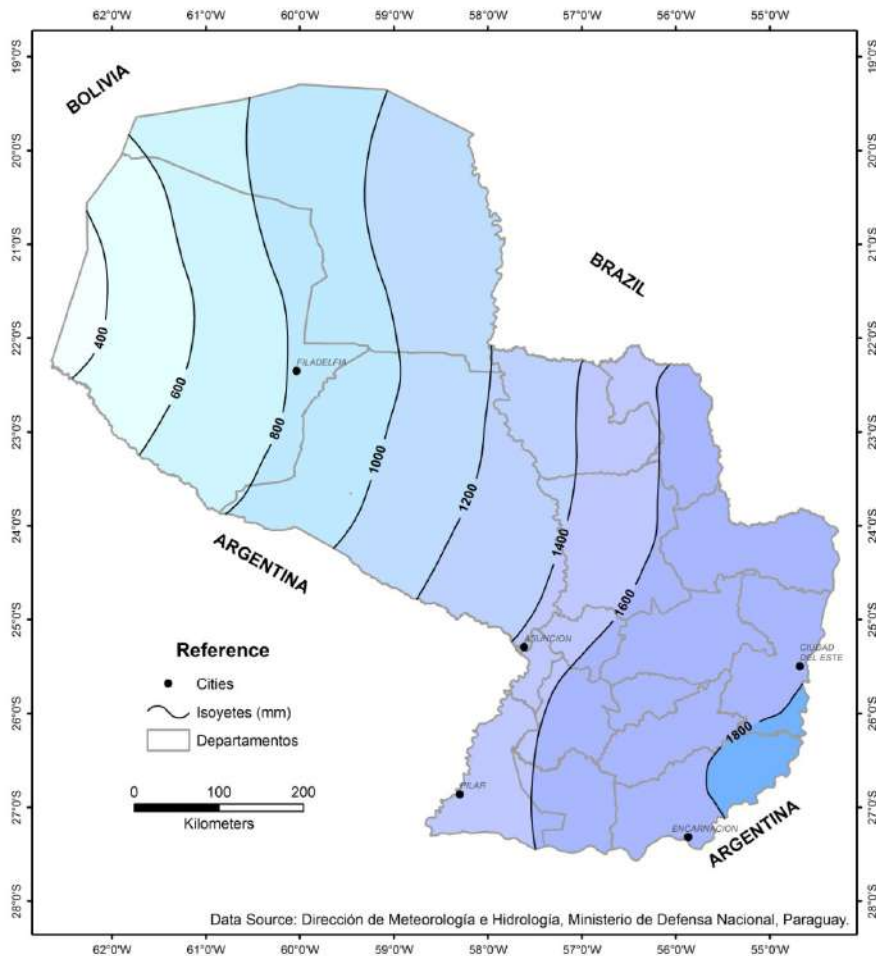


Figure 2.
Map of Paraguay showing rainfall isohyets.

The Tropic of Capricorn ($23^{\circ}26'13.8''S$) divides the country into a northern tropical savannah climate and a southern humid subtropical zone. The geographic location of Paraguay produces a continental climate with a mean maximum temperature of $33^{\circ}C$ or more in the summer in Asunción and a mean minimum of $14^{\circ}C$ in winter months. During a cold winter, however, tongues of Antarctic air can bring subfreezing temperatures to most of the country for as many as 16 days/year.

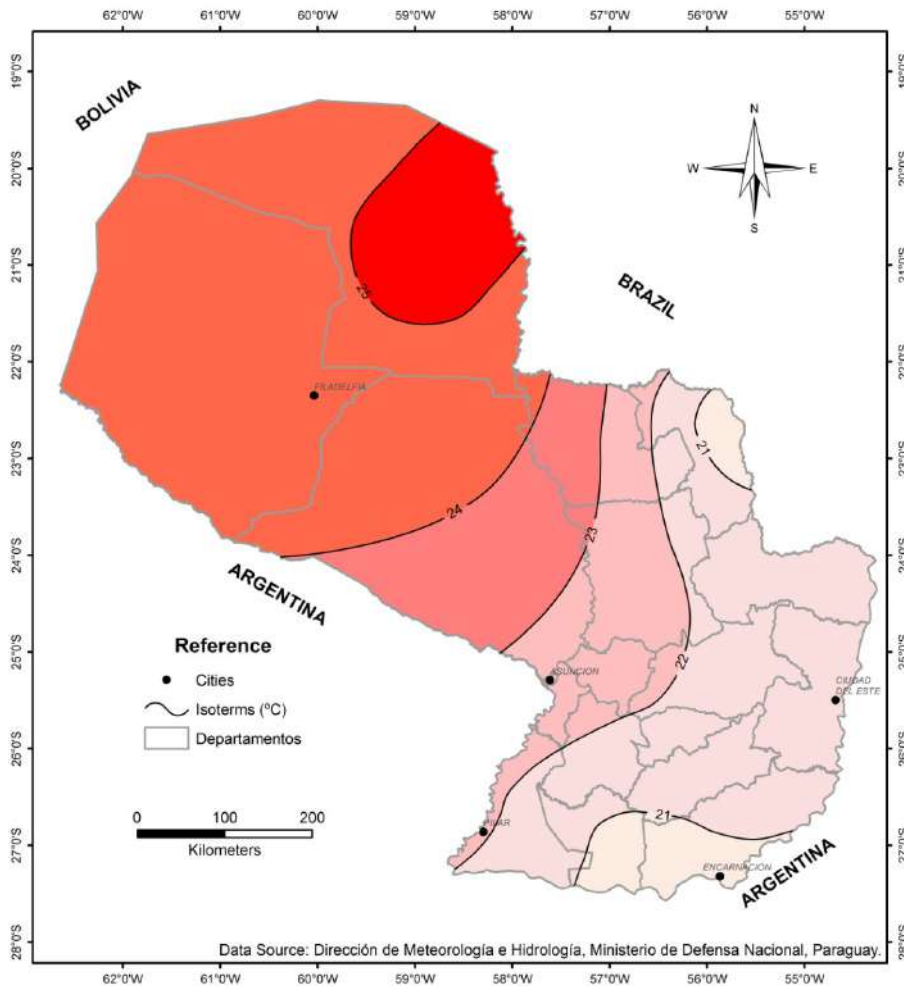


Figure 3.
Map of Paraguay
showing mean annual
isotherms.

Paraguayan average annual rainfall varies between 400 and 1,800 mm and is generally divided into a short dry season (June–September) and a wet season (November–April). The maximum precipitation falls in eastern Paraguay; Puerto Bertoni, Departamento Alto Paraná, has received as little as 790 mm and as much as 3,300 mm rainfall in a year whereas Asunción, Departamento Central, further to the west, has recorded between 560 mm and 2,080 mm. The Chaco is generally drier with rainfall averaging from 1,000 mm in the east along the Río Paraguay to less than 400 mm in the northwest along the Bolivian border.

ECOREGIONS

Paraguay is located at the convergence of several natural regions (Spichiger et al., 1995) determined by the interaction of various soil types, topographies, and climates. The country can be conveniently divided into seven ecoregions (Keel et al., 1993; Dinerstein et al., 1995; Del Castillo and

Clay, 2005; Fig. 4). In reality, the ecoregional boundaries are not as abrupt as depicted. Adjacent ecoregions interdigitate and mingle along their boundaries, forming transition zones that can often be tens of kilometers wide. For example, the many records from the vicinity of Asunción could have come from either Central Forest or Wet Chaco ecoregion types depending on the local vegetation and topography. The Secretaría del Ambiente (SEAM) has recently published a somewhat different and updated interpretation of Paraguayan ecoregions (SEAM, 2013).

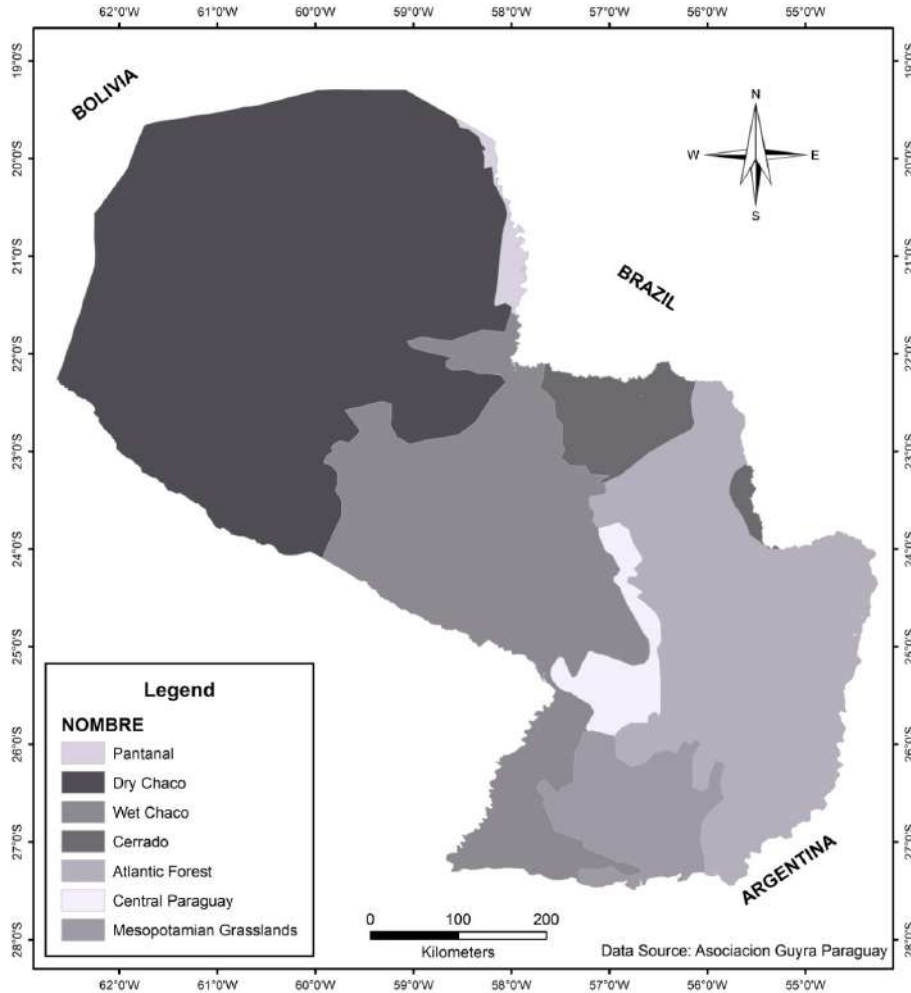


Figure 4.
Ecoregions of Paraguay.
[Modified from Keel et al., 1993; Dinerstein et al., 1995, and Del Castillo and Clay, 2005.]

Dry Chaco composes roughly the northwestern two-thirds of the Chaco. The predominant vegetation is a low thorn forest with taller emergent trees. Water is scarce and flooding, where it occurs, is short-lived. It is the most intact Paraguayan ecoregion, but land-clearing for cattle estancias and soybean fields has greatly accelerated in recent years.

Wet Chaco comprises the southern third of the Chaco plus extensions on the eastern side of the Río Paraguay. Its principal determinant is occasional

flooding along the Paraguay and Pilcomayo rivers. The characteristic vegetation is a palm savannah with an occasional shrub understory and, on slightly higher ground, islands of vegetation are composed largely of the emergent trees of the Dry Chaco. This ecoregion has been divided into large estancias for many years, and most of the land-clearing has been historical.

Pantanal extends along the upper Río Paraguay and is an extension of the Brazilian Pantanal in the states of Mato Grosso and Mato Grosso do Sul, Brazil. Much of it is often flooded, and its fauna and flora is a rich mix of Amazon, Cerrado, and Chaco species. Temperature largely determines the southern limit of the Pantanal ecoregion; several tropical species reach their southern limit here (e.g., the lizard genera *Dracaena* and *Iguana*). Large areas of the Pantanal were converted to cattle estancias long ago, but land-clearing for soybeans has recently accelerated.

Cerrado is a widespread Brazilian edaphic formation that occurs in scattered patches in Paraguay. It is composed of open grassy savannahs on sandy soils, with islands of stunted shrubs and forest (Eiten, 1972, 1978). The main fragments of Cerrado are interspersed with Atlantic Forest in eastern Paraguay, but an extensive zone of Cerrado has recently been delineated in the northern Chaco, existing on red sandy soils from the Sierra de Chiquitanía in Bolivia (Mereles et al., 2013).

The Cerrado has been used for light cattle grazing for many years but it has recently been extensively settled by Brazilian and other settlers. As a consequence, intensive cattle operations and agriculture are decimating the remaining patches of Cerrado in Paraguay. Several reptilian species are restricted to this habitat type in Paraguay.

Atlantic Forest in Paraguay is at the western limit of a semi-evergreen forest that once stretched eastward to the Brazilian coast. Because of the value of its timber, the suitability of the soil for managed pastures for cattle-raising, and more recently for mechanized agriculture such as soybeans and cotton, this ecoregion has been destroyed more completely and permanently than any other ecoregion in the country. The effects of the east to west, wetter to dryer rainfall gradient can be clearly seen in the Paraguayan Atlantic Forest. The forest along the upper Río Paraná is much taller and contains fewer deciduous tree species than does the forest on its western perimeter in San Pedro. Several reptiles in Paraguay are found only in the few extensive patches of Atlantic Forest that remain.

Central Forest is a narrow strip of temperate deciduous forest forming a transition between Wet Chaco to the west along the Río Paraguay and the Atlantic Forest to the east. Lower rainfall prevents the formation of true Atlantic Forest, and well-drained soils ensure that it does not flood as does the Wet Chaco.

Mesopotamian Grasslands are savannahs that consist of extensive grasslands, some of which flood, with small islands of forest. This ecoregion

was probably part of the Atlantic Forest ecoregion before European occupation, with the forest being removed for the production of yerba mate (*Ilex paraguariensis*; Mereles, 2014, pers. comm.). Most of the region is now in privately owned cattle estancias, and rice cultivation is expanding.

HISTORY OF HERPETOLOGICAL INVESTIGATION IN PARAGUAY

Before the 20th Century, formal herpetological knowledge of Paraguay derived entirely from the personal experiences or collections of Europeans or North Americans (Table 1). It wasn't until 1914 that Paraguayan scientists began to publish. The increase in the number of reptile species known from Paraguay, starting with Daudin's descriptions of *Caiman yacare* (Daudin, 1802a) and *Teius teyou* (Daudin, 1802b), has been quite erratic (Fig. 5).

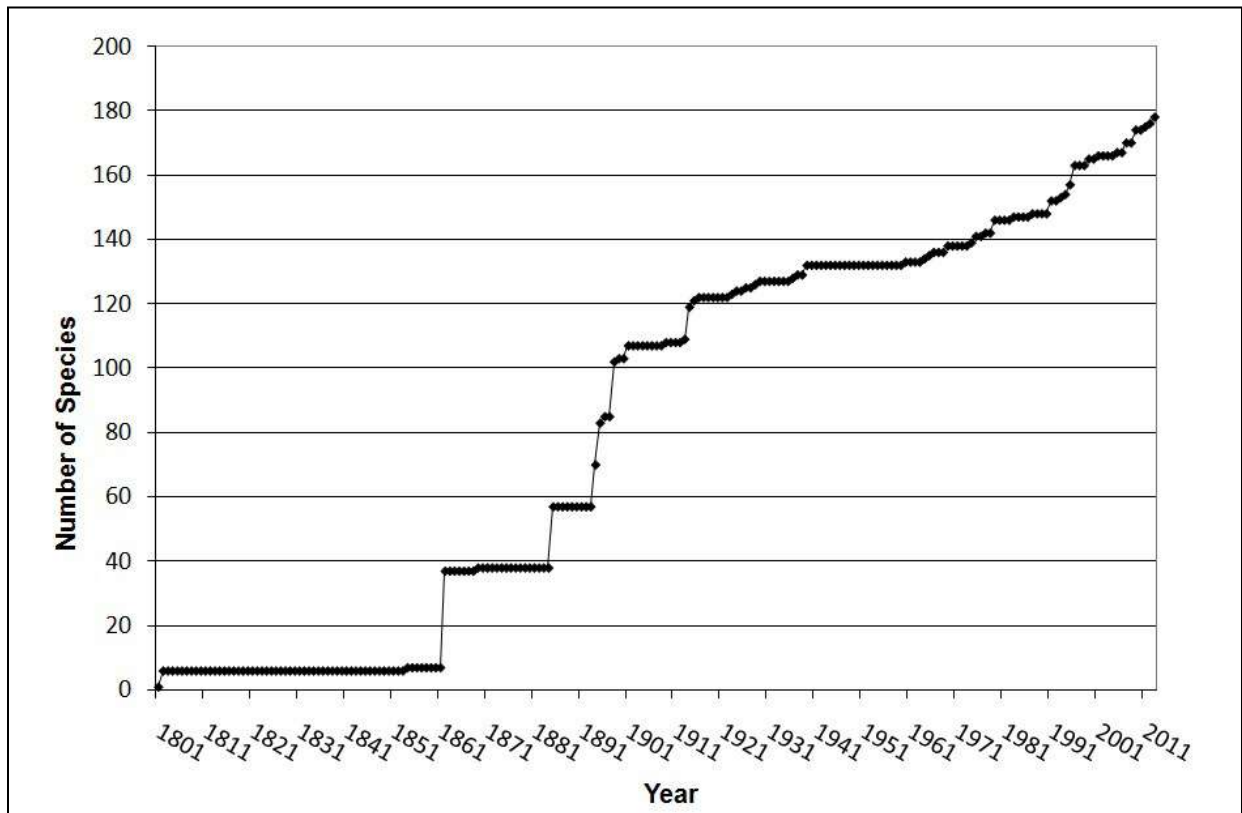


Figure 5. Graph of known reptilian diversity in Paraguay.

SCIENTIFIC KNOWLEDGE OF PARAGUAYAN REPTILES

After the first descriptions of reptiles from Paraguay, *Teius teyou* and *Caiman yacare* by Daudin (1802a,b), the next major additions to the Paraguayan list were the 33 species that Cope (1862a, 1862b, 1862c, 1862d) added (as reflected in Fig. 5). As noted above, some of these probably did not come from Paraguay but from surrounding countries but, for our purposes, we will add them to this Paraguayan list. More than 20 years passed until Boettger (1885a,b) added another 21 species.

In the next decade, several workers were active; Boulenger (1894a,b, 1896, 1898a) added 16 species, Peracca (1894, 1895) 6 species, and Koslowsky (1898b) 15 species. In the 20th Century, Schenkel (1901) described five species, but it wasn't until 1914 that the next sizeable contribution of seven species was made by the first Paraguayan scientist to publish on Paraguayan reptiles (Bertoni, 1914). Bertoni's list is remarkable for its accuracy and completeness, given his isolation from the main currents of scientific investigation at that time. The following years were more productive; Paraguayan, Argentine, and European herpetologists added 14 species between 1915 and 1939, then another publishing gap coincided with World War II. Since about 1960, species have been more or less constantly added by a diverse group of workers until arriving at our current total of more than 180 species, including several undescribed taxa.

The Early Years

José Sánchez Labrador (1717–1798) was a Jesuit missionary sent to South America in 1734. He traveled widely in what is modern-day Bolivia, Argentina, and Paraguay and started a manuscript on Paraguayan natural history. When the Jesuits were expelled from South America in 1767, Sánchez Labrador smuggled out the preliminary manuscripts for the publication “El Paraguay Natural” which he completed in Spain between 1772 and 1776. The book was never completely edited; the manuscript in Jesuit archives consists of 1,852 pages, 373 pages of which comprise the volume “Reptiles Insectos etc.” (Aguilar, 2008).

The next author to describe Paraguayan natural history was the Spanish military engineer, Félix de Azara (?1742–1821). In 1781, he was sent to survey the border between the Portuguese colony, Brazil, and the Spanish colonies of Argentina and Paraguay. Azara was ordered to Asunción to meet with Portuguese surveyors; however, they never appeared (Birabén, 1961). With a lot of time to spare, Azara traveled throughout Paraguay describing and cataloguing the local fauna, especially birds and mammals. He returned to Europe in 1802, but a manuscript of his studies of the quadrupeds had preceded him and was published in French (Azara, 1801). This was quickly followed by a Spanish translation (Azara, 1802) and even an English version (Azara, 1838). In these works Azara dealt mostly with mammals, but he did include two crocodilians and some lizards.

François Marie Daudin, a crippled French zoologist, was the first to scientifically describe reptile species based on Paraguayan specimens (*Caiman yacare* and *Teius teyou*; Daudin, 1802a, 1802b, respectively).

Early works specifically dealing with Paraguayan herpetology were first published in the second half of the 1800s, but localities within the country were often not specified. In addition, the area encompassed by Paraguay in that period was different than it is today, so some specimens listed as coming from "Paraguay" in fact came from present-day Argentina or Brazil.

This is especially true of Cope's (1861, 1862a, 1862b, 1862c, 1862d, 1868) publications derived from the voyage of Captain Thomas J. Page of the U. S. Navy in the 1850s (Page, 1859). Subsequent authors, notably Burt and Burt (1930, 1933), Cochran (1961), Peters and Donoso-Barros (1970), Peters and Orejas-Miranda (1970), and Malnate (1971), have cited Cope's specimens as if they were all from Paraguay; some were, but many (perhaps the majority) were not. The details of this confusion will be examined in a future publication.

Table 1. Expeditions that collected reptiles in Paraguay.

Collection	Dates	Publications	Departamentos	Reptilian taxa
J. Sánchez Labrador	1734–1767	Jesuit archives, Spain	???	???
F. de Azara	?1781–1801	Azara (1801, 1802, 1838)	???	Crocodilians, lizards
T. J. Page	1853–1854	Cope (1860, 1862a,b,c,d, 1868)	*	All taxa
H. Rhode	<1885	Boettger (1885a,b)	???	All taxa
J. Bohls	1893+	Bohls (1895), Boulenger (1894a)	Central, Concepción	All taxa
A. Borelli I	1893	Peracca (1895)	Alto Paraguay, Central, Caaguazú, Cordillera, Concepción, Guairá,	All taxa
A. Borelli II	1899	Peracca (1904)	Paraguarí, San Pedro	All taxa
G. Boggiani	1888–1893	Boulenger (1898a)	Alto Paraguay	Snakes, lizards
C. Ternetz	<1895	Schenkel (1901)	Cordillera, Guairá, Presidente Hayes	All taxa
G. Wieninger	<1903	Steindachner (1903) Werner (1924)	Central, Cordillera	Snakes
C. Fiebrig	<1914	Serié (1915, 1916)	Alto Paraná, Central, Presidente Hayes	Snakes
H. Kreig**	1922–1938	Müller and Hellmich (1936) Hellmich (1960)	Alto Paraguay, Concepción, San Pedro, Central, Cordillera	Turtles, crocodilians, lizards
R. Wetzel, J. W. Lovett	1972–1973	Scott and Lovett (1975)	Boquerón, Presidente Hayes	All taxa
Inventario Biológico	1980–1986	Aquino et al. (1996) McDiarmid and Foster (1987)	All departamentos	All taxa
Consultora Foragro	1984	Aquino et al. (1996)	Itapúa	Snakes, lizards

Collection	Dates	Publications	Departamentos	Reptilian taxa
Yacyretá Team	1984	Álvarez and Aguirre (1995)	Itapúa	Snakes, lizards
CITES-Py	1986	Scott et al. (1991)	Most departamentos	Crocodylians
Estación Biológica Doñana	1982–1985		Boquerón, Central	Snakes, lizards
A. L. Aquino	1989–1990	Aquino-Shuster et al. (1991)	Alto Paraguay	All taxa
T. Ziegler	2001	Ziegler et al. (2002a,b)	Alto Paraguay, Boquerón, Presidente Hayes	All taxa
FACEN, Biología	2007–present	Cabral and Weiler (2014)	Most departamentos	All taxa
Para La Tierra	2008–present	Smith et al. (2016)	San Pedro	All taxa

* Captain Page or his crew landed in all of the present-day Paraguayan departamentos along the Río Paraguay and, in the Río Paraná, up as far as Itapúa. An inland journey took him to Cordillera, Caaguazú, Guairá, Caazapá, Itapúa, Misiones, and Paraguari (Page, 1859).

**Krieg (1927, 1928, 1931, 1948).

Soon after the Page expedition, a collection of reptiles made by M. Cochelet, the French consul in Asunción, arrived at the Paris Museum in 1867. Twenty-two specimens survive from this series. In 1890, the Republic of Paraguay gave the Paris Museum another collection. Neither of these collections have precise data, but most of the specimens are extant.

A problematic collection of snakes in the British Museum collected by “Professor Grant” and catalogued in 1863 (NHMUK 63.10.5.1–63.10.5.12) was thought to be Paraguayan. Allan L. Markezich (1975, letter in files of British Museum) concluded that the collection really originated in Uruguay, and we agree.

Jan (or Johann) Bohls (1863–?) received a doctorate in natural history from the Georg-August Universität in Göttingen, Germany. He went to Paraguay in 1893 as a family tutor, where he spent several years making ethnographic and zoological collections, especially of ants. His reptile specimens are in the British and other European museums.

In the late 1800s, the Swiss Dr. Carl Ternetz, though principally a fish collector, sent an important reptile collection from Paraguay to the Naturhistorisches Museum in Basel (Schenkel, 1901). Few of his specimens have specific locality data, but his early Paraguayan fish collections came from Asunción Bay (Eigenmann and Kennedy, 1903).

Dr. Mario G. Peracca (1894, 1895, 1897, 1904) reported on the herpetological results of the collecting trips of Dr. Alfredo Borelli to Argentina, Bolivia, Brazil, and Paraguay. A small part of these collections were sold to the British Museum (see below), but the bulk remain in the Museo di Zoologia della Università in Turin, Italy. Between 1893 and 1899, Borelli collected in Departamentos Alto Paraguay, Caaguazú, Central, Concepción, Cordillera, Guairá, Paraguari, and San Pedro (Straube, 2010; Salvadori, 1895).

In 1887 an architect, Henrick Åberg, working in Buenos Aires, sent a small collection of reptiles to the Swedish Museum of Natural history. The specimens are listed as being from “from Paraguay, Cordova and Buenos Ayres” (Kullander, 2014, pers. comm.).

Sir John Graham Kerr, a medical student at the University of Edinburgh, travelled up the Pilcomayo and Paraguay rivers in 1889–1891, recording natural history and ethnographic observations. In 1896–1897, Kerr mounted another expedition with John Budgett to study lungfish (*Lepidosiren*) in the southern Paraguayan Chaco at the British Mission at Waikthlatingmayalwa (part of the Misión Inglesa, Presidente Hayes, on current maps). They collected a few reptiles, some of which were deposited in the British Museum. Kerr published his memoirs from both expeditions (Kerr, 1950).

George Albert Boulenger, the great curator at the British Museum (now Natural History Museum, London), listed some of the first precise localities for Paraguayan reptiles (Boulenger, 1887, 1889, 1894a, 1894b, 1895, 1896, 1898a, 1898b, 1902). A few of these localities are suspect; some of the numerous specimens listed as coming from “Asunción” may have only been shipped from there, the country’s most important port. A case in point is the record of *Clelia plumbea* from Asunción, a species only known from the Atlantic Forest in extreme eastern Paraguay, several hundred kilometers to the east of Asunción (Zaher, 1996; Scott et al. 2006).

Boulenger (1894a) reported on a large collection bought from Bohls (NHMUK 94.3.14.1–94.3.14.175). Most of the specimens are from the Asunción area. He also described a collection made by Cav. Guido Boggiani, from Puerto 14 de Mayo on the Río Paraguay (Alto Paraguay), that was sent to him by the Genoa Museum, Italy (NHMUK 98.6.3.1–98.6.3.21; Boulenger, 1898a).

Boulenger bought or was presented with several other small collections, most of which were recorded in his catalogues: a new *Liotyphlops* from Dr. Carlos Ternetz (NHMUK 95.5.14.282; Boulenger, 1896); snakes and lizards from the Linnaea Institut, Frankfurt, Germany (NHMUK 85.9.7–85.9.15; Boulenger, 1885, 1887, 1894b, 1896); snake specimens from the Borelli collections in the Museo di Zoologia, Università di Torino, Turin, Italy (NHMUK 94.12.17.6–94.12.17.8, 94.12.31.1; Boulenger, 1896); and a lizard from Graham Kerr (NHMUK 98.7.4.1).

Julio Koslowsky (1898b) and Carlos Berg (1898), two Argentine museum directors who were clearly competing, published simultaneous lists of Argentine reptiles. In their lists they indicated which Argentine species also occurred in Paraguay; this information seems to have been largely gleaned from the published works of Cope, Boulenger, and other European workers. Koslowsky's (1898b) work is much more complete, with 12 lizards, 53 snakes, 2 caiman, and 4 turtles of the Argentine fauna that also occur in Paraguay. On the other hand, Berg (1898) lists one Argentine lizard and 18 snakes for Paraguay. Although Koslowsky's (1898b) list is restricted to species that also occur in Argentina, it was the first attempt to catalogue the reptiles of Paraguay.

1900–1950

The most scientifically oriented, resident naturalist in Paraguay in the early half of the 20th Century was a son of Swiss immigrants, Arnaldo de Winkelried Bertoni (1878–1973). He published over 60 works related to natural history, of which about 20 were specifically about herpetology or mentioned reptiles and amphibians (Bertoni, 1905, 1913, 1914, 1918, 1921, 1925, 1928a, 1928b, 1931a, 1931b, 1939). Bertoni was the first scientist to catalogue the known vertebrate fauna of Paraguay, including the reptiles (Bertoni, 1914). As a young man he first lived with his family at Yaguarasapá, then in Puerto Bertoni, Alto Paraná, and he later moved to Asunción. Most of Bertoni's collections have disappeared, but he sent a number of specimens to be identified by Peracca in the Museo in Turin, Italy, where they still exist (Elter, 1981).

Dr. Hans Krieg, Director of the Zoologisches Staatsammlung des Bayerischen Staates in München, Germany, led four collecting trips to the Southern Cone of South America from 1922–1938 (Krieg, 1927, 1928, 1931, 1948). Travelling mostly on the rivers (Apa, Paraguay, Paraná, Pilcomayo), his team collected along the borders of Paraguay, with incursions into the Estero Patiño (Presidente Hayes) and the Chaco Mennonite settlements west of Puerto Suárez (Boquerón). All but the snakes were reported; the turtles and crocodilians were described by Müller and Hellmich (1936) and the lizards by Hellmich (1960).

Pedro Serié (1915) of the Museo Argentino de Ciencias Naturales reviewed a collection of snakes made by Carlos Fiebrig in Paraguay. Serié (1916) also commented on the true identities of three “new” snake species proposed by Alfredo Bacqué (1906).

Kenneth Cantlie gave a small collection of snakes and a lizard from the “Paraguay River” to the British Museum (NHMUK 1923.12.5.1–1923.12.5.8).

Guillermo B. Schouten of the Sociedad Científica del Paraguay, working toward the same ends as Bertoni, published a paper on the eggs of Paraguayan lizards (Schouten, 1929) and two lists of Paraguayan snakes (Schouten, 1931, 1937) that were annotated with anatomical and biological

data. His lists were based on copies of Bertoni's records and a large personal collection which has been almost entirely lost. The only remnants are specimens that he sold to other museums, e.g., to the British Museum (NHMUK 1930.11.27.160–1930.11.27.262, 1930.11.27.298, 1930.11.27.299) and to the Museu Nacional, Rio de Janeiro, Brazil (MNRJ).

Parker (1931) reported on two specimens from a collection of four Chaco reptiles made by George Stuart Carter of the University Museum, Glasgow, Scotland (NHMUK 1928.1.8.14–1928.1.8.16).

Starting in 1905, with intensive efforts in the 1980s, the Naturhistoriska Riksmuseum in Stockholm, Sweden, accumulated 214 Paraguayan reptiles. Their collection is on the web: <http://artedi.nrm.se/nrmherps>. We have not seen these specimens nor have we found published reports on this collection.

1951–1978

A publication on snakes and snake-like lizards (Diploglossidae, Amphisbaenidae) by the medical doctor Dr. Carlos Gatti (1955) is in a category by itself. It consists of a conglomeration of personal observations on venom glands, dentition, effects of the venom, and distributions and descriptions of the venomous species. He has a list of many Paraguayan reptile species with Latin and Guaraní names, many of them incorrect. Perhaps his most-egregious systematic error was his designation of *Anolis chrysolepis* (= *Norops meridionalis*) as a legless lizard. At the end, he added a copy of Bertoni's (1939) list.

Between 1953 and 1960, a major collection of more than 350 Paraguayan reptiles was sent to the British Museum by an Englishman, Eric J. Phillips. Phillips, a member of The Society of Brothers (Sociedad de Hermanos, Die Bruderhof), lived in a religious colony, Primavera, in Departamento San Pedro. Most of the specimens that he sent to the museum came from the colony. Only a small portion of this collection has been previously reported: *Liophis miliaris* (= *Erythrolamprus miliaris*) and the amphisbaenid *Leposternon* by Gans (1971); the *Liophis* (currently *Erythrolamprus*) by Dixon (1983a, 1983b, 1983c, 1991), Dixon and Markezich (1992), and Michaud and Dixon (1987); and a few others.

Dr. Arquimedes Canese published observations on a collection of snakes maintained in the Facultad de Medicina, Asunción, with notes on other species (Canese, 1966, 1970). This collection has apparently been lost.

Besides the Phillips collections, only two other important collections of Paraguayan reptiles seem to have been preserved in museums during this period, a Chaco collection by Ralph Wetzel and Johnny Wayne Lovett that went to the University of Connecticut (Scott and Lovett, 1975) and the second made by James J. Talbot (1979), which is split between the U. S. National Museum and the Los Angeles County Museum of Natural History. Talbot, a Visiting Professor in the Paraguayan Instituto de Ciencias Básicas (now the Facultad de Ciencias Exactas y Naturales), published a list of

Paraguayan reptiles based on his collecting and the literature. His reptile list was the first compilation in the 40 years since Bertoni's (1939).

1979–Present Day

The most-recent major reptile collecting effort in Paraguay was the *Inventario Biológico del Paraguay*. It developed from talks between Ing. Hilario Moreno, the head of Parques Nacionales, a department within the Paraguayan Servicio Forestal, and a U. S. Peace Corps volunteer, Diane Wood. In 1979, the *Inventario* was initiated through an agreement between the Servicio Forestal, the Smithsonian Institution, and the Peace Corps (Foster, 1983) and included students and staff from the Instituto de Ciencias Básicas (ICB; now the Facultad de Ciencias Exactas y Naturales) of the Universidad Nacional de Asunción. Under its auspices, Peace Corps volunteers, Paraguayan ICB students and faculty, and Servicio Forestal counterparts were trained by U. S. scientists in the techniques of collection, preservation, and curation of scientific specimens of fauna and flora. Some of the university students who participated in the project, once they had received a degree in biology, were hired by the Servicio Forestal to continue working in the *Inventario Biológico*. The Museo Nacional de Historia Natural del Paraguay was constructed in 1983 to house the specimens. A list of localities of Paraguayan reptiles in the Museo was published by Aquino et al. (1996), and at present the collection contains more than 4,000 reptile specimens.

Dr. Orsetta Elter listed Paraguayan reptiles in the Museo di Zoologia, Università di Torino from the Borelli and Bertoni collections mentioned above (Elter, 1981).

In the late 1970s, scientists associated with the Itaipú Dam Project on the Río Paraná at the border between Brazil and Paraguay started collecting reptiles from areas that were due to be inundated in 1982. These specimens are preserved in the Museo Ambiental de Itaipú, Hernandarias, Paraguay (Duré Rodas, 1995).

The largest collection of Paraguayan reptiles that we have not seen are about 400 specimens in the Museum d'Histoire Naturelle, Geneva, Switzerland, collected in the 1970s and 1980s by Carlos Dlouhy and coworkers. Their Paraguayan collection is posted on the web: http://www.village.ch/musinfo/bd/mhng/amprep/resultat_col_detail.php?criteria=Paraguayandsearch=Rechercherandmode=tout. We are not aware of any publications based on this collection.

In the mid-1980s, biologists from the Estación Biológica de Doñana, Seville, Spain collected 64 reptiles in Departamento Central and the Paraguayan Chaco.

In 1986, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) sponsored a nationwide *Caiman* survey. Over a 4-month period, teams led by Scott and Aquino surveyed *Caiman* populations throughout Paraguay. Five hundred caimans were collected and deposited in

the Florida State Museum of Natural History in Gainesville. The survey results were published in Scott et al. (1991).

In 1989 and 1990, Aquino and Martha Motte lived with the indigenous Chamococo tribe in the northeastern Chaco. They documented the relationships between the indigenous people and the local herpetofauna and made a reptile collection that is in the MNHNP (Aquino-Shuster et al., 1991).

In the 1990s, Sven Kullander collected Paraguayan fishes, reptiles, and amphibians. They are in the Swedish Museum of Natural History in Stockholm.

The completion of Yacyretá Dam on the Río Paraná in 1989 gave an opportunity for Argentines, led by Beatriz B. Álvarez of the Universidad Nacional del Nordeste in Corrientes, Argentina, and Paraguayans of the Consultora Foragro, led by Lucy Aquino and Martha Motte of the Museo Nacional de Historia Natural del Paraguay, to make large collections of reptiles being displaced by the rising waters (Álvarez et al., 1995; Aquino et al., 1996).

Alejandro Giraudo and Andrés Contreras published a checklist of Departamento Ñeembucú based on a collection of reptiles made by the Contreras family over many years (Giraudo and Contreras, 1994). The surviving specimens from this publication are now housed in CZPLT, although they are in a bad state.

A distributional analysis of Chacoan snakes by Leynaud and Bucher (1999) is based on literature records, museum lists, examination of specimens in Argentine museums, and personal observations.

In the late 1990s, Thomas and Sabine Vinke came to live in the Paraguayan Chaco. They have published extensively on the turtles found in their travels (Vinke and Vinke, 2001a,b, 2003a, 2003b, 2008, 2009a, 2009b, 2009c, 2010; Vinke et al., 2008, 2011, 2013a, 2013b).

Thomas Ziegler reported on the reptiles collected on a 2001 expedition to the Chaco by the Staatliches Museum für Tierkunde in Dresden, Germany (Ziegler et al., 2001, 2002a,b).

In 2006, our co-author Paul Smith, a British expatriate living in Encarnación, Itapúa, began cataloguing photographs of Paraguayan animals with accompanying distributional data; he lists over 800 reptile photos. As we go to press, they can be viewed at www.faunaparaguay.com. Paul and Karina Atkinson have been leading collecting efforts at this mixed Cerrado/Atlantic Forest site, Reserva Natural Laguna Blanca, Departamento San Pedro that complements Eric Phillips's collections in the 1950s from Primavera, San Pedro (Para la Tierra; www.paralatierra.org).

In 2007, the Departamento de Biología, Facultad de Ciencias Exactas y Naturales (FACEN) of the Universidad Nacional de Asunción in San Lorenzo established the Colección Zoológica for collections made by the faculty and

students. The first publication based on this collection lists the reptiles (Cabral and Weiler, 2014).

Herpetology in Paraguay continues to advance at a rapid pace. Several publications came out in 2015 while our work was in press that contain important distribution records on reptiles in Paraguay (Cacciali et al. 2015, Cacciali and Cabral 2015, and Motte et al. 2015).

METHODOLOGY

Each species account is divided into the following sections:

Taxonomy at the generic level is usually the latest published opinion, even if we do not always agree with it. In a few cases where the taxonomy seems to be still in flux, e.g., *Anolis/Norops*, we have made a choice. Where we disagree with currently published species designations, e.g., some populations of *Tropidurus* and the *Bothrops neuwiedii* complex, we state our reasons.

Synonymy consists of literature citations of Paraguayan specimens. Articles not citing Paraguayan specimens, but which introduce name changes for Paraguayan species, have been placed in Comments.

Many lists of Paraguayan species in the synonymies were assembled from both the literature and by reference to specimens. The lists of the Argentines (Berg, 1898; Koslowsky, 1898b; Serié, 1915), Paraguayan workers (Bertoni, 1914, 1939; Canese, 1966; Gatti, 1955; Schouten, 1931, 1937; Duré Rodas, 1995), and that of the North American Talbot (1979) fall into this category. The Paraguayan dot map records in Leynaud and Bucher (1999) are apparently mostly from the MNHNP collection, which are in the Specimens Examined.

We have examined all of the specimens that are cited in articles by the present authors. To avoid duplication of long lists, we have included these citations, but not the localities, in the synonymies. We do not provide full references for the taxonomic authorities for the species. The localities are shown in the Specimens Examined of the Species Accounts.

Species recorded in Aquino-Shuster et al. (1991) as “collected” are in Specimens Examined but not those “observed” by Aquino-Shuster or “reported” by the Chamacoco tribe.

Other Paraguayan citations appear to have been elaborated entirely from literature records, often with little or no reference to actual specimens; Böckeler (1988), Ippi and Flores (2001), Norman (1994), McDiarmid et al. (1999), Peters and Donoso-Barros (1970), Peters and Orejas-Miranda (1970), Strauss and Strauss (1991), Tipton (2005), Vanzolini and Calleffo (2002), Welch (1994a, 1994b), Giraudo and Scrocchi (2002), and Kohn Patiño and Brun (2005) are in this category. These are not included in the Synonymy portion of each species.

Most of the specimens derived from the Page Expedition (see History section above) are not necessarily from Paraguay and are listed here as “Paraguay Expedition.”

The records in Campbell and Lamar (1989) are repeated and updated in Campbell and Lamar (2004), and the former are omitted from the synonymies.

John B. Iverson has given us (Iverson, in litt.) the Paraguayan records that he used to compile his turtle maps (Iverson, 1992). They are listed in the synonymies with that citation.

We have not verified the identifications in many of the references in the synonymies but have evaluated them according to information in the reference, reliability of the source, and geographic plausibility. We have placed a question mark before the literature records that may be incorrect.

Appendix 1 is a list of localities referred to in the text, with coordinates. Many of the localities are imprecise, and the map symbols may be several kilometers distant from the actual collecting site. We have modernized the geographic references, e.g., Departamento Boquerón now also includes the former Departamento Nueva Asunción, and Departamento Alto Paraguay includes what was Departamento Chaco. Department names are in capital letters in the synonymies. We have included modern names for localities where names have been changed, and we corrected literature records that placed a locality in the wrong department.

General Distribution is based on the cited regional bibliographic references.

Local Distribution describes the distribution in Paraguay and is based on Specimens Examined, the literature, and photographs. Ecoregional designations are based on Dinerstein et al. (1995), with modifications by Keel et al. (1993) and Del Castillo and Clay (2005, Fig. 4).

Conservation Status scores the species according to Motte et al. (2009). The categories used in the International Union for Conservation of Nature (IUCN; www.iucn.org/) system are **Not Evaluated**: Species that were not classified by Motte et al. (2009) and **Data Deficient**: Species without sufficient distribution and population data; then there are four categories for species with increasing levels of conservation concern in Paraguay: **Least Concern**, **Vulnerable**, **Endangered**, and **Critically Endangered**.

Comments include distributional, taxonomic, and other information.

Specimens Examined lists the specimens seen by the authors. Department names are in capital letters.

Photographic Records refer to photographs on the website of Fauna Paraguay, maintained by Smith.

Collection codes used in the text follow the standardized list maintained by the American Society of Ichthyologists and Herpetologists (Sabaj Pérez, 2014; **Appendix 2**) and are added to or modified by us, as necessary.

Distribution Maps showing the distributions of Paraguayan species of reptiles were made using ESRI ArcGis 9.2 (www.esri.com/). All records were converted to degrees and minutes of latitude and longitude. There are different symbols for specimens examined, literature records, doubtful records, and photographic records. Sight records are not mapped except for those reported in Cacciali (2013).

Filled circle: Specimens Examined

Hollow circle: Literature Records

Triangle: Photo Records in the Fauna Paraguay database (www.faunaparaguay.com).

?: Record Doubtful. See Comments under the individual species.

Many of the localities are imprecise, and the map symbols may be several kilometers distance from the actual collecting site. Also, one symbol may represent more than one of several nearby localities.

CLASSIFICATION

We have used the suprageneric taxonomy in The Reptile Database (Uetz and Hallermann, 2012) with the following modifications:

Testudines: van Dijk et al. (2012).

Mabuyidae: Hedges and Conn (2012).

Teiidae: Harvey et al. (2012).

Amphisbaenia: Kearney (2003) and Mott and Vietes (2009).

Colubroidea: Grazziotin et al. (2012).

Viperidae: Carrasco et al. (2012).

Recognizing that subspecies are subjective human constructs that may refer to distinct species (e.g., *Bothrops neuwiedii* complex) or only recognizable segments of a single species (e.g., *Erythrolamprus poecilogyrus* subsp.), we only list them herein, leaving it to future workers to determine their true status.

TESTUDINES

- Cryptodira
 - Testudinoidea
 - Testudinidae
 - Chelonoidis carbonaria*
 - Chelonoidis chilensis*
 - Kinosternoidea
 - Kinosternidae
 - Kinosternon scorpioides*
- Pleurodira
 - Chelidae
 - Chelinae
 - Acanthochelys macrocephala*
 - Acanthochelys pallidipectoris*
 - Mesoclemmys vanderhaegei*
 - Phrynops geoffroanus*
 - Phrynops hilarii*
 - Phrynops williamsi*
 - Hydromedusinae
 - Hydromedusa tectifera*

CROCODYLIA

- Eusuchia
 - Alligatoridae
 - Caiman latirostris*
 - Caiman yacare*
 - Paleosuchus palpebrosus*

SQUAMATA-SAURIA

- Iguania
 - Dactyloidae
 - Norops meridionalis*
 - Iguanidae
 - Iguana iguana*
 - Leiosauridae
 - Anisolepis longicauda*
 - Liolaemidae
 - Liolaemus azarai*
 - Liolaemus chacoensis*
 - Polychrotidae
 - Polychrus acutirostris*
 - Tropiduridae
 - Stenocercus caducus*
 - Tropidurus etheridgei*
 - Tropidurus guarani*

		<i>Tropidurus spinulosus</i>
		<i>Tropidurus torquatus</i>
		<i>Tropidurus</i> sp. 1
Gekkota		
	Gekkonidae	
		<i>Hemidactylus mabouia</i>
		<i>Lygodactylus wetzeli</i>
	Phyllodactylidae	
		<i>Homonota borellii</i>
		<i>Homonota fasciata</i>
		<i>Homonota rupicola</i>
		<i>Phyllopezus pollicaris</i>
Scincomorpha		
	Gymnophthalmidae	
		<i>Bachia bresslaui</i>
		<i>Cercosaura ocellata</i>
		<i>Cercosaura schreibersii</i>
		<i>Colobosaura modesta</i>
		<i>Micrablepharus maximiliani</i>
		<i>Vanzosaura rubricauda</i>
	Teiidae	
		<i>Ameiva ameiva</i>
		<i>Ameivula abalosi</i>
		<i>Ameivula</i> sp.
		<i>Dracaena paraguayensis</i>
		<i>Kentropyx viridistriga</i>
		<i>Salvator duseni</i>
		<i>Salvator merianae</i>
		<i>Salvator rufescens</i>
		<i>Teius oculatus</i>
		<i>Teius teyou</i>
	Mabuyidae	
		<i>Aspronema dorsivittatum</i>
		<i>Copeoglossum nigropunctatum</i>
		<i>Manciola guaporicola</i>
		<i>Notomabuya frenata</i>
Diploglossa		
	Diploglossidae	
		<i>Ophiodes fragilis</i>
		<i>Ophiodes intermedius</i>
		<i>Ophiodes luciae</i>
		<i>Ophiodes striatus</i>
		<i>Ophiodes luciae</i>
Amphisbaenia		
	Amphisbaenoidea	

Amphisbaenidae

Amphisbaena alba
Amphisbaena albocingulata
Amphisbaena angustifrons
Amphisbaena bolivica
Amphisbaena camura
Amphisbaena darwini
Amphisbaena leeseri
Amphisbaena mertensii
Amphisbaena prunicolor
Amphisbaena roberti
Amphisbaena steindachneri
Leposternon microcephalum

SQUAMATA-SERPENTES

Booidea

Boidae

Boa constrictor
Epicrates alvarezi
Epicrates crassus
Eunectes murinus
Eunectes notaeus

Colubroidea

Viperidae

Bothrops alternatus
Bothrops diporus
Bothrops jararaca
Bothrops jararacussu
Bothrops moojeni
Bothrops pauloensis
Crotalus durissus

Elapidae

Micrurus altirostris
Micrurus baliocoryphus
Micrurus corallinus
Micrurus frontalis
Micrurus lemniscatus
Micrurus pyrrhocryptus
Micrurus silviae

Colubridae

Chironius bicarinatus
Chironius exoletus
Chironius flavolineatus
Chironius maculiventris
Chironius quadricarinatus
Drymarchon corais

- Drymoluber brazili*
- Leptophis ahaetulla*
- Mastigodryas bifossatus*
- Simophis rhinostoma*
- Spilotes pullatus*
- Tantilla melanocephala*
- Dipsadidae
 - Dipsadinae–Unnamed Clade
 - Atractus paraguayensis*
 - Atractus reticulatus*
 - Atractus thalesdelemai*
 - Dipsadinae–Imantodini
 - Imantodes cenchoa*
 - Leptodeira annulata*
 - Dipsadinae–Dipsadini
 - Dipsas bucephala*
 - Dipsas cisticeps*
 - Sibynomorphus lavillai*
 - Sibynomorphus mikanii*
 - Sibynomorphus turgidus*
 - Sibynomorphus ventrimaculatus*
 - Xenodontinae–Psomophiini
 - Psomophis genimaculatus*
 - Psomophis obtusus*
 - Xenodontinae–Elapomorphini
 - Apostolepis ambiniger*
 - Apostolepis assimilis*
 - Apostolepis dimidiata*
 - Apostolepis intermedia*
 - Phalotris lemniscatus*
 - Phalotris matogrossensis*
 - Phalotris nigrilatus*
 - Phalotris normanscotti*
 - Phalotris tricolor*
 - Xenodontinae–Tachymenini
 - Thamnodynastes chaquensis*
 - Thamnodynastes hypoconia*
 - Thamnodynastes lanei*
 - Thamnodynastes strigatus*
 - Thamnodynastes spp.*
 - Tomodon dorsatus*
 - Tomodon ocellatus*
 - Xenodontinae–Echinantherini
 - Taeniophallus occipitalis*
 - Xenodontinae–Pseudoboini
 - Boiruna maculata*

- Clelia clelia*
Clelia plumbea
Mussurana bicolor
Mussurana quimi
Oxyrhopus guibei
Oxyrhopus petolarius
Oxyrhopus rhombifer
Phimophis guerini
Phimophis vittatus
Pseudoboa nigra
Rhachidelus brazili
Xenodontinae–Philodryadini
Philodryas aestiva
Philodryas agassizii
Philodryas baroni
Philodryas livida
Philodryas mattogrossensis
Philodryas nattereri
Philodryas olfersii
Philodryas patagoniensis
Philodryas psammophidea
Xenodontinae–Hydropsini
Helicops infrataeniatus
Helicops leopardinus
Hydrops caesurus
Pseudoeryx plicatilis
Xenodontinae–Hydrodynastini
Hydrodynastes gigas
Xenodontinae–Xenodontini
Erythrolamprus aesculapii
Erythrolamprus albertguentheri
Erythrolamprus almadensis
Erythrolamprus frenatus
Erythrolamprus jaegeri
Erythrolamprus miliaris
Erythrolamprus poecilogyrus
Erythrolamprus reginae
Erythrolamprus sagittifer
Erythrolamprus semiaureus
Erythrolamprus typhlus
Lygophis anomalus
Lygophis dilepis
Lygophis flavifrenatus
Lygophis meridionalis
Lygophis paucidens
Xenodon dorbignyi

- Xenodon histricus*
- Xenodon merremi*
- Xenodon neuwiedii*
- Xenodon pulcher*
- Dipsadidae–*Incertae sedis*
- Xenopholis undulatus*
- Scolecophidia
 - Anomalepididae
 - Liotyphlops beui*
 - Liotyphlops ternetzii*
 - Leptotyphlopidae
 - Epictia albipuncta*
 - Epictia vellardi*
 - Rena unguirostris*
 - Typhlopidae
 - Amerotyphlops brongersmianus*

SPECIES ACCOUNTS

TESTUDINES

Cryptodira

Testudinoidea

Family Testudinidae

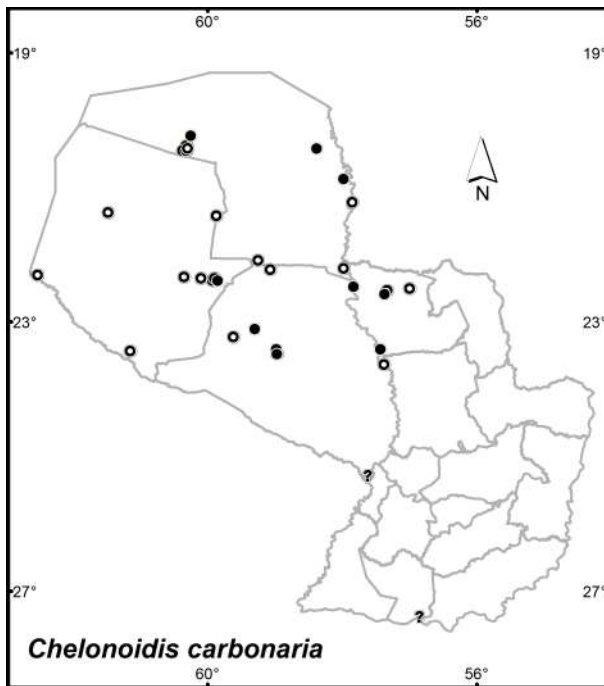
Chelonoidis carbonaria (Spix, 1824)

Testudo tabulata: Boettger (1885a): Paraguay.

Testudo tabulata: Peracca (1895): CONCEPCIÓN: Río Apa.

Testudo tabulata: Koslowsky (1898b): Paraguay.

Testudo tabulata: Bertoni (1914): Paraguay.



Testudo carbonaria: Bertoni (1925): Chaco.

Testudo denticulata: Müller and Hellmich (1936): Chaco Boreal (ZSM 132/1928a, 132/1928b); Chaco (ZSM 134/1928). ALTO PARAGUAY: between Puertos Casado and Sastre (ZSM 79/1932). CONCEPCIÓN: Apa-Bergland (ZSM 47/1932–49/1932).

Testudo denticulata: Freiberg (1938): Paraguay.

Testudo denticulata: Bertoni (1939): Chaco.

Geochelone carbonaria: Williams (1960): Rio Paraguay. CENTRAL: Asunción. SAN PEDRO: Ybabopo (=Ybabobó; Cabrera, 1998).

Testudo carbonaria: Wermuth and Mertens (1961): Paraguay.

Geochelone carbonaria: Scott and Lovett (1975): See Specimens Examined.

Testudo carbonaria: Wermuth and Mertens (1977): Paraguay.

Geochelone carbonaria: Talbot (1979): western Paraguay.

Geochelone carbonaria: Anonymous (1982a): Paraguay.

Geochelone (Chelonoidis) carbonaria: Pritchard and Trebbau (1984): Río Paraguay. CENTRAL: Asunción. PRESIDENTE HAYES: Juan de Zalazar; Route IX Km 245 (*en errore*, km 295, see Scott and Lovett [1975]). SAN PEDRO: Puerto Ybabopo (=Puerto Ybabobó).

Geochelone carbonaria: Aquino-Shuster et al. (1991): See Specimens Examined.

Geochelone carbonaria: Iverson (1992, *in litt.*): Río Paraguay (ZSM 79/32). BOQUERÓN: Loma Plata (KU 73433). CENTRAL: Asunción (FMNH 9499–9500). PRESIDENTE HAYES: Juan de Zalazar; Route IX Km 295. SAN PEDRO: Ybabopo (=Puerto Ybabobó).

Chelonoidis denticulata: Grillitsch et al. (1996): CONCEPCIÓN: Río Apa (NMW 1234, 2479).

Geochelone carbonaria: Aquino et al. (1996): See Specimens Examined.

Chelonoidis carbonaria: Cabrera (1998): Río Paraguay. CENTRAL: Asunción. CONCEPCIÓN: Concepción. MISSIONES: Ayolas. PRESIDENTE HAYES: alrededores de Fortín Juan de Zalazar; Route IX Km 295.

Chelonoidis carbonaria: Vinke and Vinke (2001a, 2001b): ALTO PARAGUAY: Parque Nacional Defensores del Chaco. BOQUERÓN/ALTO PARAGUAY_border: Railroad Km 145. BOQUERÓN: road between Filadelfia and Loma Plata; La Patria; near Toledo. CONCEPCIÓN: Serranía San Luís. PRESIDENTE HAYES: Río Verde. SAN PEDRO: Ybabopo (FMNH).

Chelonoidis carbonaria: Ziegler et al. (2002b): BOQUERÓN: Filadelfia; La Patria (MTKD 43484, 43485).

Chelonoidis carbonaria: Vinke and Vinke (2003a): ALTO PARAGUAY: Cerro León.

Chelonoidis carbonaria: Vinke and Vinke (2003b): ALTO PARAGUAY: Cerro León.

Chelonoidis carbonaria: Motte et al. (2004): Paraguay.

Chelonoidis denticulata: Andreone et al. (2007): CONCEPCIÓN: Río Apa (MACUT R58).

Chelonoidis carbonaria: Vinke et al. (2008): ALTO PARAGUAY: MNHNP 248; Cerro León; Potrerito (MNHNP 7933); San Carlos, 80 km W of Puerto Mihanovich (MNHNP 3786); Between Puerto Sastre and Puerto Casado; 20°24'S, 60°18'W; 20°25'S, 60°26'W; 20°27'S, 60°22'W; 22°23'S, 59°56'W; 21°25'S, 59°52'W; 20°25'S, 60°18'W; 20°27'S, 60°19'W; 20°25'S, 60°18'W; 22°13'S, 59°04'W. BOQUERÓN: Estancia Kintana (Quintana); Filadelfia; La Patria; Pozo Hondo. CONCEPCIÓN: Serranía San Louis (=San Luis; MNHNP 6488); Reserva Biológica Hernandaria, "origen San Louis". PRESIDENTE HAYES: Colony "Südmenno" (Paratodo); Juan de Zalazar.

Chelonoidis carbonaria: Motte et al. (2009): Paraguay.

Chelonoidis carbonaria: Vinke and Vinke (2009a): Paraguayan Chaco.

General Distribution: The species is distributed from northern Paraguay and Argentina through cis-Andean South America to Panama (Iverson, 1992).

Local Distribution: Present on both sides of the Río Paraguay in Dry and Wet Chaco

and Cerrado. The records from Asunción and Ayolas on the lower Río Paraná in Mesopotamian Grasslands are probably escaped captives.

Conservation Status: Least Concern.

Comments: Bour (1980) used the generic name *Chelonoidis* for the South American tortoises previously considered to be a part of the pan-tropical genus *Geochelone*. Subsequent work by Le et al. (2006) confirmed the monophyly of *Chelonoidis* and recommended its use.

Although there are records of *Chelonoidis carbonaria* from rainforest in northern South America (Moreira, 1989), it does not seem to occupy this habitat in Paraguay.

Specimens Examined: ALTO PARAGUAY (MNHNP 248); Colonia Potrerito (MNHNP 7933); Parque Nacional Defensores del Chaco (MNHNP 7234, 7935); San Carlos, 80 km W of Puerto Mihanovich (MNHNP 3786). BOQUERÓN: Loma Plata (KU 73433). CONCEPCIÓN: Concepción (MNHNP 3012); Parque Nacional Serranía San Luís (MNHNP 6488); 3 km NNW Estancia Fonciere (UMMZ 189925). PRESIDENTE HAYES: Estancia Juan de Zalazar (UCS 7167, 7213); Route IX Km 295 (UCS 7314); Pozo Colorado (MNHNP 10348).

Photographic Records: ALTO PARAGUAY: Cerro León (FPREP 583–590).

***Chelonoidis chilensis* (Gray, 1870)**

Testudo chilensis: Bertoni (1939): Chaco.

Testudo chilensis: Müller and Hellmich (1936): Paraguay: Chaco (ZSM 85/1932). BOQUERÓN: Mennonite Colony (=Loma Plata; ZSM 84/1932).

Testudo chilensis: Freiberg (1938): Paraguay.

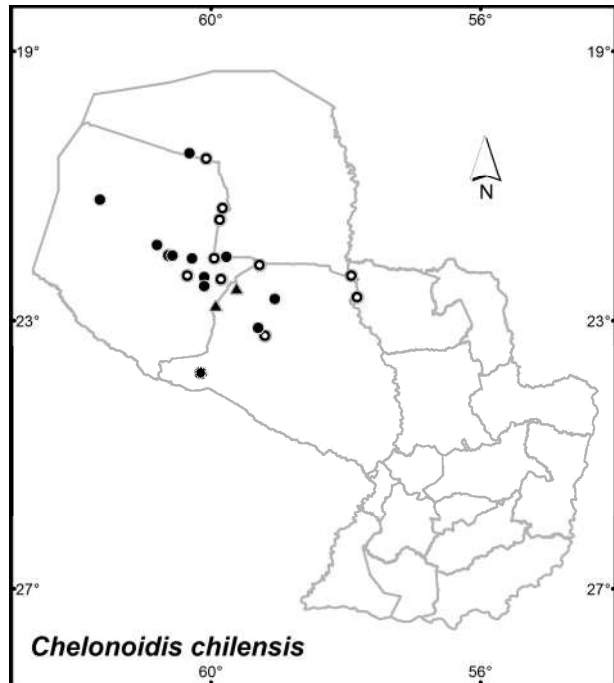
Testudo chilensis: Müller (1939): Paraguay: Chaco Boreal.

Geochelone chilensis: Auffenberg (1969): ALTO PARAGUAY: Puerto Casado. BOQUERÓN: Mennonite Colony.

Geochelone chilensis: Scott and Lovett (1975): See Specimens Examined.

Testudo chilensis: Wermuth and Mertens (1977): Paraguay.

Geochelone chilensis: Talbot (1979): Paraguay.



Geochelone chilensis: Anonymous (1982b): Paraguay: Gran Chaco.

Geochelone chilensis: Waller (1986): ALTO PARAGUAY: a few kilometers west of Puerto Casado (MACN 8286).

Geochelone chilensis: Iverson (1992, *in litt.*): BOQUERÓN: Mennonite Colony (=Loma Plata; ZSM 84/27). PRESIDENTE HAYES: Juan de Zalazar; Puerto Pinasso (=Pinasco; USNM 64134).

Chelonoidis chilensis: Cabrera (1995): PRESIDENTE HAYES: Estancia Palo Santo (MACN 8286).

Geochelone chilensis: Aquino et al. (1996): See Specimens Examined.

Geochelone chilensis: Ernst (1998:map): Six unspecified localities in ALTO PARAGUAY, BOQUERÓN, and PRESIDENTE HAYES.

Chelonoidis petersi: Cabrera (1998): BOQUERÓN: 59 km WNW Filadelfia; Filadelfia. PRESIDENTE HAYES: Juan de Zalazar; Estancia Palo Santo; 140 km S Filadelfia; Estancia Tinfunque.

Chelonoidis petersi: Vinke and Vinke (2001a): ALTO PARAGUAY: Fortín Defensores del Chaco; Fortín Teniente Montanía. BOQUERÓN: Between Teniente Montanía and Madrejón; Fortín Toledo; near Mariscal Estigarribia.

Chelonoidis petersi: Vinke and Vinke (2001b): ALTO PARAGUAY: Fortín Defensores del Chaco; Fortín Teniente Montanía. BOQUERÓN: Between Teniente Montanía and Madrejón; Fortín Toledo; near Mariscal Estigarribia.

Chelonoidis petersi: Ziegler et al. (2002b): ALTO PARAGUAY: Vicinity of 20°35'S, 60°04'W. BOQUERÓN: Filadelfia. BOQUERÓN/ALTO PARAGUAY border: Vicinity of 21°21'39'S, 59°51'54'W (MTKD 43480–43482).

Geochelone chilensis: Artnier (2007): BOQUERÓN: Near Filadelfia.

Chelonoidis chilensis: Vinke et al. (2008): BOQUERÓN/ALTO PARAGUAY border: Parque Nacional Defensores del Chaco. BOQUERÓN: Filadelfia. PRESIDENTE HAYES: Puerto Pinasco.

Chelonoidis petersi: Motte et al. (2009): Paraguay.

Chelonoidis chilensis: McAllister et al. (2013): BOQUERÓN: Filadelfia, 15.6 km S of, and 37.7 km NW on Route IX (22°21'S, 60°15'W).

General Distribution: Argentine, Bolivian, and Paraguayan Chaco (Ernst, 1998), and Argentine Monte south to 35°S (Cabrera, 1998).

Local Distribution: West of the Río Paraguay in Wet and Dry Chaco in departamentos Alto Paraguay, Boquerón and Presidente Hayes.

Conservation Status: Least Concern.

Comments: Previous to 1973 in Paraguay, this species was reported under the names *Testudo* or *Geochelone chilensis*. Freiberg (1973) described two new species within the complex in Argentina, a Chacoan northern form, *Geochelone petersi*,

which he considered to be broadly sympatric with another Chacoan form that retained the name *G. chilensis*. The southern form in Monte vegetation (39°–40°S latitude) he named *G. donosobarrosi*. Fernández (1988), Cei (1993), Cabrera (1998), and Richard (1999) all agreed that only one species inhabited the Chaco, but they distinguished two forms that they considered to be separate species that were parapatric or narrowly sympatric near 35°S latitude. Cei (1993) and Richard (1999) called the northern form, which includes the Paraguayan Chaco in its distribution, *Chelonoidis chilensis* and the southern form *C. donosobarrosi*.

Fernández (1988) and Cabrera (1998), after a detailed study of the descriptions and morphometrics of illustrations of the syntypes of *Testudo chilensis*, decided that the name *C. chilensis* applied to the southern form, rendering *C. donosobarrosi* a junior synonym. The northern form would then carry the name *C. petersi*.

Vinke et al. (2008), drawing on extensive experience with a large series of specimens, maintained that some Paraguayan Chaco tortoises fully conform to the diagnostic characters of tortoises from southern Argentina, and they believe that there is only one species, *C. chilensis*, in the complex. Their view has been vindicated with the publication of a genetic study of Argentine specimens demonstrating that the small Chacoan *C. petersi* and the large Pampas *C. donosobarrosi* are conspecific with *C. chilensis* (Fritz et al., 2012).

Specimens Examined: ALTO PARAGUAY: Agua Dulce (MNHNP 2999); 10 km N Madrejón (MNHNP 2989); Mayor Pablo Lagerenza (MNHNP 7237); 9 km N Mayor Pablo Lagerenza (MNHNP 7235); 37 km W Mayor Pablo Lagerenza (UCS 7965); 25 km SE Cruce 4 de Mayo (MNHNP 7239). BOQUERÓN: 14 km S Filadelfia (MNHNP 3006); 15.6 km S Filadelfia (MNHNP 10036); 59 km WNW Filadelfia (MNHNP 2990); Comunidad Ayoreo Tunucojai (MNHNP 10604); Filadelfia (MNHNP 2987); Parque Nacional Teniente Enciso (MNHNP 2978, 79); Route Mariscal Estigarribia-Teniente Montanía (MNHNP 9108); Route IX, between Mariscal Estigarribia and Teniente Ochoa (MNHNP 9128). PRESIDENTE HAYES: Estancia Juan de Zalazar (UCS 7214; MNHNP 2997); Hacienda Tinfunqué (MNHNP 3981); Laguna Fortín Teniente Rojas Silva (MNHNP 10083).

Photographic Records: ALTO PARAGUAY: Estancia Mobil Center, 20 km W Madrejón (FPREP 470–473). BOQUERÓN: Fortín Boquerón (FPREP 474); Parque Nacional Teniente Enciso (FPREP 26–28). PRESIDENTE HAYES: Laguna Ganso (FPREP 22–24).

Kinosternoidea

Family Kinosternidae

Kinosternon scorpioides (Linnaeus, 1766)

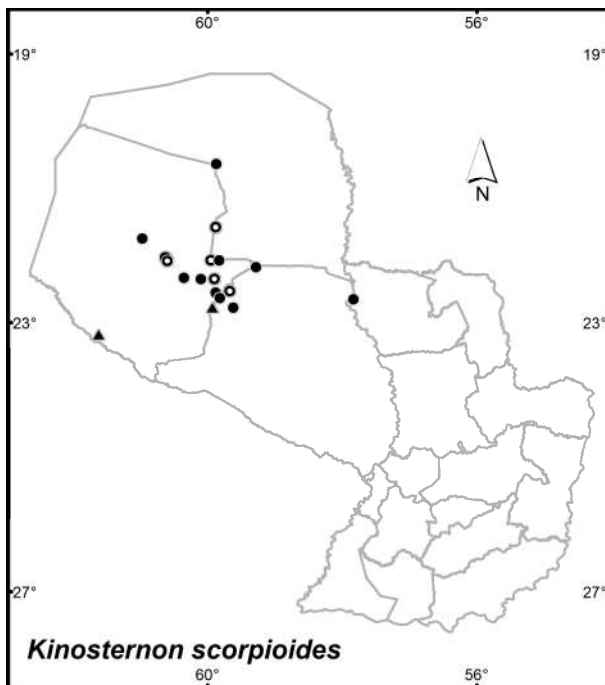
Kinosternon scorpioides seriei: Freiberg (1936): Paraguay.

Kinosternon xscorpioides [sic]: Bertoni (1939): Chaco.

Kinosternon scorpioides: Talbot (1979): Western Paraguay.

Kinosternon scorpioides: Aquino et al. (1996): See Specimens Examined.

Kinosternon scorpioides scorpioides: Cabrera (1998): BOQUERÓN: Filadelfia; 35 km NW of Teniente Primero Irala Fernández.



Kinosternon scorpioides scorpioides: Vinke and Vinke (2001a): ALTO PARAGUAY: Fortín Teniente Montanía. BOQUERÓN: Mariscal Estigarribia; between Filadelfia and Loma Plata; near Rosaleda.

Kinosternon scorpioides scorpioides: Vinke and Vinke (2001b): ALTO PARAGUAY: Fortín Teniente Montanía. BOQUERÓN: Mariscal Estigarribia; between Filadelfia and Loma Plata; near Rosaleda.

Kinosternon scorpioides: Ziegler et al. (2002b): PRESIDENTE HAYES: 22°32'S, 59°40'W (MTKD 43479).

Kinosternon scorpioides: Métrailler (2003): BOQUERÓN: 21°35.6'S, 59°53.7'W.

Kinosternon scorpioides: Buskirk (2007): ALTO PARAGUAY: Between Marical Estigarribia and Madrejón, 29°60'S, 59°53'W; 21°11'S, 59°45'W.

Kinosternon scorpioides: Artner (2007): BOQUERÓN: Near Filadelfia.

Kinosternon scorpioides: Motte et al. (2009): Paraguay.

General Distribution: Eastern México to northern Argentina (Iverson, 1992).

Local Distribution: Almost all records in Paraguay are in Dry Chaco in departamentos Alto Paraguay, Boquerón, and Presidente Hayes and there is one record from Puerto Pinasco in Wet Chaco.

Conservation Status: Least Concern.

Comments: Freiberg (1936) described the subspecies *K. scorpioides seriei* from Paraguay, but Cabrera and Colantonio (1997) could not distinguish a recognizable

taxon and synonymized it with *K. scorpioides scorpioides*. Vinke and Vinke (2001a) believe that the only subspecies present in Paraguay is *K. scorpioides scorpioides*.

Specimens Examined: Paraguay (MNHNP 3002). ALTO PARAGUAY: Madrejón (MNHNP 2988). BOQUERÓN: 35 km NW 25 Leguas (MNHNP 3003); Campo Loro (MNHNP 10624); Cruce Boquerón (MNHNP 7931, 7032); Filadelfia (MNHNP 2991–2996, 2998, 3000, 3001, 3005, 3009, 3013); Fortín Toledo (MNHNP 10054); Teniente Ochoa (USNM 341888). PRESIDENTE HAYES: 26 km WSW entrance to Estancia Palo Santo (MNHNP 6519); Route IX Km 400 (UCS 8029); Puerto “Pinasso” (=Pinasco; USNM 64134).

Photographic Records: BOQUERÓN: Route IX Km 500 (FPREP 32–36); Fortín Boquerón (FPREP 475); Laguna Capitán (FPREP 657). PRESIDENTE HAYES: Plot 21 Pilcomayo (FPREP 29, 30).

Pleurodira
Family Chelidae
Chelinae

***Acanthochelys macrocephala* (Rhodin, Mittermeier and McMorris 1984)**

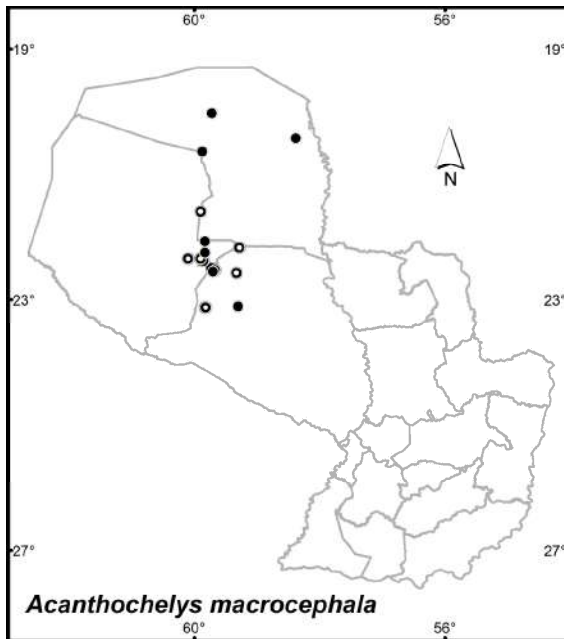
Platemys spixii Schenkel (1901): Paraguay: "Apalue."

Platemys pallidipectoris: Rhodin (1982): Paraguay: "Apalue."

Platemys pallidipectoris: Rhodin et al. (1984): Paraguay: "Apalue."

Acanthochelys macrocephala: Buskirk (1988): PRESIDENTE HAYES: Estancia Palo Santo (MACN 8287, 8288).

Acanthochelys macrocephala: Rhodin et al. (1990:map): Paraguay.



Hydromedusa tectifera: Aquino-Shuster et al. (1991): See Specimens Examined.

Phrynops chacoensis: Fritz and Pauler (1992a): Paraguay: "Apalue" (NMB 171). BOQUERÓN: Paraguayan Chaco, 22°30'03"S, 59°44'30"W (type locality; SMNS 3984/5, holotype).

Acanthochelys macrocephala: Iverson (1992, *in litt.*): Paraguay: "Apalue" (NMB 171). BOQUERÓN: Paraguayan Chaco, 22°30'03"S, 59°44'30"W (SMNS 3984/5). PRESIDENTE HAYES: Estancia Palo Santo (MACN 8287, 8288).

Acanthochelys macrocephala: Cabrera (1995): PRESIDENTE HAYES: Estancia Palo Santo (MACN 8287, 8288).

Acanthochelys macrocephala: Fritz and Pauler (1999): BOQUERÓN: Paraguayan Chaco, 22°30'03"S, 59°44'30"W.

Acanthochelys macrocephala: Vinke and Vinke (2001a): ALTO PARAGUAY: Madrejón; Fortín Madrejoncito. BOQUERÓN: Colonia Menno (Loma Plata); Campo María; road between Filadelfia and Loma Plata.

Acanthochelys macrocephala: Vinke and Vinke (2001b): ALTO PARAGUAY: Madrejón; Fortín Madrejoncito. BOQUERÓN: Colonia Menno (Loma Plata); Campo María; road between Filadelfia and Loma Plata.

Acanthochelys macrocephala: Ziegler et al (2002b): PRESIDENTE HAYES: Vicinity of 22°32'S, 59°40'W; Vicinity of 22°34'S, 59°20'W (MTKD 43477, 43478).

Acanthochelys macrocephala: Métrailler (2003): BOQUERÓN: 21°35.6'S, 59°53.7'W.

Acanthochelys macrocephala: Weiler Gustafson (2006): PRESIDENTE HAYES: Rancho Quemado, 23°06'38"S, 59°49'20"W (CZCEN 252).

Acanthochelys macrocephala: Métrailler (2006): BOQUERÓN: 21°35.6'S, 59°53.7'W.

Acanthochelys macrocephala: Artner (2007:map): Paraguay. BOQUERÓN: Loma Plata.

Acanthochelys macrocephala: Vinke and Vinke (2008:map): Paraguay.

Acanthochelys macrocephala: Motte et al. (2009): Paraguay.

Acanthochelys macrocephala: Rhodin et al. (2009): Paraguayan Chaco. BOQUERÓN: Near Filadelfia.

Acanthochelys macrocephala: Vinke and Vinke (2009b: Mapped sites in departamentos ALTO PARAGUAY, BOQUERÓN, and PRESIDENTE HAYES).

Acanthochelys macrocephala: Vinke and Vinke (2009c: Mapped sites in departamentos ALTO PARAGUAY, BOQUERÓN, and PRESIDENTE HAYES).

Acanthochelys macrocephala: Vinke and Vinke (2010: Mapped sites in departamentos ALTO PARAGUAY, BOQUERÓN, and PRESIDENTE HAYES).

Acanthochelys macrocephala: Huebinger et al. (2013:map): Paraguay.

Acanthochelys macrocephala: Cabral and Weiler (2014): PRESIDENTE HAYES: Estancia Rancho Quemado (CZCEN 252).

Acanthochelys pallidipectoris: Cabral and Weiler (2014): PRESIDENTE HAYES: Laguna Capitán (CZCEN 231).

General Distribution: Eastern Bolivia, States of Mato Grosso and Mato Grosso do Sul, Brazil, and Paraguayan Chaco (Rhodin et al. 2009).

Local Distribution: Recorded from various localities in Alto Paraguay, Boquerón, and Presidente Hayes in Dry Chaco and the fringe of Wet Chaco.

Conservation Status: Data Deficient.

Comments: Cabrera (1995) stated that Puerto Casado, Alto Paraguay (22°S), was the southernmost known limit of the range of *A. macrocephala*; Estancia Juan de Zalazar, Presidente Hayes (23°S), is further south.

Specimens Examined: ALTO PARAGUAY: Agua Dulce (CZCEN 980); Colonia Potrerito (MNHNP 9790); Madrejón (MNHNP 3014). BOQUERÓN: Campo Loro (MNHNP 8834); Colonia Fernheim (MNHNP 7928). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 10084); Laguna Capitán (CZCEN 231).

Photographic Records: Paraguay: Central Chaco (FPREP 1–3). BOQUERÓN: Loma Plata (FPREP 4, 5).

***Acanthochelys pallidipectoris* (Freiberg, 1945)**

Platemys pallidipectoris: Ernst (1983:map): Paraguay Expedition.

Acanthochelys pallidipectoris: Iverson (1992:map): Paraguay Expedition.

Acanthochelys pallidipectoris: Fritz and Pauler (1992b): BOQUERÓN: Near Filadelfia.

Acanthochelys pallidipectoris: Giraudo and Contreras (1994): ÑEEMBUCÚ: Paso Lengá; Pilar.

Acanthochelys pallidipectoris:
Cabrera (1995): ÑEEMBUCÚ:
Paso Lengá; Pilar.

Acanthochelys pallidipectoris:
Giraudo (1996a): ÑEEMBUCÚ:
Paso Lengá.

Acanthochelys pallidipectoris:
Cabrera (1998): ÑEEMBUCÚ:
Paso Lengá; Pilar.

Acanthochelys pallidipectoris:
Vinke and Vinke (2001a,b):
BOQUERÓN: Near Neuwestland;
near Rosaleda; near Filadelfia;
Fortín Toledo; Estancia Campo
Loa.

Acanthochelys pallidipectoris:
Ziegler et al. (2002b): BOQUERÓN: 22°45'S, 60°27'W (MTKD 43479).

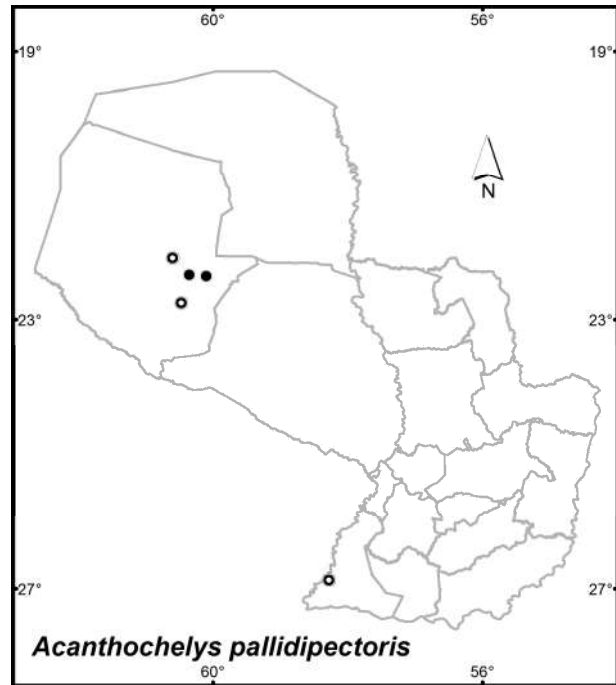
Acanthochelys pallidipectoris: Motte et al. (2004): Paraguay.

Acanthochelys pallidipectoris: Vinke and Vinke (2008:map): Paraguay.

Acanthochelys pallidipectoris: Motte et al. (2009): Paraguay.

Acanthochelys pallidipectoris: Vinke et al. (2011): BOQUERÓN, ÑEEMBUCÚ,
PRESIDENTE HAYES (the latter Departamento is not included in their map).

Acanthochelys pallidipectoris: Huebinger et al. (2013:map): Paraguay.



General Distribution: Extreme northern and northeastern Argentina, and Paraguay (Cabrera, 1998; Vinke et al., 2011).

Local Distribution: Records include Wet Chaco on the east bank of the Río Paraguay (Departamento Ñeembucú) and several localities in Dry Chaco (Departamento Boquerón).

Conservation Status: Data Deficient.

Specimens Examined: BOQUERÓN: 7 km N Filadelfia (MNHNP 7238); Fortín Toledo (MNHNP 9799).

***Mesoclemmys vanderhaegei* (Bour, 1973)**

Batrachemys nasuta: Müller and Hellmich (1936): SAN PEDRO: Nueva Germania (83/1932).

Batrachemys nasuta: Müller (1937): CENTRAL: Asunción (ZSM 1/1925).

Batrachemys nasuta: Müller (1939): “ins mittleren Paraguay.”

Batrachemys nasuta: Wermuth and Mertens (1961): Paraguay.

Batrachemys nasuta: Donoso-Barros (1965): Paraguay.

Phrynops nasutus: Mertens (1970): CENTRAL: Vicinity of Asunción.

Phrynops tuberculatus vanderhaegei Bour (1973): Type locality: “Probablement les environs d’Asunción au Paraguay”, restricted to “CORDILLERA: Tobatí” by Bour and Pauler (1987).

Phrynops nasutus: Wermuth and Mertens (1977): Paraguay.

Phrynops tuberculatus vanderhaegei: Wermuth and Mertens (1977): Paraguay.

Phrynops gibbus: McDiarmid and Foster (1987): AMAMBAY: Cerro Corá National Park (CM 94314, 94315, 94322; USNM 253211). CENTRAL: San Lorenzo (MNHN-P “127522” see Comments).

Phrynops vanderhaegei: Bour and Pauler (1987): Paraguay (IP n/n, MNHN-P n/n, MNHN-Z 1977-51). AMAMBAY: Capitán Bado (MHNG 2022.1); Cerro Corá. CENTRAL: San Lorenzo. Type locality restricted to CORDILLERA: Tobatí (IP [four]; MNHN-Z 1977-50, holotype). SAN PEDRO: Estancia Nueva Germania (ZSM-H 82/32).

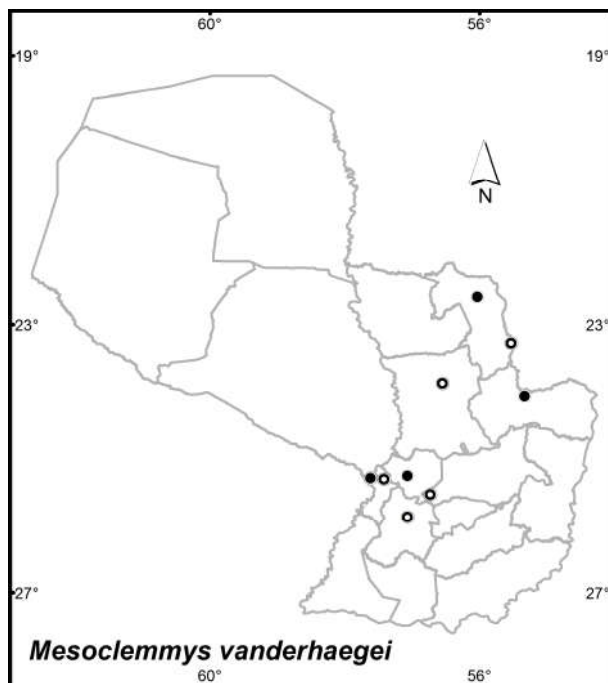
Phrynops vanderhaegei: Iverson (1992, *in litt.*): CENTRAL: Near Asunción.

Phrynops vanderhaegei: Fritz and Pauler (1992a): ALTO PARAGUAY: (ZMB 26111, 31176). CORDILLERA: Tobatí (MTKD 28366).

Phrynops tuberculata: Grillitsch et al. (1996): Paraguay (NMW 33471).

Phrynops vanderhaegei: Grillitsch et al. (1996): Paraguay (NMW 33482).

Phrynops nasutus: Aquino et al. (1996): See Specimens Examined.



Phrynops geoffroanus: Aquino et al. (1996): See Specimens Examined.

Batrachemys vanderhaegei: Cabrera (1998): AMAMBAY: Capitán Bado; Parque Nacional Cerro Corá. CENTRAL: San Lorenzo. CORDILLERA: Tobatí. SAN PEDRO: Estancia Nueva Germania.

Bufocephala vanderhaegei: McCord et al. (2001): Paraguay.

Batrachemys vanderhaegei: Motte et al. (2004): Paraguay.

Bufocephala vanderhaegei: Métrailler (2005): AMAMBAY: Capitán Bado (MHNG 2022.1); Cerro Corá. CAAGUAZÚ: San José de los Arroyos (MSUNA 623). CENTRAL: Ñemby; San Lorenzo. CORDILLERA: Tobatí (MNHN 1977-50). PARAGUARÍ: Acahay. SAN PEDRO: Estancia Nueva Germania (ZSM-H 82/32).

Mesoclemmys vanderhaegei: Bour and Zaher (2005): Paraguay.

Bufocephala vanderhaegei: Motte et al. (2009): Paraguay.

Mesoclemmys vanderhaegei: Vinke et al. (2013a): CENTRAL: Areguá.

Mesoclemmys vanderhaegei: Vinke et al. (2013b): CENTRAL: Areguá.

Mesoclemmys vanderhaegei: Marques et al. (2014:map): AMAMBAY, CAAGUAZU, CANINDEYU, CENTRAL, CORDILLERA, PARAGUARI, SAN PEDRO.

General Distribution: Southcentral Brazil through Paraguay to northern Argentina (Cabrera, 1998).

Local Distribution: Present in Wet Chaco, Central Forest, Cerrado, and Pantanal in departamentos Alto Paraguay, Amambay, Central, and Cordillera.

Conservation Status: Least Concern.

Comments: The generic status of this species is not yet settled. It was first described in the genus *Phrynops* (Bour, 1973), but later placed in the genus *Batrachemys* by Albrecht (1976) and Cabrera (1998). McCord et al. (2001) described *Bufocephala*, with this the only species. Finally, Bour and Zaher (2005) placed it in the genus *Mesoclemmys*.

The San Lorenzo specimen (Central; MNHNP “127522”) in McDiarmid and Foster (1987) is enigmatic. The number is clearly a field number, and there are currently no specimens in the MNHNP from San Lorenzo. However, at about that time, there was a living *M. vanderhaegei* from San Lorenzo at the museum. It seems to have been lost (N. Scott, personal observation).

FMNH 9501 and 9502 from Asunción, originally identified as *M. nasutus*, need to be reexamined and are probably *M. vanderhaegei* (Iverson, *in litt.*).

The indefinite “Alto Paraguay” records (ZMB 26111, 31176) in Fritz and Pauler (1992a) are thought by them to be in the Pantanal along the Río Paraguay. This locality is not mapped by us.

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2980, 3007, 3008). CENTRAL: 3 km ESE Luque (UMMZ 166857). CORDILLERA: Tobatí (MNHNP 11104); 1.6 km S Tobatí (UMMZ 166858). In addition, we examined two carapaces of this species without numbers in the Biological Station of the Reserva Natural del Bosque Mbaracayú (CANINDEYÚ).

***Phrynops geoffroanus* (Schweigger, 1812)**

Hydraspis boulengeri Bohls (1895): CONCEPCIÓN: Aquidabán, Tagatiya und anderen linken nebenflüssen des Paraguaystomes; type locality (see Comments).

Phr[rynops]. g. geoffroana: Müller (1939): CONCEPCIÓN: Río Aquidabán; Río La Paz; Río Tagatiya.

?*Phrynops hilari*: Bertoni (1939): CENTRAL: Asunción.

Phrynops geoffroana: Froes (1957): Paraguay.

Phrynops geoffroanus geoffroanus: Wermuth and Mertens (1961): Paraguay.

Phrynops geoffroanus: Freiberg (1970): Paraguay.

Phrynops geoffroanus: Freiberg (1972): Paraguay.

Phrynops geoffroyanus geoffroyanus: Wermuth and Mertens (1977): Paraguay.

Phrynops geoffroanus: Talbot (1979): Eastern Paraguay.

Phrynops (Phrynops) geoffroanus: Pritchard and Trebbau (1984): CAAGUAZÚ: Río Yuqueri (MCZ 34317). CONCEPCIÓN: Río La Paz (NMW 1836).

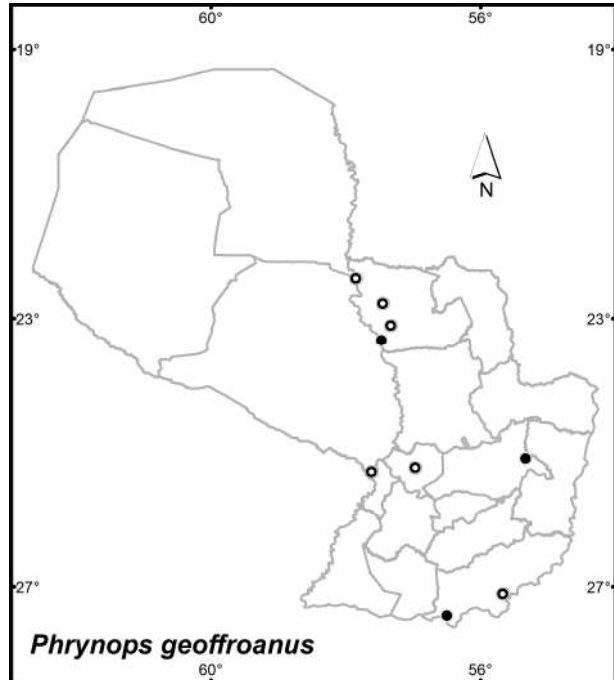
Phrynops geoffroanus: Iverson (1992, *in litt.*): Paraguay: (MCZ 34317). "North Paraguay" (NHMUK 1947.3.5.94, holotype of *Hydraspis boulengeri*; see Comments). CAAGUAZÚ: Río Yuqueri (MCZ 34317). CENTRAL: Asunción (MCZ 159030). CONCEPCIÓN: Río Aquidabán, Río La Paz, [Arroyo] Tagatiya and tributaries to the Río Paraguay. CORDILLERA: Central Cordillera (UMMZ 166857, 166858). ITAPÚA: Arroyo Poromoco, 34.5 km N Encarnación (UMMZ 166696).

Phrynops geoffroanus: Grillitsch et al. (1996): CONCEPCIÓN: Río La Paz (NMW 1836).

Phrynops geoffroanus: McCord et al. (2001): Paraguay.

General Distribution: Northern South America, from southern Colombia and Venezuela and northern Brazil (Orinoco Drainage), south through Bolivia and Brazil (Amazon Drainage) to Paraguay, northern Argentina, and southern Brazil (Iverson, 1992; McCord et al., 2001; Baldo et al., 2007).

Local Distribution: Tributaries of Río Paraguay in Wet Chaco, Central Forest, and Cerrado, and Atlantic Forest tributaries of the Río Paraná.



Conservation Status: Not Evaluated.

Comments: The long-time confusion in the literature among the *Phrynops* species, *hilarii*, *geoffroanus*, and the later described *williamsi* in Paraguay is impossible to completely untangle at this time. *Phrynops hilarii* and *P. geoffroanus* have been recorded multiple times (Schenkel, 1901; Bertoni, 1914, 1939; Müller, 1939; Talbot, 1979; Freiberg, 1981; Iverson, 1992; Pritchard and Trebbau, 1984; McCord et al., 2001), but some of the earlier records were probably *P. williamsi* (Rhodin and Mittermeier, 1983).

We examined the holotype of *Hydraspis boulengeri* (NHMUK 96.5.11.1, RR1947.3.5.94). Siebenrock (1909) identified it as *Hydraspis geoffroyana* (= *Phrynops geoffroanus*), and a note on MCZ stationery accompanying the dried specimen (presumably by Ernest Williams) concurred in the identification, thus eliminating *P. hilarii* from consideration. We can confirm that it is *P. geoffroanus* and not *P. williamsi*. Among other characters, it has deep posterior temporal emarginations in the skull and relatively narrow mandibular triturating surfaces that contrast with the shallow emarginations and broad triturating surfaces in *P. williamsi* (Rhodin and Mittermeier, 1983).

There seem to be various versions of the type locality of *H. boulengeri*. Bohls's (1895:52) description reads "im Aquidabán, Tagatiya und anderen linken nebenflüssen des Paraguaystomes beobachtet habe." [...has been observed in the Aquidabán, Tagatiya, and other left-bank tributaries of the Paraguay drainage].

However, a label with the type specimen in the British Museum, presumably with Bohls's signature, reads:

"Hydraspis Boulengeri
[Zool. Anz. No. 18. 1895]
Original Exemplar.
Río Saladillo; Nebenfl. d. Paraguayfl. 23°S. Br.
Bohls 1893."

This locality is more precise, but within the type locality published in Bohls (1895), and we thus restrict the type locality to Departamento Concepción: Río Saladillo, 23°S.

A purported *Phrynops geoffroanus* × *williamsi* hybrid (Fritz and Baur, 1995; Bakowskie and Bakowskie, 2008) is probably a *P. geoffroanus* × *hilarii* hybrid. See Comments under *P. williamsi*.

Specimens Examined: CAAGUAZÚ: Río Yuqueri (MCZ 34317). CONCEPCIÓN: Río Saladillo (NHMUK 96.5.11.1, RR1947.3.5.94, holotype of *Hydraspis boulengeri*). ITAPÚA: Isla Yacyretá (MNHNP 6611).

***Phrynops hilarii* (Duméril and Bibron, 1835)**

Hydraspis hilarii: Cope (1862d): Paraguay Expedition.

Hydraspis Hilari: Koslowsky (1898b): Paraguay.

Hydraspis hilarii: Siebenrock (1909): Paraguay.

Phrynops hilarii: Freiberg (1938): Paraguay.

Platemys sp.: Krieg (1948): PRESIDENTE HAYES/ALTO PARAGUAY border: Riacho Mosquito.

Phrynops hilarii: Froes (1957): Paraguay.

Phrynops hilarii: Freiberg (1970): Paraguay.

Phrynops hilarii: Freiberg (1972): Paraguay.

Phrynops hilarii: Wermuth and Mertens (1977): Paraguay.

Phrynops hilarii: Talbot (1979): Eastern Paraguay.

Phrynops hilarii: Iverson (1992, *in litt.*): Paraguay Expedition (USNM 7320).

Phrynops hilarii: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

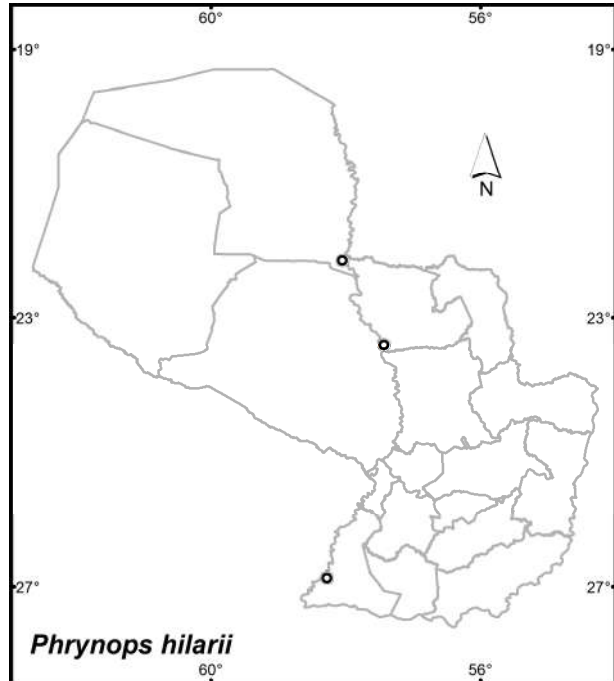
Phrynops hilarii: Cabrera (1998): ÑEEMBUCÚ: Pilar.

Phrynops hilarii: McCord et al. (2001): Paraguay.

Phrynops hilarii: Motte et al. (2004): Paraguay.

Phrynops hilari: Motte et al. (2009): Paraguay.

Phrynops hilarii: Marano (2011): CONCEPCIÓN: Near Concepción.



General Distribution: *P. hilarii* is present in central and northeastern Argentina, central and southern Paraguay, southern Brazil, and Uruguay (Cabrera, 1998; Ippi and Flores, 2001; McCord et al., 2001).

Local Distribution: Only three precise country records, from Wet Chaco. See comments under *P. Geoffroanus*.

Conservation Status: Data Deficient.

Comment: The purported *Phrynops williamsi* × *Geoffroanus* hybrid (Fritz and Baur, 1995) is probably a *P. hilarii* × *Geoffroanus* hybrid. See Comments under *P. williamsi*.

Specimens Examined: "Paraguay (Page)" (USNM 7320).

***Phrynops williamsi* Rhodin and Mittermeier, 1983**

?*Hydraspis geoffroyana*: Schenkel (1901): Paraguay.

Hydraspis hilari: Bertoni (1914): Paraguay.

Hydraspis hilari: Bertoni (1918): ALTO PARANÁ: Puerto Bertoni.

Hydraspis geoffroyana: Bertoni (1925): ALTO PARANÁ: Puerto Bertoni.

Phr[rynops]. g. hilarii: Müller (1939): Paraguay.

Phrynops geoffroyana: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni

Phrynops hilari: Bertoni (1939):
ALTO PARANÁ: Puerto Bertoni.

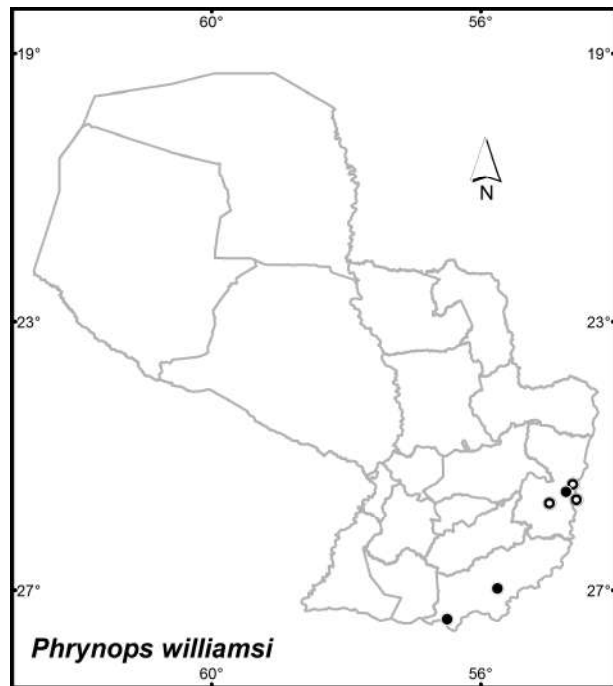
?*Phrynops paraguayensis*
"Vanzolini": Donoso-Barros
(1965): Paraguay (*nomen nudum*).

Phrynops williamsi: Bour and
Pauler (1987): ITAPÚA: Salto
Tembey.

Phrynops williamsi: Rhodin et al.
(1988): ?Southeastern Paraguay.

Phrynops williamsi: Fritz et al.
(1993): ALTO PARANÁ: Río Alto
Paraná (ZMB 37410).

Phrynops geoffroyanus: Duré
Rodas (1995): ALTO PARANÁ:
Vicinity of Itaipú.



Phrynops williamsi: Aquino et al. (1996): See Specimens Examined.

Phrynops williamsi: Cabrera (1998): ALTO PARANÁ: 12 km W Ciudad del Este.
ITAPÚA: Salto Temby.

Phrynops williamsi: McCord et al. (2001): Paraguay.

Phrynops williamsi: Motte et al. (2009): Paraguay.

General Distribution: Southeastern Brazil, northern Uruguay, northeastern Argentina, and southeastern Paraguay (Cabrera, 1998).

Local Distribution: Specific known localities in Paraguay are in the middle and upper Río Paraná basin in Atlantic Forest. The range overlaps with that of the similar *P. geoffroyanus* in eastern Paraguay.

Conservation Status: Vulnerable.

Comments: Although Fritz et al. (1993) state that the first published record for Paraguay ("Erstnachweis für Paraguay") is by Rhodin and Mittermeier (1983), the

latter do not list a Paraguayan specimen. The first citation of the name *P. williamsi* for a Paraguayan specimen is Bour and Pauler (1987).

The natural hybrid described by Fritz and Baur (1995) as *Phrynops williamsi* × *geoffroanus* from the Arroyo Tagatiya-mi, a tributary to the Río Paraguay in Departamento Concepción (MHNG 2273.3), is probably *P. hilairei* × *geoffroanus*, as *P. williamsi* has only been found to the south in the Río Paraná in Paraguay.

Specimens Examined: ALTO PARANÁ: 12 km W Ciudad del Este (MNHNP 3004). ITAPÚA: Arroyo Poromoco 34.5 km N Encarnación (UMMZ 166696); Isla Ybycuí (MNHNP 11194).

Hydromedusinae

Hydromedusa tectifera Cope, 1869

Hydromedusa tectifera:
Koslow (1998b): Paraguay.

Hydromedusa tectifera: Bertoni
(1914): Paraguay.

Hydromedusa maximiliani:
Bertoni (1914): Paraguay.

Hydromedusa tectifera: Freiberg
(1938): Paraguay.

Hydromedusa tectifera: Bertoni
(1939): Chaco.

Hydromedusa maximiliani:
Bertoni (1939): CENTRAL:
Asunción; Chaco.

Hydromedusa tectifera: Wermuth
and Mertens (1961): Paraguay.

Hydromedusa tectifera: Wermuth
and Mertens (1977): Paraguay.

Hydromedusa tectifera: Talbot (1979): Western Paraguay.

Hydromedusa tectifera: Iverson (1992, *in litt.*): Paraguay Expedition (USNM 5410).

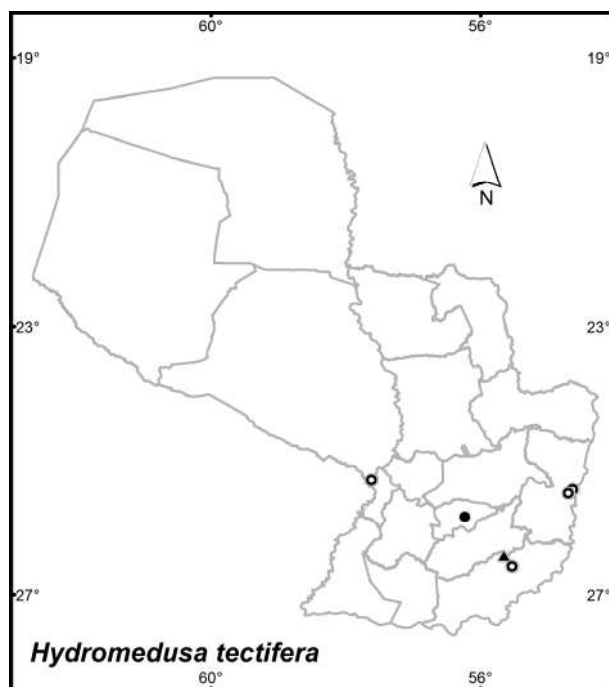
Hydromedusa maximiliani: Duré Rodas (1995): ALTO PARANÁ: Itaipú; Acaray.

Hydromedusa tectifera: Aquino et al. (1996): See Specimens Examined.

Hydromedusa tectifera: Cabrera (1998): ITAPÚA: Pirapó.

Hydromedusa tectifera: Motte et al. (2009): Paraguay.

General Distribution: Paraguay, northern Argentina, southern Brazil, and Uruguay (Carreira et al., 2005).



Local Distribution: Southeastern Paraguay in Atlantic Forest and Central Forest (see Comments).

Conservation Status: Data Deficient.

Comments: We suspect that the Asunción record is an erroneous record or escaped captive. Although Bertoni (1914, 1939) and Talbot (1979) record the species from west of the Río Paraguay, both localities with data are from east of the river.

Specimens Examined: Paraguay (MNHNP 10462). GUAIRÁ: Parque Nacional Ybyturuzú (MNHNP 9884).

Photographic Records: ITAPÚA: Parque Nacional San Rafael (FPREP 6–19).

CROCODYLIA

Eusuchia

Family Alligatoridae

Caiman latirostris (Daudin, 1802)

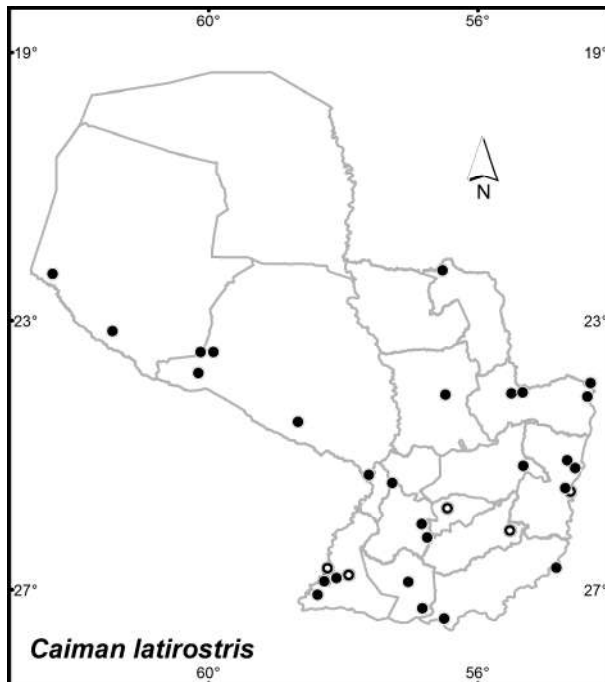
Yacaré roxa: Azara (1802): Paraguay.

Caiman latirostris: Koslowsky (1898b): Paraguay.

Caiman latirostris: Schenkel (1901): GUAIRÁ: Villarrica.

Caiman latirostris: Bertoni (1914): Rios Paraguay and Paraná.

Caiman latirostris: Schmidt (1928: Map localities on the Paraná and lower Pilcomayo rivers).



J[acaretinga] latirostris: Werner (1933): Paraguay.

Yacaretinga latirostris: Bertoni (1939): Rios Paraná and Paraguay.

Caiman latirostris: Talbot (1979): Eastern Paraguay.

Caiman latirostris: Brazaitis and Gudynas (1982): Paraguay.

Caiman latirostris: Scott et al. (1991): See Specimens Examined.

Caiman latirostris: Giraudo and Contreras (1994): ÑEEMBUCÚ: Estancia San Antonio; Estero Mburicá; Puerto Arará'a.

Caiman latirostris: Duré Rodas (1995): ALTO PARANÁ: Ciudad del Este;

Reserva Biológica Itabo; Reserva Biológica Limoy.

Caiman latirostris: Grillitsch et al. (1996): "Tabai, Paraná Drainage" (=CAAZAPÁ: Tavaí, NMW 1997).

Caiman latirostris: Aquino and Scott (1994): See Specimens Examined.

Caiman latirostris: Aquino et al. (1996): See Specimens Examined.

Caiman latirostris: Vanzolini (2000): "Tabai, Parana Stromgebiet, (Paraná watershed) Ost-Paraguay" (=CAAZAPÁ: Tavaí [NMW 1997]).

Caiman latirostris: Motte et al. (2004): Paraguay.

Caiman latirostris: Motte et al. (2009): Paraguay.

General Distribution: The Bolivian Chaco, Paraguay, southeastern Brazil, northern and northeastern Argentina, and Uruguay south to 33°S latitude (Waller, 1987; Cei, 1993; Carreira et al., 2005).

Local Distribution: Mainly associated with Atlantic Forest in the east and Wet Chaco along the Río Pilcomayo, but it is also present in Cerrado and Mesopotamian Grasslands. An introduced population in Alto Paraguay Dry Chaco is sustained by water from agricultural wells (Scott et al., 1991).

Conservation Status: Least Concern.

Comments: Freiberg and Carvalho (1965), in their division of *Caiman latirostris* into two subspecies, cite no localities in Paraguay although they do have Argentine records on the Paraguay border, with *C. l. chacoensis* along the Paraguay and lower Paraná rivers and *C. l. latirostris* on the upper Paraná.

Specimens Examined: Paraguay (MNHNP 3113, 9500, 9501). ALTO PARANÁ: Arroyo Parapacué, 12 km N Limoy (MNHNP 3887); Reserva Biologica Itabó (MAI 113, MNHNP 8086, 10331); Itaipú reserves (MAI 63, 100); Río Acaray, 2.5 km N Route VII (MNHNP 3475). AMAMBAY: 2 km E Laguna Sununú, 15 km S Bella Vista (CITES sight record). BOQUERÓN: Cañada Mil, 14 km NE Pedro P. Peña (MNHNP 10450); Estancia Agropil S.A. (MNHNP 5043); Estancia Tinfunque, 5 km NW Ávalos Sánchez, 8.5 km NW Ávalos Sánchez (CITES 52–62). CAAGUAZÚ: Embalse del Río Yguazú, 6 km W Colonia Caacupé (MNHNP 2931, 3888–3890). CANINDEYÚ: Río Jejuí Guazú, 2 km S Villa Aché (MNHNP 3904); Reserva Natural del Bosque Mbaracayú (MNHNP 3195); Piratíy, 30 km N Puente Kyjhá (MNHNP 9423). CENTRAL: Asunción (NHMUK1930.11.27.254–NHMUK1930.11.27.261). CORDILLERA: Lago Ypacaraí (MNHNP 3898). ITAPÚA: Río Paraná, 11.9 km E Puerto San Rafael (UMMZ 166856); Isla Yacyretá (MNHNP 10448). MISIONES: Cabaña Guaviray, San Ignacio (MNHNP 3906); Estancia Saranday (CITES sight record). ÑEEMBUCÚ: Estero Cambá (MNHNP 3899, 3902); Pilar (MAI 76); Estancia Veintiseis, 8 km NE Tacuara (CITES 148). PARAGUARÍ: César Barrientos (photograph MNHNP); 5 km E Mbuyapey (skin seen). PRESIDENTE HAYES: Estancia La Golondrina (MNHNP 3900, 3903, 3905, 10449); 100 km W Pozo Colorado (CITES carcass observed); Estancia Tinfunque, Ávalos Sánchez (sight records). SAN PEDRO: Route III, 10 km N Río Jejuí through Guazú (CITES 155, 156).

***Caiman yacare* (Daudin, 1802)**

Yacaré negra: Azara (1802): Paraguay.

Crocodylus yacare Daudin (1802a): Paraguay, type locality.

Caiman sclerops: Boulenger (1889): Paraguay.

Caiman sclerops: Boulenger (1894a): CENTRAL: Vicinity of Asunción.

Caiman sclerops: Peracca (1895): CENTRAL: Vicinity of Asunción.

Caiman sclerops: Koslowsky (1898b): Paraguay.

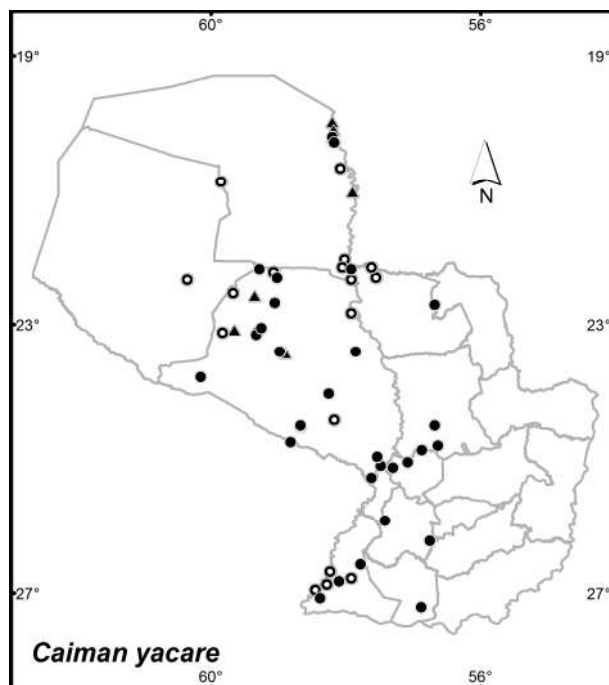
Caiman sclerops: Bertoni (1914):
Rios Paraguay and Paraná.

Caiman sclerops: Krieg (1928):
ALTO PARAGUAY: ~20°40'S,
58°05'W. PRESIDENTE HAYES:
~22°50'S, 57°55'W; ~24°25'S,
58°10'W.

Caiman yacare: Schmidt (1928:
Map localities on the Paraguay
and lower Pilcomayo rivers).

J[acaretinga]. crocodilus jacare:
Werner (1933): Paraguay.

Caiman crocodilus yacare:
Müller and Hellmich (1936):
ALTO PARAGUAY: Puerto Casilda
(=Puerto Casado; ZSM
163/1933); Puerto Sastre
(ZSM 170/1933). ALTO PARAGUAY/PRESIDENTE HAYES border: Railroad Km
40 at Riacho Mosquito (ZSM 162/1933). CONCEPCIÓN: Centurión, 40 km E
Puerto Sastre (ZSM 161/1933); Estrella, 30 km NE Puerto Casado (ZSM
171/1933).



Yacaretinga yacare: Bertoni (1939): Rios Paraná and Paraguay.

Caiman c[rocodylus] paraguayiensis [nomen nudum]: Fuchs (1971): Paraguay;
tributaries of the rios Paraguay and Paraná.

Caiman crocodilus paraquaiensis [sic; nomen nudum]: Fuchs (1974):
PRESIDENTE HAYES: Rios Verde, Monte Lindo, Negro, Confuso, and Pilcomayo.

Caiman crocodilus: Scott and Lovett (1975): See Specimens Examined.

Caiman crocodilus paraguayensis: Wermuth and Mertens (1977): PRESIDENTE
HAYES: Rio Verde, Rio Monte Lindo, Rio Negro, Rio Confuso, Rio Pilcomayo.

Caiman crocodilus paraguayensis: Wermuth and Fuchs (1978): PRESIDENTE
HAYES: Rios Verde, Monte Lindo, Negro, Confuso, and Pilcomayo.

Caiman jacare: Talbot (1979): Eastern and northwestern Paraguay.

Caiman crocodilus yacare: Brazaitis (1982): Paraguay.

Caiman yacare: Medem (1983): Paraguay (See Comments).

Caiman yacare: Giraudo and Contreras (1994): ÑEEMBUCÚ: Caí Mbocá; Estancia San Antonio; Paso Lengá; Puerto Arará'a; Puerto Naranjito.

Caiman yacare: Scott et al. (1991): See Specimens Examined.

Caiman yacare: Aquino and Scott (1994): See Specimens Examined.

Caiman yacare: Aquino et al. (1996): See Specimens Examined.

Caiman yacare: Busack and Pandya (2001): CENTRAL: Asunción (FMNH 9497, 9498). The other Paraguayan specimens, listed as UC-F, are the same as those listed in our Specimens Examined under the museum acronym CITES.

Caiman yacare: Ziegler et al. (2002b): BOQUERÓN: Fortín Toledo.
BOQUERÓN/ALTO PARAGUAY border: Vicinity of 20°46'–57'S, 59°48'–53'W.
PRESIDENTE HAYES: Vicinity of 22°32'S, 59°40'W; 22°13'S, 59°04'W.

Caiman crocodylus yacare: Padial et al. (2003): ALTO PARAGUAY: Bahía Negra.

Caiman yacare: Motte et al. (2004): Paraguay.

Caiman yacare: Weiler Gustafson (2006): PRESIDENTE HAYES: Rancho Quemado (observed).

Caiman crocodilus: Andreone et al. (2007): ?CENTRAL: Asunción (MACUT R89).

Caiman yacare: Motte et al. (2009): Paraguay.

General Distribution: Bolivia, central and southern Brazil, Paraguay, and northern Argentina (Norman, 1994).

Local Distribution: Widely distributed in Dry and Wet Chaco, Pantanal, and Cerrado, but absent from the driest Chaco in northwestern Paraguay and from much of eastern Paraguay except in and near the lower stretches of the large tributaries to the Río Paraguay (Apa, Tebicuary, Paraná).

Conservation Status: Least Concern.

Comments: The original description is the first scientific record of a reptile from Paraguay (Daudin, 1802a).

Medem (1983) lists and maps many specific localities in Paraguay, but he does not give the sources of his information. We know that at least some of his data are untrustworthy, e.g., the "records" for *Melanosuchus niger* along the Paraguay River in Paraguarí and Ñeembucú.

The last revision (Busack and Pandya, 2001) retained *C. yacare* as a species separate from *C. crocodilus*.

Specimens Examined: Paraguay (MNHNP 3016, 9454, 9503, 9769, 9993, 10459, 10460). ALTO PARAGUAY: 2 km N Bahía Negra (CITES 107–118); Estancia Doña

Julia, 1 km SE Puerto Caballo (CITES 98–106, MNHNP 2602, 2984, 3010, 3011, 3105, 3106, 10458); Laguna General Díaz (CITES 126–133, 139, 140); 3 km E General Díaz (CITES 133); 7 km ESE General Díaz (CITES 134–38); Estancia Kuré Cué (MNHNP 10457); Puerto Caballo (MNHNP 2602); Puerto Ramos (CITES 71–97, MNHNP 10461, 10467). AMAMBAY: Arroyo Chacalalina, 4 km above mouth (CITES 142, 143). CENTRAL: Asunción (NHMUK94.3.14.83). CONCEPCIÓN: Puerto San Lázaro (MNHNP 10520). CORDILLERA: 29 km NE Arroyos y Esteros (MNHNP 9508); Compañía Matiauda (MNHNP 8085). MISIONES: Estancia Saranday, 15 km SSW Santiago (CITES 27–34). ÑEEMBUCÚ: Estancia Veintiseis, 8 km (by air) NE Tacuara (CITES 145–47, 149–154); Estancia Purity (MNHNP 10568, 10569); Estero Cambá (MNHNP 3852–873, USNM 34282–88). PARAGUARÍ: 5 km E Mbuyapey (MNHNP 3874–76); Estancia Ypoá, Riacho Sanja Hu (MNHNP 8084). PRESIDENTE HAYES: (MNHNP 8498); Route IX, 45 km N Puente Remanso (MNHNP 3107, 3108); Estancia Juan de Zalazar (CITES 1–26, MNHNP 6522, 8263, 8322–26, 9779, 10469, 10525, 10562, UCS 5734, 7316, 7317); Estancia La Golondrina (CITES 63–68, MNHNP 2983, 3015, 3017–049, 3111, 3115, 3122, 8199); Estancia Palo Santo (MNHNP 10528); Estancia Pozo Azul (MNHNP 3112, 3114); 30 km W Route IX (MNHNP 7929); Hacienda Tinfunqué, Río Montelindo, 18 km S Fortín Ávalos Sánchez (CITES 35–51, MNHNP 255, 277–79); Riacho Negro, 44 km W Concepción (MNHNP 2981, 2982, 3109, 3110); Laguna Fortín Teniente Rojas Silva (MNHNP 10079–082); Rancho Carandá (MNHNP 10393–96); Route IX Km 65 (MNHNP 8486, 8487); Route IX Km 283 (MNHNP 10527); Route IX Km 367 (MNHNP 10392). SAN PEDRO: 14 km SW 25 de Diciembre (MNHNP 9507); Río Manduvirá (MNHNP 3959); Colonia Primavera (NHMUK 1962.4, 1962.5, 1972.353).

Photographic Records: ALTO PARAGUAY: Fortín Patria (FPREP 709, 710); Fuerte Olimpo (FPREP 40, 41, 49); Parque Nacional Río Negro (FPREP 706–708). PRESIDENTE HAYES: Buffalo Bill's (FPREP 42, 43); Laguna Bombacha (FPREP 44); Reserva Privada Campo María (FPREP 48).

***Paleosuchus palpebrosus* (Cuvier, 1807)**

Paleosuchus palpebrosus: Scott et al. (1991): See Specimens Examined.

Paleosuchus palpebrosus: Aquino and Scott (1994): See Specimens Examined.

Paleosuchus palpebrosus: Aquino et al. (1996): See Specimens Examined.

Paleosuchus palpebrosus: Motte et al. (2009): Paraguay.

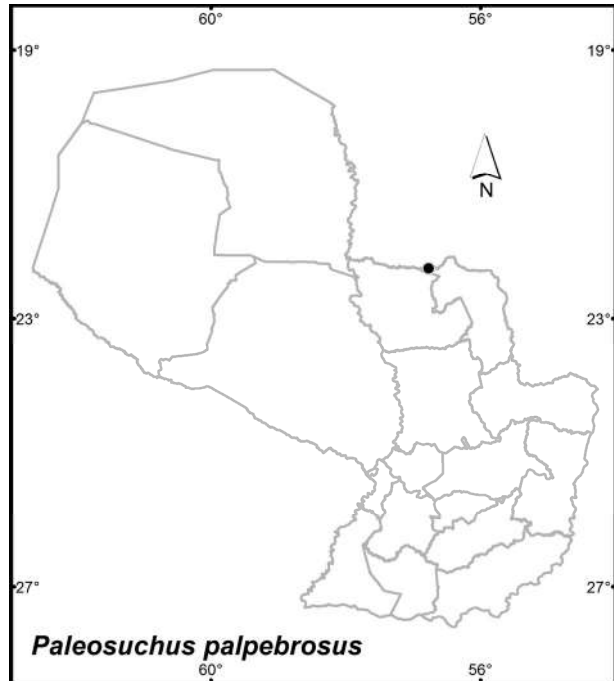
General Distribution: Northern and central Brazil, reaching extreme northern Paraguay, inhabiting the Amazon, Paraná, and Paraguay River Basins (Carvalho, 1955).

Local Distribution: The only record known from Paraguay is in the Río Apa in a transition zone between Pantanal and Cerrado.

Conservation Status: Critically endangered.

Comments: A mounted specimen in the MNHNP is the only record from Paraguay. It was taken in the Río Apa on the Brazilian border.

Specimen Examined: AMAMBAY: Río Apa, at the mouth of Arroyo Pirapuku (Brazil), 30 km SW Bella Vista (MNHNP 11326).



SQUAMATA–SAURIA

Iguania

Family Dactyloidae

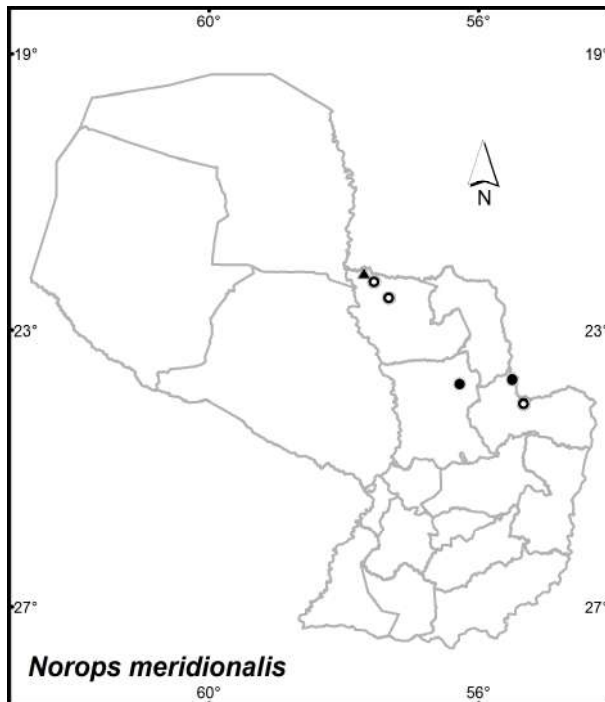
***Norops meridionalis* Boettger, 1885**

Anolis (Draconura) chrysolepis: Boettger (1885a): Paraguay.

Anolis meridionalis: Boettger (1885b): Paraguay (type locality).

Anolis chrysolepis: Bertoni (1914): Paraguay.

Anolis chrysolepis: Bertoni (1939): Paraguay.



Anolis chrysolepis: Gatti (1955): Paraguay.

Anolis chrysolepis meridionalis: Hellmich (1960): CONCEPCIÓN: Apa Bergland, San Luís through Centurión.

Anolis meridionalis: Talbot (1979): eastern Paraguay.

Anolis meridionalis: Langstroth (2006): CANINDEYÚ: Reserva Nacional de Bosque Mbaracayú, Colonia Ybycuí (MNHNP 06608). CONCEPCIÓN: Apa Bergland, San Luís through Centurión [between the Estancias San Luís and Centurión] (ZSM 278/1933).

Anolis meridionalis: Motte et al. (2009): Paraguay.

Anolis meridionalis: Motte and Cacciali (2009): CANINDEYÚ: Colonia Ybycuí (MNHNP 06608, designated neotype).

Anolis meridionalis: D'Angiolella et al. (2011): CANINDEYÚ: Reserva Mbaracayú (LF 166692).

General Distribution: Central Brazil, northern Paraguay, and eastern Bolivia (Langstroth, 2006).

Local Distribution: Cerrado habitat in Concepción, Canindeyú, and San Pedro.

Conservation Status: Data Deficient.

Comments: Langstroth (2006) clarified the taxonomy of these southern populations of the *Anolis chrysolepis* complex and Motte and Cacciali (2009) designated a neotype.

Savage and Guyer (1989) and Nicholson et al. (2012) divided *Anolis* into eight genera, placing this species in *Norops*. Poe (2013) disagreed, claiming that the genus

Anolis should not be partitioned without more information. However, genetic studies consistently support the monophyly of *Norops* (Alföldi et al., 2011; Nicholson et al., 2012, 2014; Poe, 2013).

Specimens Examined: CANINDEYÚ: Colonia Ybycuí (MNHNP 6608, 8186, 8187). SAN PEDRO: Laguna Blanca (CZPLT 181, 194).

Photographic Records: CONCEPCIÓN: Estancia Estrella (FPREP 52). SAN PEDRO: Laguna Blanca (FPREP 455).

Family Iguanidae

***Iguana iguana* (Linnaeus, 1758)**

Iguana (Hypsilophus) tuberculata: Boettger (1885a): Paraguay.

Iguana tuberculata: Bertoni (1914): Paraguay.

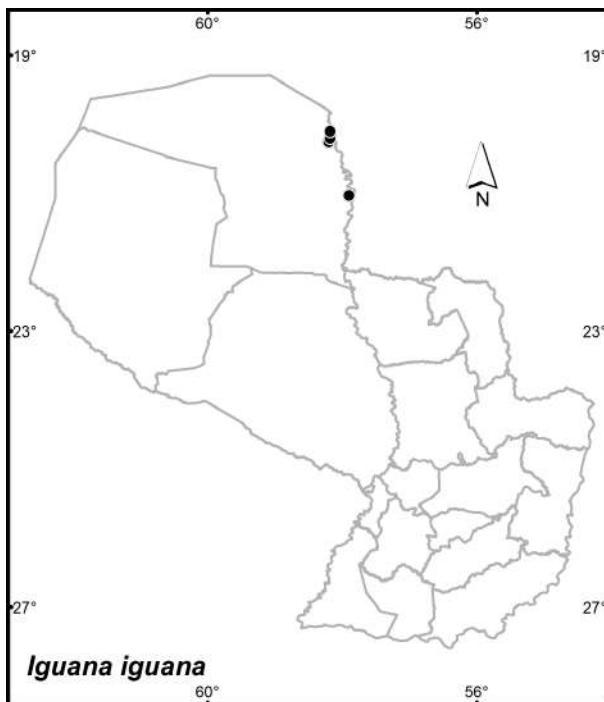
Iguana tuberculata: Bertoni (1939): Paraguay.

Iguana iguana: Talbot (1979): Eastern Paraguay.

Iguana iguana: Aquino et al. (1996): See Specimens Examined.

Iguana iguana: Motte et al. (2004): Paraguay.

Iguana iguana: Motte et al. (2009): Paraguay.



Iguana iguana: Cabral and Weiler (2014). ALTO PARAGUAY: Fuerte Olimpo, Cerro Borbón (CZCEN 501).

General Distribution: From México southward to southern Brazil, islands of the Caribbean, and Paraguay (Peters and Donoso-Barros, 1970).

Local Distribution: Only present in Pantanal adjacent to the Río Paraguay in Alto Paraguay and Concepción.

Conservation Status: Data Deficient.

Comments: Bahía Negra (20°S) is the documented southernmost limit of the most widespread American lizard, but there is a photograph from Fuerte Olimpo (21°S), and M. Motte (pers. comm. 2012) saw the species near Puerto Valle Mí (22°S) in Concepción.

Specimens Examined: ALTO PARAGUAY: Bahía Negra (NHMUK 1910.5.26.2); Estancia Carmelo Peralta (MNHNP 3967); Estancia Doña Julia (MNHNP 3050, 3051, 3963–66, 3968, 3969). CONCEPCIÓN: Valle Mí, Cerro Puku (sight record, M. Motte, pers. comm.).

Photographic Records: ALTO PARAGUAY: Fuerte Olimpo (FPREP 50–52); Tres Gigantes (FREP 711–715).

Family Leiosauridae

***Anisolepis longicauda* (Boulenger, 1891)**

Anisolepis longicauda: Etheridge and Williams (1991): Paraguay (ZMB 10732[2]; NMW 12971); SAN PEDRO: Primavera (NHMUK 1955.1.5.84).

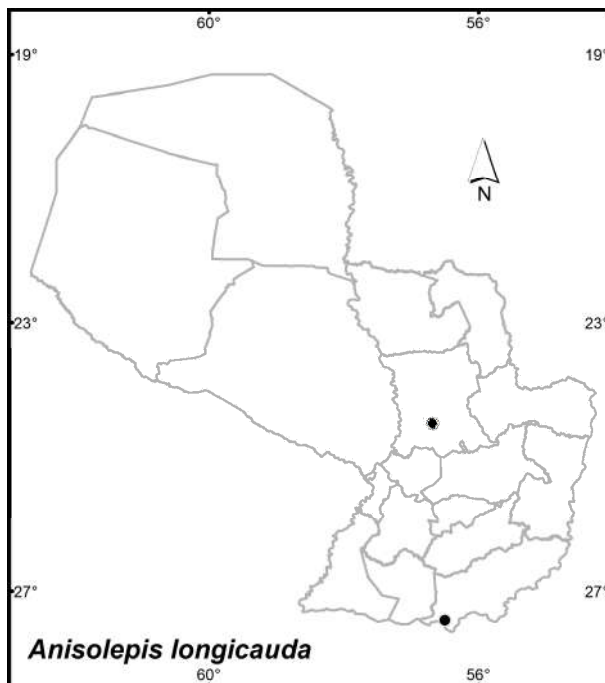
Anisolepis longicauda: Álvarez et al. (1995): ITAPÚA: Isla Yacyretá (UNNEC 878, 889, 906, 915, 918, 922, 1310, 1314).

Anisolepis longicauda: Hernando (1995): ITAPÚA: Yacyretá.

Anisolepis longicauda: Aquino et al. (1996): See Specimens Examined.

Anisolepis longicauda: Frost et al. (2001): Paraguay.

Anisolepis longicauda: Motte et al. (2009): Paraguay.



General Distribution: Central eastern Argentina and central and southern Paraguay along the Río Paraguay and the Río Paraná near their confluence (Etheridge and Williams (1991).

Local Distribution: Populations are known from two widely separated localities in eastern Paraguay: Itapúa on the Río Paraná (Mesopotamian Grasslands) and San Pedro on the Río Paraguay (Wet Chaco).

Conservation Status: Data Deficient.

Comments: Formerly in the genus *Aptycholaemus*, the species was placed in *Anisolepis* by Etheridge and Williams (1991).

Specimens Examined: ITAPÚA: Isla Cururú (MNHNP 8089); Isla Modesto (MNHNP 8132, 8133); Isla Yacyretá (MNHNP 4986–88, 4992, 4996, 4997, 6709, 10623, UNNEC 00891). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.5.84).

Family Liolaemidae

Liolaemus azarai Ávila, 2003

?*Liolaemus wiegmani*: Schouten (1929): CENTRAL: Asunción.

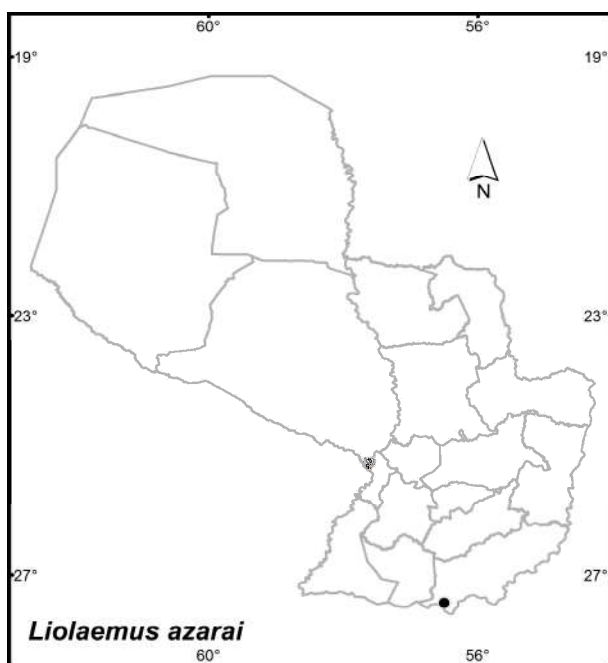
?*Liolaemus wiegmani*: Bertoni (1939): CENTRAL: Asunción.

Liolaemus wiegmanni: Álvarez et al. (1995): ITAPÚA: Isla Yacyretá, Cerro Ybycuí (UNNEC 890).

Liolaemus wiegmanni: Álvarez and Lions (1996): ITAPÚA: Isla Yacyretá, Cerro Ybycuí (UNNEC 890).

Liolaemus azarai Ávila (2003): ITAPÚA: Isla Yacyretá (type locality; FML 8454, holotype).

Liolaemus azarai: Motte et al. (2009): Paraguay.



General Distribution: Southern border of Paraguay and Provincia de Corrientes in Argentina (Ávila, 2003).

Local Distribution: In Paraguay, this species is known only from Isla Yacyretá in the dammed-up Río Paraná in sand dunes among Mesopotamian Grasslands.

Conservation Status: Vulnerable.

Comments: Ávila (2003) separated this species from *L. wiegmanni*. The Asunción record of Schouten (1929), and copied by Bertoni (1939), may pertain to *L. chacoensis* or *Tropidurus*. There are no recent *Liolaemus* records from anywhere near Asunción.

Specimens Examined: ITAPÚA: Isla Yacyretá (MNHNP 8400, 9201, 9211, 9212).

***Liolaemus chacoensis* Shreve, 1948**

Liolaemus wiegemani [sic]: Bertoni (1914): Chaco.

Liolaemus wiegmanni: Burt and Burt (1933): Paraguay.

Liolaemus wiegemani [sic]: Bertoni (1939): Chaco.

Liolaemus chacoensis Shreve (1948): BOQUERÓN: Fortín Guachalla (=Pedro P. Peña) (type locality; MCZ 49519, holotype, 49520–24 paratypes).

Liolaemus chacoensis: Talbot (1979): western Paraguay.

Liolaemus chacoensis: Cei (1980): BOQUERÓN: Fortín Guachalla.

Liolaemus chacoensis: Aquino et al. (1996): See Specimens Examined.

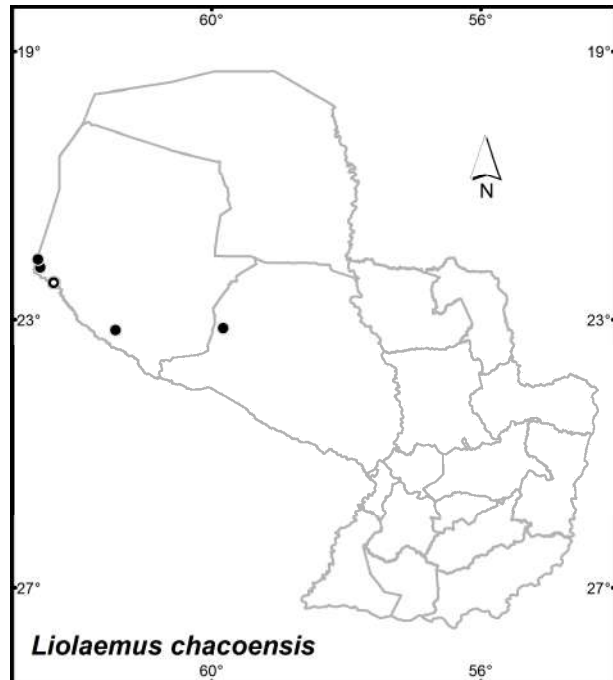
Liolaemus chacoensis: Motte et al. (2009): Paraguay.

General Distribution: From north through central Argentina to northeastern Paraguay (Cei, 1993).

Local Distribution: Recorded only from Dry Chaco in Boquerón and Presidente Hayes.

Conservation Status: Data Deficient.

Specimens Examined: BOQUERÓN: 8 km NW Pozo Hondo (USNM 342018); 28 km NW Pozo Hondo (MNHNP 8460); Crossroads of Petroleros through Dos Palmas (MNHNP 7991, 7992); Estancia La Gama (MNHNP 7979, 8065, 8074). PRESIDENTE HAYES: Rancho Quemado (MNHNP 8396, 8457, 8458, USNM 342016, 342017).



Family Polychrotidae

***Polychrus acutirostris* Spix, 1825**

Camaleón segundo: Azara (1802): Paraguay.

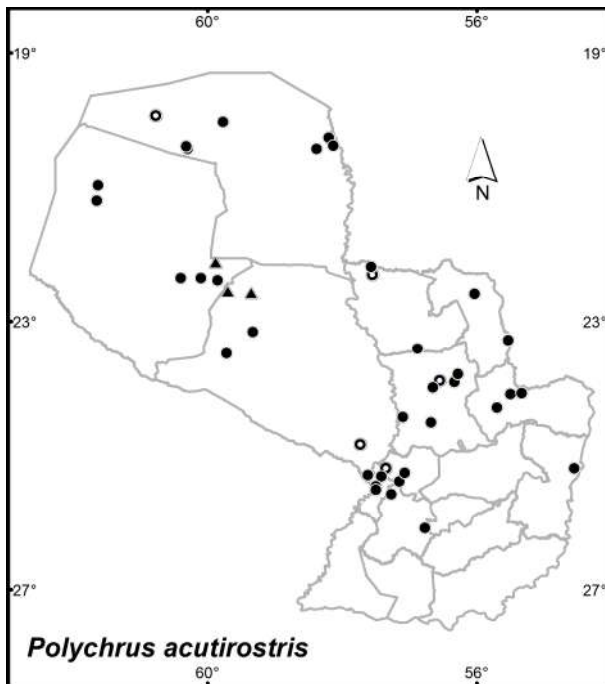
Polychrus anomalus: Cope (1862d): Paraguay Expedition.

Polychrus anomalus: Boettger (1885a): Paraguay.

Polychrus acutirostris: Boulenger (1894a): CENTRAL: Asunción.

Polychrus acutirostris: Boulenger (1887): Paraguay.

Polychrus acutirostris: Peracca (1895): CENTRAL: Asunción. CONCEPCIÓN: Río Apa.



Polychrus acutirostris: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Polychrus acutirostris: Koslowsky (1898b): Paraguay.

Polychrus acutirostris: Schenkel (1901): CORDILLERA: Bemalcue (=Nueva Colombia). PRESIDENTE HAYES: Mte. Sociedad (=Cerrito; Cacciali and Wüest, 2009).

Polychrus acutirostris: Bertoni (1914): Paraguay

Polychrus anomalus: Bertoni (1914): Paraguay.

Polychrus marmoratus acutirostris: Burt and Burt (1933): Paraguay.

Polychrus acutirostris: Bertoni (1939): Paraguay

Polychrus anomalus: Bertoni (1939): Paraguay.

Polychrus acutirostris: Hellmich (1960): CONCEPCIÓN: Centurión (ZSM 186/1933). SAN PEDRO: Nueva Germania (ZSM 187/1933).

Polychrus acutirostris: Talbot (1979): eastern and western Paraguay.

Polychrus acutirostris: Elter (1981): CENTRAL: Asunción (MZUT R2494). CONCEPCIÓN: Río Apa (MZUT R2484).

Polychrus acutirostris: Aquino-Shuster et al. (1991): See Specimens Examined.

Polychrus acutirostris: Aquino et al. (1996): See Specimens Examined.

Polychrus acutirostris: Motte et al. (2004): Paraguay.

Polychrus acutirostris: Motte et al. (2009): Paraguay.

Polychrus acutirostris: Cabral and Weiler (2014): ALTO PARAGUAY: Lagerenza'i (CZCEN 749). CENTRAL: Bahía de Asunción (CZCEN 639).

General Distribution: This lizard is distributed in central and southwestern Brazil, eastern Bolivia, Paraguay, and northern Argentina (Peters and Donoso-Barros, 1970; Norman, 1994; Dirksen and De la Riva, 1999).

Local Distribution: The species has a wide distribution, being present in all ecoregions and almost all departamentos north of about 26°S.

Conservation Status: Least Concern.

Comments: The species is frequently encountered.

Specimens Examined: Paraguay (MNHN 1905/45, MNHNP 2825, 10379). ALTO PARAGUAY: Bahía Negra (MNHNP 10184); Colonia Potrerito (MNHNP 9283, 9284); Misión Nueva Tribu (LACM 126310); Agua Dulce (MNHNP 2826, 4299); Cerro León (MNHNP 8408); Puerto 14 de Mayo (NHMUK 98.6.3.1). ALTO PARANÁ: Itaipú reserves (MAI 128). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2831). BOQUERÓN: 25 km N Parque Nacional Teniente Enciso (MNHNP 3809); Filadelfia (KU 73437, MNHNP 2824); Laguna Negra (MNHNP 8382); Loma Plata (KU 73436); Parque Nacional Teniente Enciso (MNHNP 2834, 3808). CANINDEYÚ: 25 km N Curuguaty (MNHNP 2829); 6 km E Ygatimí (MNHNP 9285); Reserva Natural del Bosque Mbaracayú (MNHNP 9177). CENTRAL: Areguá (MNHNP 2833); Asunción (NHMUK 94.1.14.1-3, 1930.11.27.160-62, 1930.11.27.299; AMNH 75303, 75304, UMMZ 153082, 153083); Colonia Thompson (EBD 30422, 30423; TCWC 54940); San Lorenzo (MNHNP 2827, 2828, 2832); Villeta (MNHNP 2830). CONCEPCIÓN: Horqueta (MNHNP 3804-06); Río Apa (NHMUK 94.12.17.8). CORDILLERA: Caacupé (NHMUK 1956.1.16.18, 1956.1.16.19); 1.6 km S Tobatí (UMMZ 153081). PARAGUARÍ: Cerro Yaguarón (EBD 23113); Parque Nacional Ybycuí (MNHNP 6748; UMMZ 166868; USNM 34025-28). PRESIDENTE HAYES: 49.8 km NW Pozo Colorado (MNHNP 10102); 80 km W Pozo Colorado (UCS 8024). SAN PEDRO: Carumbé (FML 433. 434); Colonia Primavera (AMNH 82299; NHMUK 1954.1.3.55, 1956.1.16.18-23, 1960.1.2.61, 1962.29-35); Itacurubí del Rosario (KU 73438); Laguna Blanca (CZPLT 22, 89, 91, 176); Lima (MNHNP 2823); 2 km NW Lima (USNM 342024); Villa del Rosario (MNHNP 2822); 34 km E Route III on road to Capitán Bado (MNHNP 6610).

Photographic Records: BOQUERÓN: 30 km N Loma Plata (FREP 716). PRESIDENTE HAYES: Laguna Capitán (FPREP 54, 55); Reserva Privada Campo María (FPREP 56 through 59). SAN PEDRO: Laguna Blanca (FPREP 60).

Family Tropiduridae

***Stenocercus caducus* (Cope, 1862)**

Lagartija fea: Azara (1802): Paraguay.

Scartiscus caducus: Cope (1862c): Paraguay Expedition (USNM 5852, holotype).

Scartiscus caducus: Boulenger (1885): Paraguay.

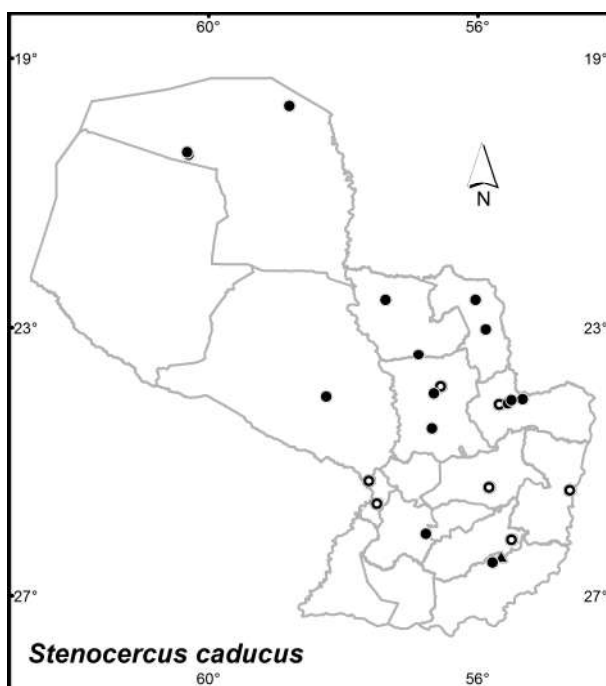
Leiocephalus caducus: Boulenger (1894a): CENTRAL: Near Asunción.

Scartiscus liocephaloides Werner (1910): Paraguay.

Leiocephalus caducus: Burt and Burt (1930): Paraguayan Chaco (USNM 69874).

Leiocephalus caducus: Burt and Burt (1933): Paraguay.

Leiocephalus caducus: Hellmich (1960): SAN PEDRO: Nueva Germania (ZSM 247/1933).



Leiocephalus caducus: Cochran (1961): Paraguay, T. J. Page (USNM 5852, holotype of *Scartiscus caducus*).

Ophryoessoides caducus: Talbot (1979): Eastern Paraguay.

Ohyoessoides [sic] *caducus*: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Stenocercus caducus: Aquino et al. (1996): See Specimens Examined.

Stenocercus caducus: Cadle (2001): CAAGUAZÚ: Pastoreo (MCZ 34214, 34215). CENTRAL: Asunción (FMNH 9496); Colonia Nueva Italia (FMNH 42281).

Stenocercus caducus: Motte et al. (2004): Paraguay.

Stenocercus caducus: Torres-Carvajal (2007): Paraguay: (USNM 5852, holotype, 69874); SDSU 1689, 1690). ALTO PARAGUAY: Cerro León (USNM 347911). AMAMBAY: Estancia Paicuará (USNM 342020); Parque Nacional Cerro Corá (USNM 342019). CAAGUAZÚ: Pastoreo (MCZ 34214, 3415). CANINDEYÚ: Colonia Chupa Pou (AMNH 143306–311). CENTRAL: Asunción (NHMUK 94.3.14.4; (FMNH 94960); Colonia Nueva Italia (FMNH 42281). ITAPÚA: Parabel (KU 290963). PARAGUARÍ: Parque Nacional Ybycuí (USNM 342021–23). SAN PEDRO: Primavera (NHMUK 1960.1.2.62).

Stenocercus caducus: Cacciali and Rumbo (2008): ITAPÚA: Kangüery.

Stenocercus caducus: Motte et al. (2009): Paraguay.

Stenocercus caducus: Núñez (2012): ITAPÚA: Kangüery.

Stenocercus caducus: Cabral and Weiler (2014): ALTO PARANÁ: Reserva Limoy (CZCEN 336, 337, 415). CANINDEYÚ: Mbaracayú (CZCEN 313 through 16, 408). ITAPÚA: San Rafael (CZCEN 405, 406).

General Distribution: Eastern Andean foothills of Bolivia and extreme northern Argentina, Chaco of Bolivia, Mato Grosso, Brazil, and Paraguay (Cei, 1993; Torres-Carvajal, 2007).

Local Distribution: Widespread in Paraguay, the species seems to be only absent from the driest Dry Chaco and the Pantanal.

Conservation Status: Least Concern.

Comments: Placed in several genera over 130 years, the species was most recently transferred to the genus *Stenocercus* by Frost (1992).

Specimens Examined: Paraguay: (USNM 5852, holotype); “Chaco” (USNM 69874). ALTO PARAGUAY: Estancia Chovoreca (MNHNP 10203); Nueva Tribu (MNHNP 2848, USNM 347911); Cerro León (MNHNP 9140). AMAMBAY: Estancia Paicuará (USNM 342020); Parque Nacional Cerro Corá (MNHNP 4350, USNM 342019). CAAGUAZÚ: Colonia 1° de Mayo (MNHNP 2846, 2849). CANINDEYÚ: Estancia Rama III (MNHNP 10884); Reserva Natural del Bosque Mbaracayú (MNHNP 3178, 3194, 3982, 7734); Villa Aché (MNHNP 2842, 2843). CONCEPCIÓN: Horqueta (MNHNP 2840); Parque Nacional Serranía San Luís (MNHNP 6383); Reserva Indígena, Arroyo Bandera (MNHNP 6012). ITAPÚA: Kangüery (sight record, Cacciali and Rumbo, 2008). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 2841, 2844, 2845, 2847, 3555, 4292; UMMZ 167136, 167137, USNM 342021–23). PRESIDENTE HAYES: Estancia Pozo Azul (MNHNP 2696). SAN PEDRO: Carumbé (FML 435); Colonia Primavera (AMNH 82300, NHMUK 1954.1.5.25, 1955.1.5.82, 1960.1.2.62, 1962.28); Laguna Blanca (CZPLT 73, 74, 110, 164, 199, 200, 209, 404).

Photographic Records: CANINDEYÚ: Mbaracayú Forest (FPREP 62, 65). ITAPÚA: Nueva Gambach (FPREP 61, 63, 64).

***Tropidurus etheridgei* Cei, 1982**

Tropidurus hispidus: Koslowsky (1898b): Paraguay.

Tropidurus hispidus: Bertoni (1914): Paraguay.

Tropidurus hispidus: Bertoni (1939): Paraguay.

Tropidurus torquatus hispidus: Hellmich (1960): CONCEPCIÓN: Centurión (ZSM 242/1933).

Tropidurus hispidus: Talbot (1978): BOQUERÓN: 8.6 km E Filadelfia, 28.8 km W Madrejón.

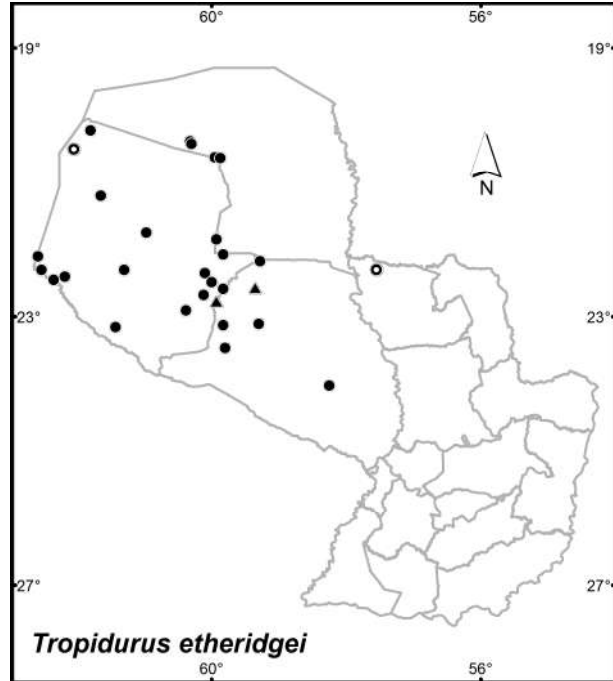
Tropidurus hispidus: Talbot (1979): Western Paraguay.

Tropidurus etheridgei: Cei (1982): Paraguayan Chaco.

Tropidurus etheridgei: Aquino et al. (1996): See Specimens Examined.

Tropidurus etheridgei: Motte et al. (2009): Paraguay.

Tropidurus etheridgei: Cabral and Weiler (2014): ALTO PARAGUAY: Madrejón (CZCEN 743). BOQUERÓN: Estancia Mascamar, Médanos del Chaco (CZCEN 744).



General Distribution: Dry Chaco, Cerrado, and Pantanal in Argentina, Bolivia, Brazil, and Paraguay (Cei, 1982; Rodrigues, 1987).

Local Distribution: This terrestrial species is widely distributed in the Wet and Dry Chaco sympatric with the arboricolous *T. spinulosus*.

Specimens Examined: ALTO PARAGUAY: Cerro León (UMMZ 149177, 149178, USNM 347910); Fortín Madrejón (LACM 126311, MNHNP 2719); Misión Nueva Tribu (LACM 126312, 126317, 126319, 126320, MNHNP 4297); 2 km N Madrejón (MNHNP 2699); 10 km W Madrejón (MNHNP 2700); 1 km NE Madrejón (MNHNP 2715 through 17). BOQUERÓN: 8.6 km E Filadelfia (LACM 126313, 126314); Campo Loro (MNHNP 8847, 8848); Cañada 1000 (MNHNP 4017, 8001); Comunidad Ayoreo Jesudi (MNHNP 11111); Copagro (UMMZ 149190, 149191); Estación Experimental Chaco Central (MNHNP 9846); Estancia Agropil S.A. (MNHNP 8066); Estancia Mbutú Retã (MNHNP 3376, 3378, 4152, 4154, 9686); 28.8 km W Madrejón (UMMZ 143418); Filadelfia (MNHNP 2722, 2723, 4348, 4354, 8514, 9697–9699, 9766, USNM 342030, 342038, 342039); 60 km S and 30 km W Filadelfia (USNM 342034, 342035); Neuland (MNHNP 4016, 7838, 8046); Parque Cué (MNHNP 9178); Parque Nacional Teniente Enciso (MNHNP 2725, 8462, 9134); Pedro P. Peña (MNHNP

8041); Pozo Hondo (MNHNP 8504, 8512); 8 km NW Pozo Hondo (USNM 342031–33); 34 km NW Pozo Hondo (MNHNP 8390); Route IX Km 454 (MNHNP 9163); 1 km SW Route IX Km 620 (UMMZ 153079); Teniente Ochoa (USNM 342037).

PRESIDENTE HAYES: Estancia Juan de Zalazar (USNM 342029); Estancia Palo Santo (MNHNP 4151, 4153, 4207, 4218–220); Estancia Pozo Azul (MNHNP 2697, 2698, 2720); Estancia Sammaklay (MNHNP 9218); Rancho Quemado (MNHNP 8389, USNM 342036).

Photographic Records: ALTO PARAGUAY: Cerro León (FPREP 446). BOQUERÓN: Cruce de los Pioneros (FPREP 67–70); Fortín Boquerón (FPREP 477, 478); Route IX Km 419 (UMMZ 149179).

***Tropidurus guarani* Álvarez, Cei and Scolaro, 1994**

Tropidurus spinulosus guarani Álvarez et al. (1994): CORDILLERA: Piríbebuy (UNNEC 603, 604, 606); PARAGUARÍ: Cerro Hú (type locality; FML 02752, holotype; MZUT R120 [1,2], USNM 319758, UNNEC 358, 596, 598, 599, 601, 602); Choololó (USNM 319759, UNNEC 320–326, 357, 370, 395, 596, 598, 600).

Tropidurus sp. [*partim*]: Aquino et al. (1996): See Specimens Examined.

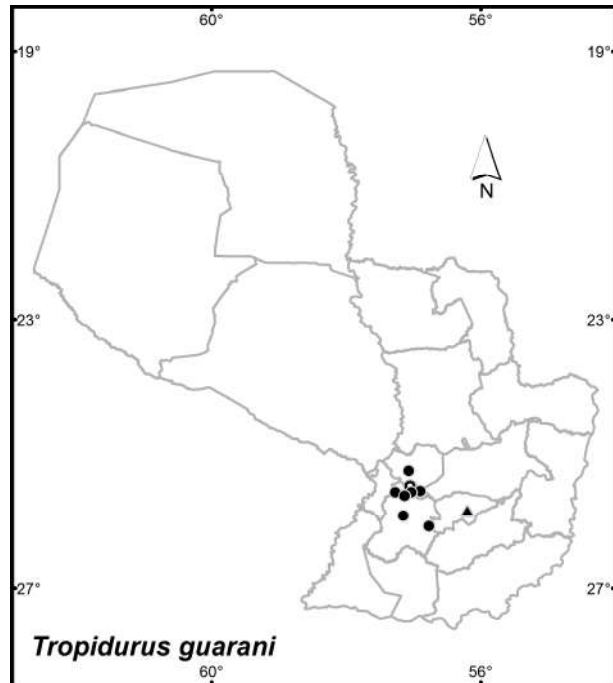
Tropidurus guarani: Harvey and Gutberlet (1998): Paraguay.

Tropidurus guarani [*partim*]: Frost et al. (1998): CORDILLERA: Saltos de Pir-reta (=Pira-retá; USNM 342058–062); PARAGUARÍ: Cerro Hú (USNM 319758).

Tropidurus guarani: Motte et al. (2004): Paraguay.

Tropidurus guarani: Motte et al. (2009): Paraguay.

Tropidurus guarani: Cabral and Weiler (2014): CORDILLERA: Piríbebuy (CZCEN 516).



General Distribution:

A Paraguayan endemic.

Local Distribution: Known from isolated rocky canyons in Cordillera, Guirá, and Paraguarí in Central Forest.

Conservation Status: Least Concern.

Comments: The Amambay and Concepción specimens included in *T. guarani* by Frost et al. (1998) are clearly, by their own evidence, a distinct species. In a revision of *Tropidurus* of the *spinulosus* group living east of the Río Paraguay, Carvalho

(2016) described one population of *T. guarani* from Parque Nacional Ybycuí, Departamento Paraguari as a new species, *T. teyumirim*. The genus *Tropidurus* is also discussed in Carvalho (2013). See further Comments under *Tropidurus* sp. 1.

Specimens Examined: CORDILLERA: Saltos de Pira-retá (MNHNP 4357, 4360, 8502, 8503, USNM 342058–062, UMMZ 143416); 1.6 km S Tobatí (UMMZ 167138). PARAGUARÍ: Cerro Acahay (MNHNP 6664, 7839, 7840); Cerro Hú (USNM 319758 paratype); Choló (USNM 319759 paratype); Parque Nacional Ybycuí (MNHNP 4361, 4383, 4386, 4388, 6657–663, 6665–672, 6680–84, 7433, 7446–454, 7843, 7845–878, 7880–894, 7907–911, 7914–927, 8403–406, 8505–511, 8858–862, USNM 342063–2089).

Photographic Records: GUAIRÁ: Cerro Tres Kandú (FREP 721–725).

***Tropidurus spinulosus* (Cope, 1862)**

Microlophus spinulosus Cope (1862d): Paraguay Expedition (type locality; USNM 5956, holotype).

Tropidurus spinulosus: Boulenger (1885): Paraguay.

Tropidurus (Microlophus) spinulosus: Boettger (1885a): Paraguay.

Tropidurus spinulosus:

Boulenger (1894a): CENTRAL:
Near Asunción.

Tropidurus spinulosus: Boulenger
(1898a): ALTO PARAGUAY:
Puerto 14 de Mayo.

Tropidurus spinulosus: Koslowsky
(1898b): Paraguay.

Tropidurus spinulosus: Bertoni
(1914): Paraguay.

Tropidurus spinulosus: Burt and
Burt (1933): Paraguay.

Tropidurus spinulosus: Bertoni
(1939): Chaco.

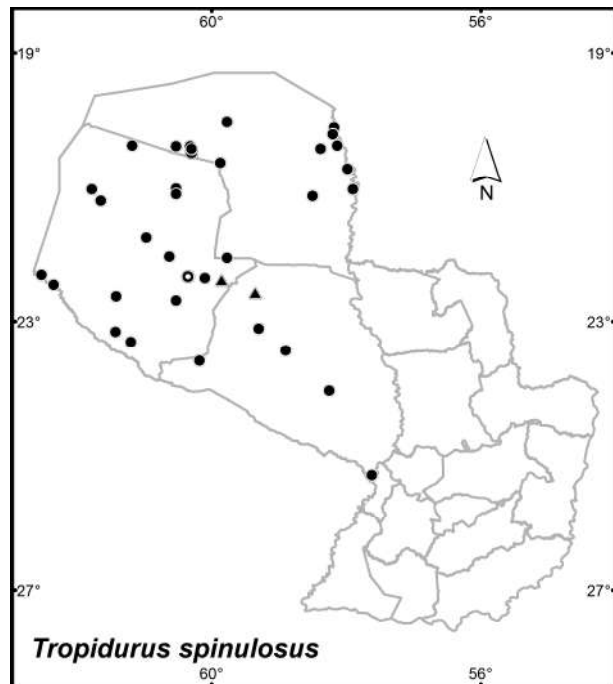
Tropidurus spinulosus: Cochran
(1961): Paraguay, T. J. Page
(USNM 5956, holotype of
Microlophus spinulosus).

Tropidurus spinulosus: Scott and Lovett (1975): See Specimens Examined.

Tropidurus spinulosus: Talbot (1979): Western Paraguay.

Tropidurus spinulosus: Aquino-Shuster et al. (1991). See Specimens Examined.

Tropidurus spinulosus: Aquino et al. (1996): See Specimens Examined.



Tropidurus spinulosus: Frost et al. (1998): ALTO PARAGUAY: Estancia General Díaz (MNHNP 6001, 6002); Agua Dulce (USNM 342044); Madrejón (USNM 342045). BOQUERÓN: Filadelfia (USNM 342041); 6 km W Filadelfia (USNM 342040); 37.6 km S Platanillo (USNM 342042); 60 km S, 30 km W Filadelfia (USNM 342043); Parque Nacional Teniente Enciso (USNM 342046–49). PRESIDENTE HAYES: Estancia Campo Verde (MNHNP Field 166716, 166718, 166787); Estancia Pozo Azul (USNM 342050); Estancia La Victoria (MNHNP 6003–08, USNM 342050–57); Estancia Juan de Zalazar (=Fortín Zalazar), Embarcardero (MNHNP Field 1320).

Tropidurus spinulosus: Ziegler et al. (2002b): BOQUERÓN: Vicinity of 20°29'S, 60°18'W; Fortín Toledo (MTKD 43496–99).

Tropidurus spinulosus: Motte et al. (2009): Paraguay.

General Distribution: Northern Argentina and the Chacoan region of Paraguay and Bolivia (Ceí, 1993; Norman, 1994; Dirksen and De la Riva, 1999).

Local Distribution: Wet and Dry Chaco west of and immediately east of the Río Paraguay.

Conservation Status: Least Concern.

Comments: We apply this name to the large arboreal members of the *T. spinulosus* group west of and immediately east of the Río Paraguay. See Comments under *Tropidurus* sp 1.

Specimens Examined: Paraguay Expedition (USNM 5956, holotype). Paraguay (NHMUK 85.9.1.12, 85.9.1.13; MNHNP 4002, 4003). Paraguayan Chaco (NHMUK 98.7.4.1). ALTO PARAGUAY: Agua Dulce (EBD 23144, 23145, MNHNP 2690, 4351, 4356, 7904, 7905, 8604, 8605, 9793–95, USNM 342044); Cerro León (MNHNP 4359, 4530); Colonia Potrerito (MNHNP 3357, 3358); Cruce 4 de Mayo (MNHNP 7151); 68 km W Cruce 4 de Mayo (MNHNP 7265); Estancia Carmelo Peralta (MNHNP 4287); Estancia General Díaz (MNHNP 8470–72); Fortín Madrejón (LACM 126315, 126316, MNHNP 2693, 6832, USNM 342045); Fuerte Olimpo (MNHNP 7831); Misión Nueva Tribu (LACM 126318, 126321, MNHNP 7902, UMMZ 143417); Puerto 14 de Mayo (NHMUK 98.6.3.2); Puerto Caballo (MNHNP 7879); Puerto Leda (NHMUK 1958.1.2.4, 1958.1.2.5). BOQUERÓN: Comunidad Ayoreo Tunucojai (MNHNP 10533); Estancia Agropil S. A. (MNHNP 8076); Estancia Heisecke (MNHNP 7903); Estancia Jabalí (MNHNP 4034, 7833–37, 8002, 8045); Estancia La Gama (MNHNP 7829, 7830); Estancia Las Palmas (UMMZ 147657, 149193); Filadelfia (MNHNP 10069, USNM 342041); 6 km W Filadelfia (USNM 342040); Fortín Américo Picco (EBD 24108, 24110); Laguna General Bogado (EBD 24111); Mariscal Estigarribia (EBD 24109); Parque Nacional Teniente Enciso (MNHNP 2695, 4304, 4352, 4353, 4362, 7895, 7898, 7899, 7901, 8407, USNM 342046–49); Pedro P. Peña (MNHNP 4031, 4038); Platanillos (USNM 342042); Pozo Hondo (MNHNP 7906); Route IX Km 695 (MNHNP 2692, 2694, 7900); Teniente Ochoa (UCS 5725). CENTRAL: Near Asunción (NHMUK 94.3.14). PRESIDENTE HAYES: Estancia Josefina (MNHNP 7841, 7842, 7844, 8111, 8125); Estancia La Victoria (MNHNP 4355, 4358, 4363, USNM 342051–057); Estancia Juan de Zalazar (UCS 7000–03); 8 km NE Juan de Zalazar (UMMZ 167139); Estancia Pozo Azul (MNHNP 4216, 7896, 7897, USNM 342050); Río Verde (MNHNP 2691).

Photographic Records: ALTO PARAGUAY: Fuerte Olimpo (FPREP 79); Madrejón (FPREP 444, 445, 482–84). BOQUERÓN: Loma Plata (FPREP 78). PRESIDENTE HAYES: (FPREP 80); Reserva Privada Campo María (FPREP 66, 81, 82).

***Tropidurus torquatus* (Wied-Neuwied, 1820)**

Taraguira torquata: Cope (1862d): Paraguay Expedition (USNM 5897).

Tropidurus torquatus: Koslowsky (1898b): Paraguay.

Tropidurus torquatus: Bertoni (1914): Paraguay.

Tropidurus torquatus torquatus: Burt and Burt (1933): Paraguay.

Tropidurus torquatus: Bertoni (1939): Paraguay.

Tropidurus torquatus: Schouten (1929): ALTO PARANÁ.

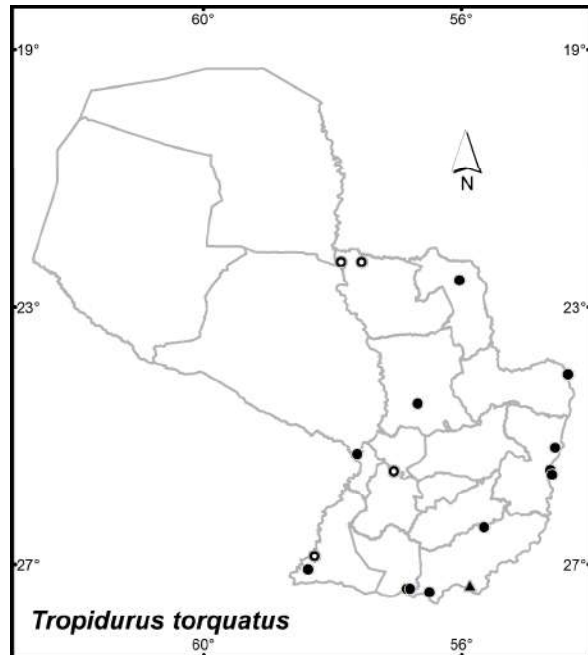
Tropidurus torquatus hispidus: Hellmich (1960): CONCEPCIÓN: Centurión (ZSM 242/1933).

Tropidurus torquatus: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar

Tropidurus torquatus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Tropidurus catalanensis: Álvarez et al. (1995): ITAPÚA: Isla Yacyretá (UNNEC 873, 874); Isla Talavera (UNNEC 868–870).

c.f. T[ropidurus]. torquatus: Aquino et al. (1996): See Specimens Examined.



Tropidurus torquatus: Motte et al. (2004): Paraguay.

Tropidurus torquatus: Motte et al. (2009): Paraguay.

Tropidurus catalanensis: Kunz and Borges-Martins (2013): ÑEEMBUCÚ: Pilar (MHNCI 6161).

Tropidurus torquatus: Cabral and Weiler (2014): CONCEPCIÓN: Caverna Risso (CZCEN 711). CORDILLERA: 10 km S of Piribebuy (CZCEN 207).

General Distribution: Central and southern Brazil, Uruguay, Paraguay, and Corrientes in Argentina (Carreira et al., 2005).

Local Distribution: Central, eastern, and southern Paraguay in Atlantic Forest, Cerrado, Central Forest, and Mesopotamian Grasslands ecoregions.

Conservation Status: Least Concern.

Comments: The subspecies in Paraguay is *T. t. catalanensis* Gudynas and Skuk (Cei, 1993). Some Argentine authors (Álvarez et al., 1995; Chebez, 1996) have elevated the subspecies to specific rank without comment, but Cei (pers. comm. in Chebez, 1996), along with a taxonomic revision of the group (Rodrigues, 1987) and a field guide to the reptiles of Provincia Misiones (López and Prado, 2012), maintained the subspecies rank for this taxon.

Recently though, Kunz and Borges-Martins (2013) “revalidated” *T. catalanensis* as a distinct species. However, the only diagnostic characters that separated it from the rest of the *T. torquatus* complex are subtle differences in throat and head coloration. Given the wide variation in ventral and head coloration in other *Tropidurus* species, especially in adult males, we will retain it as a subspecies until more samples are studied from critical areas between the forms in the states of Mato Grosso do Sul, São Paulo, and Paraná.

Specimens Examined: ALTO PARANÁ: 7 km N Ciudad del Este (MNHNP 9998); Ciudad del Este (MNHNP 6342); Itaipú reserves (MAI 111); Río Monday (NHMUK 99.7.6.1, 99.7.7.1). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2710). CANINDEYÚ: Salto de Guira (UMMZ 167140, 167141) CENTRAL: Asunción (NHMUK 1930.11.27.163–65). ITAPÚA: Isla Modesto (MNHNP 7912, 7913); Isla Yacyretá (MNHNP 2701–2709, 2711–2714, 3844, 4079, 4088–4098, 4155–4157, 4291, 4380, 4907–4931, 4970, 10629, 11064, 11065, 11078–11081, USNM 34090); Isla Ybycuí (MNHNP 4979); Parque Nacional San Rafael (MNHNP 8619, 8623–8625, 8640, 8818, 8819). MISIONES: 5 km ENE Ayolas (UMMZ 149180–149189); 3 km E Corateí (MNHNP 4381, 4382, 4387, USNM 342091–342093); Villa Permanente (MNHNP 187–189, 3843). ÑEEMBUCÚ: Estancia San José (MNHNP 4215, 4217, 4252, 4253). SAN PEDRO: Colonia Primavera (NHMUK 1958.1.2.4–1958.1.2.7).

Photographic Records: ITAPÚA: Encarnación (FPREP 83); Isla Yacyretá (FREP 751).

***Tropidurus* sp. 1**

Tropidurus spinulosus: Peracca (1895): CONCEPCIÓN: Río Apa.

Tropidurus spinulosus: Schenkel (1901) "Paraguay: Apa lue." We could not find this locality.

Tropidurus spinulosus: Bertoni (1939): CONCEPCIÓN: Río Apa.

Tropidurus spinulosus: Hellmich (1960): CONCEPCIÓN: ?Apa-Bergland (ZSM 232–235/1933); Centurión (ZSM 284/1933).

Tropidurus spinulosus: Elter (1981): CONCEPCIÓN: Río Apa (MZUT R2497).

Tropidurus sp. [partim]: Aquino et al. (1996): See Specimens Examined.

Tropidurus guarani [partim]: Frost et al. (1998): AMAMBAY: Bella Vista (MNHNP 6009–6011). CONCEPCIÓN: Parque Nacional Serranía San Luís (MNHNP 10 field numbers); Paso Barreto (MNHNP 1 field number).

General Distribution: Goiás, Mato Grosso do Sul, Brazil, and Amambay, Concepción, and San Pedro in Paraguay.

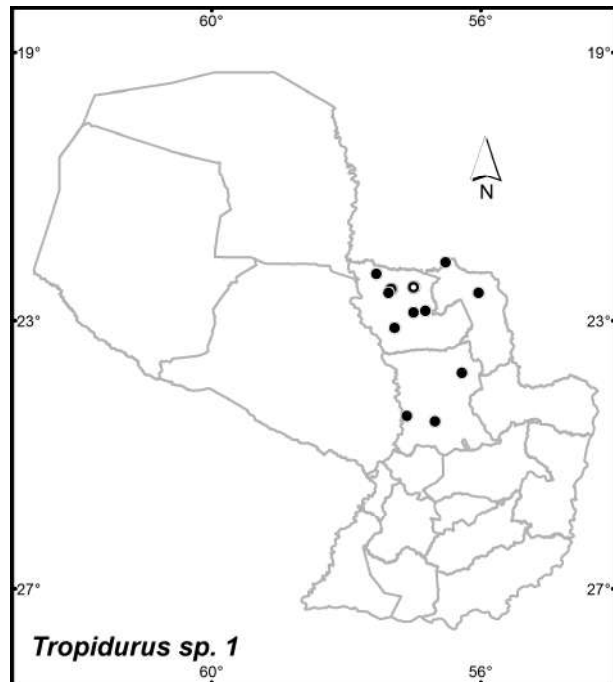
Local Distribution: Northeastern Paraguay in Cerrado and Central Forest and their contact zones with Wet Chaco and Atlantic Forest.

Conservation Status: Least Concern.

Comments: Data in Frost et al. (1998) show that the arboricolous "*T. guarani*" from Brazil (Mato Grosso do Sul and Goiás) and northeastern Paraguay (Amambay and Concepción) are morphologically and genetically distinct from the *T. guarani* in Cordillera and Paraguairí and from the *T. spinulosus* west of the Río Paraguay.

Furthermore, more than 100 km of territory, where neither taxon has been recorded, separate the distributions of *Tropidurus guarani*, a saxicolous species in Central Forest, and *Tropidurus* sp. 1, an arboricolous species.

We have chosen to separate the Paraguayan *Tropidurus* of the *spinulosus* group into three taxa: a relatively small, saxicolous *T. guarani* in Cordillera, Guairá, and Paraguairí; a large arboreal *T. spinulosus* in the Chaco west of the Río Paraguay; and a large unnamed arboreal *Tropidurus* sp. 1 in the Cerrado and Central Forest of northern Paraguay. Given the genetic isolation between the Concepción and Amambay specimens (Frost et al., 1998), there may be two taxa in this last "species."



The names may change if the type of *Microlophus spinulosus* (Cope, 1862d) proves to be a representative of the currently unnamed eastern form.

In a revision of *Tropidurus* of the *spinulosus* group living east of the Río Paraguay, Carvalho (2016) divided our *Tropidurus* sp. 1 into *T. lagunablanca* and *T. tarara*.

Specimens Examined: AMAMBAY: Bella Vista (MNHNP 6009–6011); 2 km NE Bella Vista (MNHNP 8388); Parque Nacional Cerro Corá (MNHNP 8417, 8513). CONCEPCIÓN: Arroyo Capitigo (MNHNP 4385); Rancho Z (MNHNP 7651); Parque Nacional Serranía San Luís (MNHNP n/n); Paso Barreto (MNHNP n/n); Río Apa (MZUT 946, 9447). SAN PEDRO: Colonia Primavera (NHMUK 1958.1.2.7); Laguna Blanca (CZPLT 28, 41, 157, 342, 402, 405, 406, 409, 444, 461, 471; MNHNP 11463); Rosario (NHMUK 1958.1.2.6).

Photographic Records: CONCEPCIÓN: Parque Nacional Serranía San Luís (FREP 726–738). SAN PEDRO: Laguna Blanca (FPREP 71–77, 523–525).

Gekkota

Family Gekkonidae

***Hemidactylus mabouia* (Moreau de Jonnès, 1818)**

Hemidactylus mabouia mabouia: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Hemidactylus mabouia: Aquino et al. (1996). See Specimens Examined.

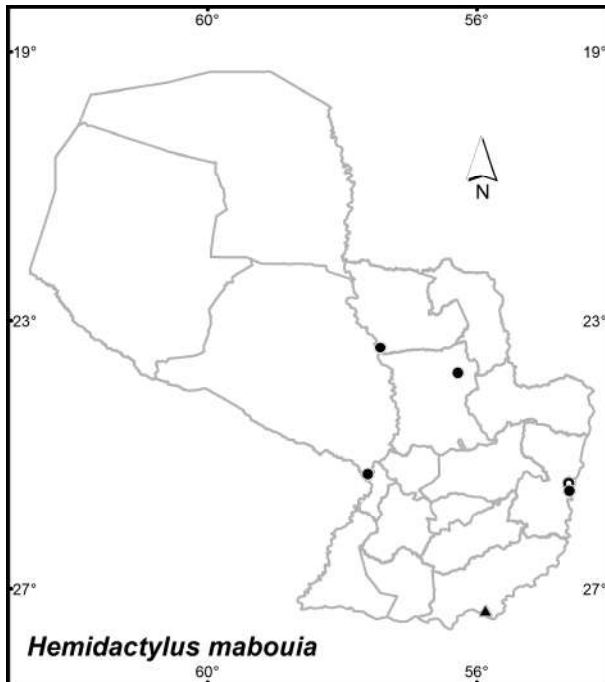
Hemidactylus mabouia: Motte et al. (2004): Paraguay.

Hemidactylus mabouia: Baldo et al. (2008): CENTRAL: Asunción (CZCEN 403, 404).

Hemidactylus mabouia: Cacciali and Motte (2009): See Specimens Examined.

Hemidactylus mabouia: Motte et al. (2009): Paraguay.

Hemidactylus mabouia: Cabral and Weiler (2014): CENTRAL: Asunción (CZCEN 403, 404).



General Distribution: This species has an ever-expanding, global distribution. In the Americas, it is present from North America (Florida in the U.S.A., and México) through Central America and some Caribbean islands, to Bolivia, Paraguay, Argentina (Peters and Donoso-Barros, 1970; Cej, 1993) and, recently, also in Uruguay (Carreira et al., 2005). New World *Hemidactylus mabouia* are little differentiated from their phylogenetically closest Old World ancestor on the west coast of Africa. They arrived in South America either through association with humans or rafting, or both (Kluge, 1969; Vanzolini, 1978).

Local Distribution: An introduced species that first colonized Paraguay in traffic on the rios Paraguay and Paraná and is exclusively peridomestic. It is not known from the Chaco.

Conservation Status: Not Evaluated.

Comments: We are uncertain as to when the species first reached Paraguay; the earliest records in the MNHNP are 1983 and 1984 in Concepción, and 1985 in Asunción (Cacciali and Motte, 2009).

An important harbor, Bahía Negra on the Río Paraguay, lacks *H. mabouia*, but there is a larger native gecko, *Phyllopezus pollicaris*, associated with urban environments, that perhaps has kept *H. mabouia* from colonizing the town.

Specimens Examined: ALTO PARANÁ: Distrito Presidente Franco (MNHNP 11219). CENTRAL: Asunción (MNHNP 3129, 3158, 3161, 3162, 3165, 3814, 3816, 8067). CONCEPCIÓN: Concepción (MNHNP 2976, 2977, 3817). SAN PEDRO: Laguna Blanca (CZPLT 170, 332).

Photographic Records: ITAPÚA: Encarnación (FPREP 84–92, 383, 384).

***Lygodactylus wetzeli* (Smith, Martin and Swain, 1977)**

Vanzoia wetzeli Smith, Martin and Swain (1977): BOQUERÓN: Colonia Fernhéim (type locality; UCS 51424, holotype).

Vanzoia wetzeli: Talbot (1979): Western Paraguay.

Lygodactylus wetzeli: Aquino et al. (1996): See Specimens Examined.

Lygodactylus wetzeli: Ziegler et al. (2002b): PRESIDENTE HAYES: 22°13'S, 59°04'W (MTKD 43489).

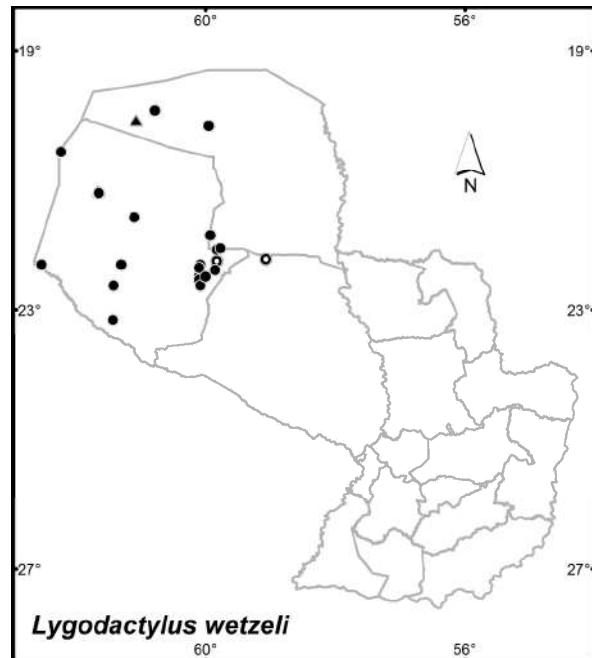
Lygodactylus wetzeli: Motte et al. (2009): Paraguay.

General Distribution: Northwestern Paraguay, southeastern Bolivia, and Mato Grosso do Sul, Brazil (Smith et al., 1977; Norman, 1994; Dirksen and De La Riva 1999).

Local Distribution: The species is distributed west of the Río Paraguay in Dry Chaco.

Conservation Status: Least Concern.

Comments: Originally described under the new genus *Vanzoia* (Smith et al. 1977), the two South American species, *L. wetzeli* and *L. klugei*, were shown to be closely related to the *capensis* group of the African genus *Lygodactylus* (Bons and Pasteur, 1977). The genus includes about 60 other species in Africa and Madagascar.



Specimens Examined: ALTO PARAGUAY: 70 km NW Filadelfia (MNHNP 2901); Madrejón (MNHNP 2902, LACM 126322, 126323); Parque Nacional Defensores del Chaco, road to Cerro León (MNHNP 7101); Cerro León (MNHNP 7694, 9035). BOQUERÓN: Estancia Amistad (MNHNP 11467, 11472); 52.4 km S Fortín Madrejón (MNHNP 10207); Comunidad Ayoreo Jesudi (MNHNP 10746, 10747); Filadelfia (MNHNP 2896–2900, 8384, 8392, 8448–8453, 8464, 8477, USNM 341996–342011).

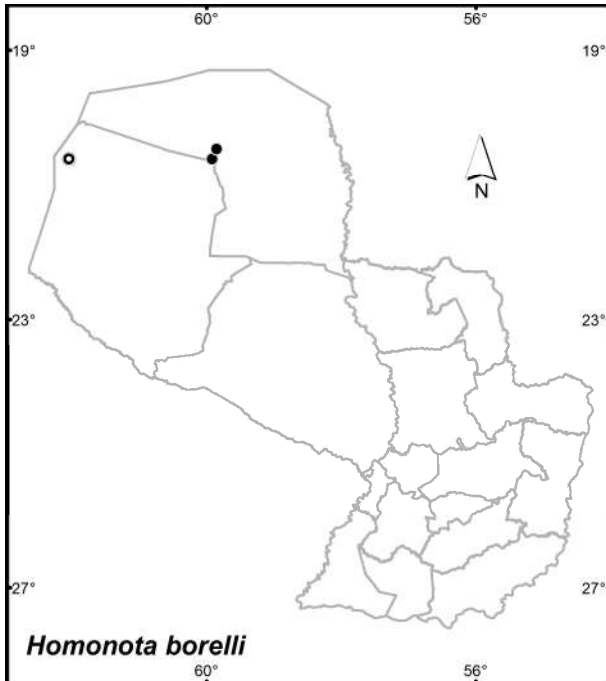
Photographic Records: ALTO PARAGUAY: Fortín Lagerenza'i (FREP 743–746). BOQUERÓN: Parque Nacional Teniente Enciso (FPREP 823, 824).

Family Phyllodactylidae

***Homonota borellii* (Peracca, 1897)**

Homonota borellii: Motte et al. (2009): Paraguay.

Homonota aff. *borellii*: Cabral and Weiler (2014): BOQUERÓN: Parque Nacional Médanos del Chaco (CZCEN 602).



General Distribution: Northern and central Argentina (Ceï, 1993, Cabrera, 2009) and Paraguayan Chaco.

Local Distribution: Known only from a small area of Dry Chaco.

Conservation Status: Not Evaluated.

Specimens Examined: ALTO PARAGUAY: Parque Nacional Defensores del Chaco, 10 km W Madrejón (MNHNP 2801); 20 km N Fortín Madrejón by road (UMMZ 145950).

***Homonota fasciata* (Duméril and Bibron, 1836)**

Homonota horrida: Kluge (1964): BOQUERÓN: Fortín Guachalla (FMNH 44127–441132, MCZ 49514–49518).

Homonota horrida: Talbot (1978): BOQUERÓN: 28.8 km W Madrejón.

Homonota horrida: Talbot (1979): Western Paraguay.

Homonota fasciata: Abdala and Lavilla (1993): Paraguay.

Homonota horrida: Aquino et al. (1996): See Specimens Examined.

Homonota horrida: Ziegler et al. (2002b): Fortín Toledo (MTKD 43486–43488).

Homonota fasciata: Cacciali et al. (2007b): ALTO PARAGUAY: Estancia Calai; Ñu Guazú. BOQUERÓN: Teniente Montanía; Toro Mocho.

Homonota fasciata: Motte et al. (2009): Paraguay.

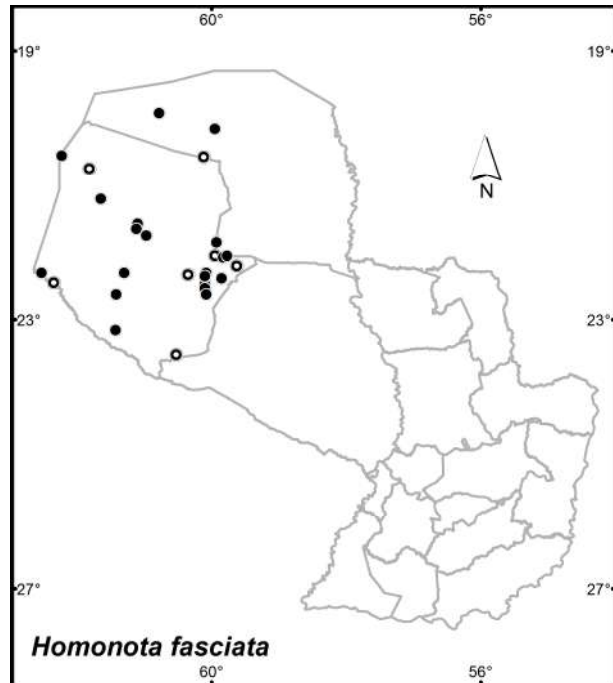
General Distribution: Occurs throughout the Dry Chaco including northwestern Argentina, Paraguayan Chaco, southeastern Bolivia, and Mato Grosso in Brazil (Peters and Donoso-Barros, 1970; Norman, 1994; Dirksen and De la Riva, 1999; Ávila et al., 2000).

Local Distribution: Mainly present in Dry Chaco in Alto Paraguay and Boquerón (Kluge, 1964; Aquino et al., 1996), with one record on the edge of the Wet Chaco (Cacciali et al., 2007b).

Conservation Status: Least Concern.

Comments: Kluge (1964) believed that the Caribbean island of Martinique, the type locality of *H. fasciata* given by Duméril and Bibron (1836), was incorrect, and he surmised that it and the Chaco species, long called *H. horrida*, were possibly conspecific. Subsequently, Abdala and Lavilla (1993) synonymized the two forms under the name *H. fasciata*.

Specimens Examined: Paraguay (MNHNP 2815, 2816). ALTO PARAGUAY: Parque Nacional Defensores del Chaco, Mayor Pablo Lagerenza (MNHNP 7233). BOQUERÓN: (MNHNP 2820); 40.1 km W crossroads Línea 10 and highway to Fortín Teniente Ayala (MNHNP 2797, 2806); Campo Loro (MNHNP 10536–10540); Comunidad Ayoreo Jesudi (MNHNP 10613, 10614, 10735, 10744); Comunidad Ayoreo Tunucojai (MNHNP 10534, 10535); Copagro (UCS 7919); Estancia Agropil (MNHNP 11027); Estancia Jabalí (MNHNP 8026); Estancia Mbutú Retã (MNHNP 3355, 3356, 3375); 7 km N Filadelfia (MNHNP 2811); 8.6 km E Filadelfia (LACM



126324–126330, UMMZ 143420, USNM 205613); 14 km S Filadelfia (MNHNP 9728); 21 km S Filadelfia (MNHNP 7050); 31.5 km S Filadelfia (MNHNP 9726); Filadelfia (MNHNP 2795, 2798, 2800, 2802, 2805, 2809, 2810, 2812, 4305); Parque Nacional Teniente Enciso (MNHNP 2796, 2804, 2807, 2808, 2813, 2817, 2819, 2821, 9037, 9039, 9130, 9131, 9133, 10368, 10369, USNM 341995); Pozo Hondo (MNHNP 2803); Highway to Fortín Montanía (MNHNP 7085, 7104, 7105); Mennonite Colonies (NHMUK 1956.1.16.17); Sargento Rodriguez (UCS 7323); Route IX Km 467 (MNHNP 8383); Teniente Ochoa (USNM 341994); 20 km NW Teniente Ochoa (USNM 341993).

Photographic Records: BOQUERÓN: Parque Nacional Teniente Enciso (FPREP 93, 94, 599); Fortín Toledo (FPREP 658, 659).

***Homonota rupicola* Cacciali, Ávila and Bauer, 2007**

Homonota rupicola: Cacciali et al. (2007a): CORDILLERA: Cerro Pedregal, Compañía Los Naranjos, 25°31'07"S, 57°02'53"W (CZCEN 285–287, 210).

Homonota rupicola: Cabral and Weiler (2014): CORDILLERA: Cerro Pedregal (CZCEN 210, [Paratype], 285 [Holotype], 286, 287 [Paratypes]).

Homonota rupicola: Cajade et al. (2013): CORDILLERA: Formación Cordillera de Los Altos (UNNEC 04738–04740, 05290).

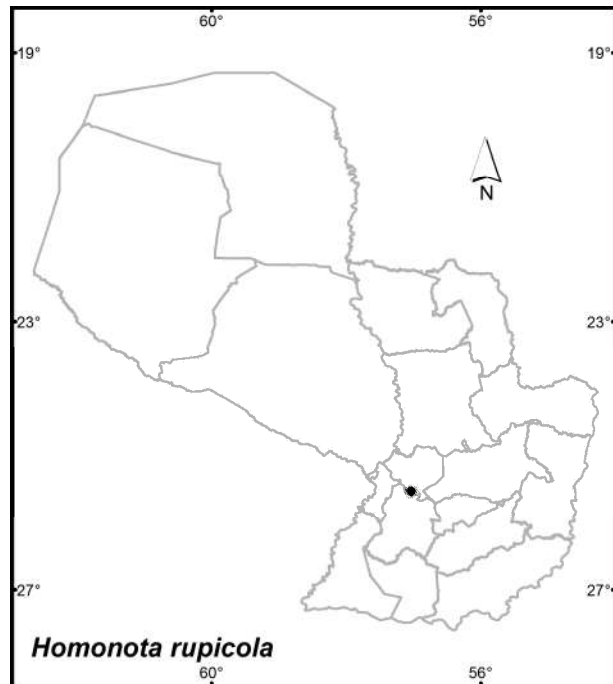
General Distribution: Endemic to Paraguay.

Local Distribution: This species is only known from a rock outcrop on the boundary between departamentos Cordillera and Paraguarí in the Central Forest ecoregion (Cacciali et al., 2007a).

Conservation Status: Not Evaluated.

Specimens Examined: CORDILLERA: Cerro Pedregal, Compañía Los Naranjos (type locality; CZCEN 285, holotype; CZCEN 286, 287, 210, paratypes; UNNEC 4736–4738, 4931, 4933,34).

Photographic Records: CORDILLERA: Cerro Pedregal (CZCEN 285, holotype) (FPREP 813).



***Phyllopezus pollicaris* (Spix, 1825)**

Phyllopezus goyazensis: Peracca (1895): CONCEPCIÓN: Río Apa.

Phyllopezus Przewalskii: Koslowsky (1898b): ?Paraguay.

Phyllopezus goyazensis: Schenkel (1901): Paraguay.

Phyllopezus goyazensis: Bertoni (1914): CONCEPCIÓN: Río Apa.

Phyllopezus przewalskii [sic]: Bertoni (1914): ?Paraguay.

Phyllopezus pollicaris: Burt and Burt (1933): Paraguay.

Phyllopezus goyazensis: Bertoni (1939): CONCEPCIÓN: Río Apa.

Phyllopezus przewalskii: Bertoni (1939): Paraguay?.

Phyllopezus pollicaris przewalskii:

Hellmich (1960): CONCEPCIÓN:
Centurión (ZSM 209/1933).

Phyllopezus pollicaris przewalskii:
Wermuth (1965): Paraguay.

Phyllopezus pollicaris: Talbot
(1979): Eastern and western
Paraguay.

Phyllopezus pollicaris: Elter
(1981): CONCEPCIÓN: Río Apa
(MZUT R2366).

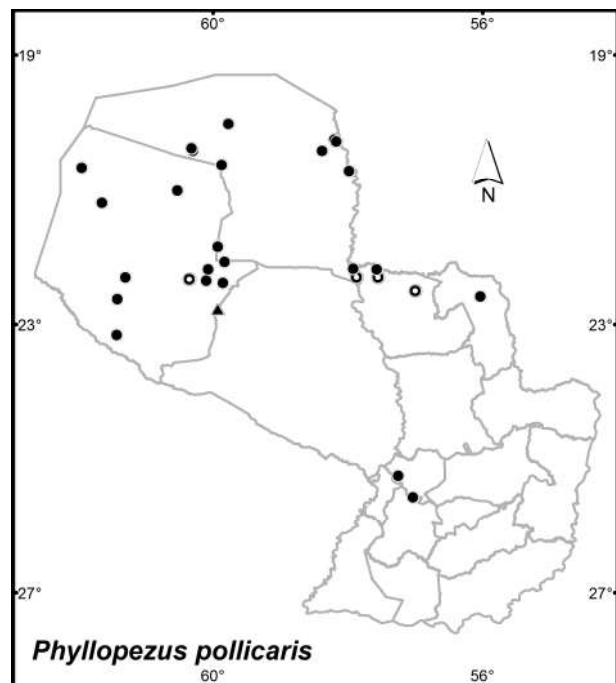
Phyllopezus pollicaris: Aquino et
al. (1996): See Specimens
Examined.

Phyllopezus pollicaris: Ziegler et
al. (2002b): BOQUERÓN: Fortín
Toledo (MTKD 43490-93).

Phyllopezus pollicaris: Motte et al. (2004): Paraguay.

Phyllopezus pollicaris: Motte et al. (2009): Paraguay.

Phyllopezus pollicaris: Cabral and Weiler (2014): ALTO PARAGUAY: Lagerenza'i
(CZCEN 609). CONCEPCIÓN: Caverna Risso (CZCEN 710).



General Distribution: South America, south of Ecuador and east of the Andes (Peters and Donoso-Barros, 1970; Norman, 1994).

Local Distribution: A species of the Wet and Dry Chaco, Pantanal, and Cerrado in departamentos Amambay, Alto Paraguay, Boquerón, and Concepción. There is apparently an isolated population in the eastern region associated with rocky outcrops of the Cordillera de los Altos in Central Forest.

Conservation Status: Least Concern.

Comments: The subspecies *P. p. przewalskii* Koslowsky, 1895 occurs in Paraguay (Peters and Donoso-Barros, 1970).

Specimens Examined: ALTO PARAGUAY: Agua Dulce (MNHNP 2855, 4298, UMMZ 145953–145956, USNM 342013–342015); Bahía Negra (MNHNP 9288, 10202); Colonia Potrerito (MNHNP 3371); Misión Nueva Tribu (LACM 126331–126335, UMMZ 143419); Madrejón (MNHNP 2850, 2856, USNM 205614); Cerro León (MNHNP 2852, UMMZ 145952); Puerto Leda (NHMUK 1958.1.2.1–1958.1.2.3); Puerto Ramos (MNHNP 3243–3252). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 6983, 7046, 7640–7644). BOQUERÓN: Comunidad Ayoreo Jesudi (MNHNP 10745); Campo Loro (MNHNP 10541, 10542); Establecimiento Ko'e Pyahu (MNHNP 11069); Estancia Agropil S.A. (MNHNP 8042); Estancia Iparoma (UCS 7940, 7943); Estancia Jabalí (MNHNP 4020, 4035, 8024, 8025, 8027, 8043, 8044, 8071); Estancia La Gama (MNHNP 7985); Estancia Mbutú Retã (MNHNP 3354, 3818); Filadelfia (MNHNP 2851, 2858, USNM 342012); Fortín Américo Picco (EBD 24107); Loma Plata (KU 73434, 73435); Parque Nacional Teniente Enciso (MNHNP 2853, 2854, 2857, 3253, 4300). CONCEPCIÓN: Río Apa (NHMUK 94.12.17.6,7, MZUT 942); San Lázaro (MNHNP 11169, 11170). CORDILLERA: Tobatí (MVZ 110967); 1.6 km S Tobatí (UMMZ 153111). PARAGUARÍ: Chololó (UNNEC 1005).

Photographic Records: BOQUERÓN: Fortín Boquerón (FPREP 99); Fortín Toledo (FREP 742); Parque Nacional Teniente Enciso (FPREP 95–98, 100, 458, 660).

Scincomorpha

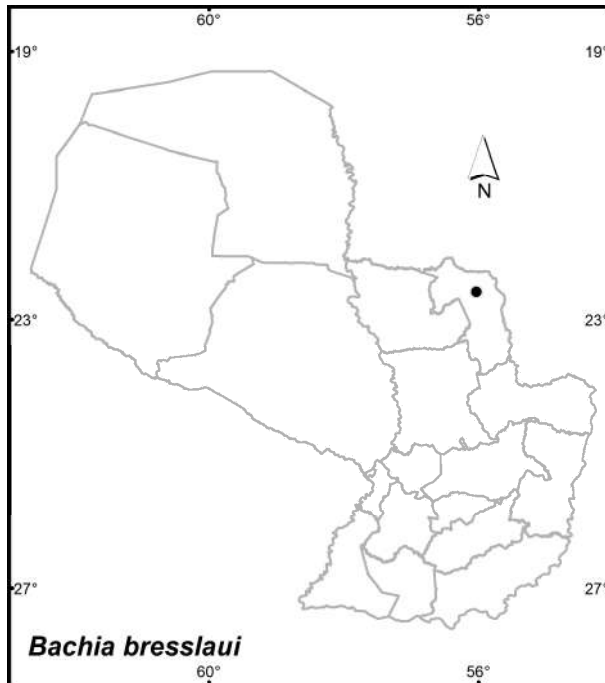
Family Gymnophthalmidae

***Bachia bresslaui* (Amaral, 1935)**

Bachia bresslaui: McDiarmid and Foster (1987): AMAMBAY: Parque Nacional Cerro Corá (USNM 253142).

Bachia bresslaui: Motte et al. (2009): Paraguay.

Bachia bresslaui: Cacciali (2010c): See Specimens Examined.



General Distribution: Central and southern Brazil and the northeastern extreme of Paraguay (Peters and Donoso-Barros, 1970; McDiarmid and Foster, 1987; Colli et al., 1998).

Local Distribution: The Cerrado of Departamento Amambay (McDiarmid and Foster, 1987).

Conservation Status: Vulnerable.

Comments: There is one record from Paraguay (McDiarmid and Foster, 1987).

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (USNM 253142).

***Cercosaura ocellata* Wagler, 1830**

Cercosaura ocellata: Motte et al. (2009): Paraguay.

Cercosaura ocellata: Cacciali (2010c): See Specimens Examined.

Cercosaura ocellata: Núñez (2012): ITAPÚA: Kangüery.

Cercosaura ocellata: Smith et al. (2011): See Specimens Examined.

General Distribution: From Venezuela and Colombia to northern Argentina and eastern Paraguay (Ávila-Pires, 1995).

Local Distribution: A grassland species known in Cerrado in northern Paraguay in departamentos Amambay, Canindeyú, and San Pedro and, with a big gap, in the south in Itapúa in Mesopotamian Grasslands.

Conservation Status: Vulnerable.

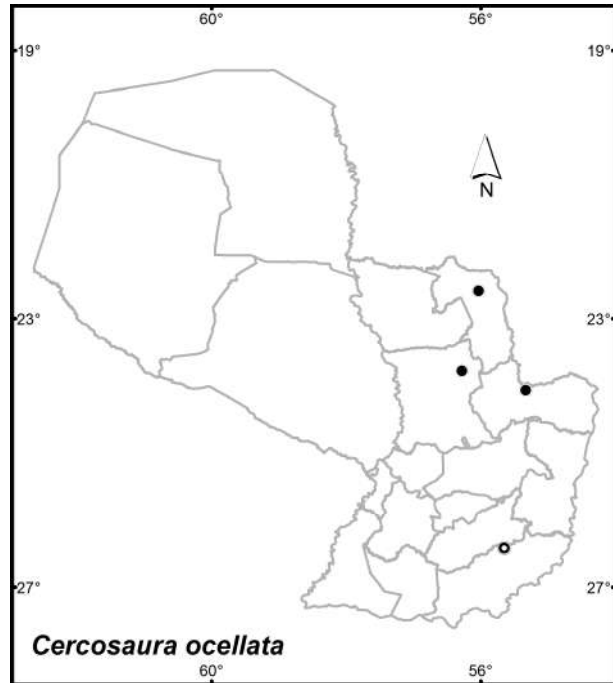
Comments: The species contains three subspecies (Peters and Donoso-Barros, 1970); our specimens seem to be *Cercosaura ocellata petersi*.

Specimens Examined: AMAMBAY:

Parque Nacional Cerro Corá

(MNHNP 8444). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 11296). SAN PEDRO: Laguna Blanca (CZPLT 8, 428).

Photographic Records: ITAPÚA: Kangüery (FREP 739, 740). SAN PEDRO: Laguna Blanca (FPREP 401–408).



***Cercosaura schreibersii* (Wiegmann, 1834)**

Pantodactylus Borelli: Peracca (1894): CONCEPCIÓN: Río Apa.

Pantodactylus Schreibersi: Koslowsky (1898b): ?Paraguay.

Pantodactylus borelli: Bertoni (1914): Paraguay.

Pantodactylus schreibersii: Burt and Burt (1933): Paraguay.

Pantodactylus borellii: Bertoni (1939): Paraguay.

Pantodactylus schreibersii: Scott and Lovett (1975): See Specimens Examined.

Pantodactylus schreibersii: Talbot (1979): Eastern Paraguay.

Pantodactylus borelli: Elter (1981): CONCEPCIÓN: Río Apa (type locality; MZUT R2173 holotype).

Pantodactylus schreibersii: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Pantodactylus schreibersii: Aquino et al. (1996): See Specimens Examined.

Pantodactylus schreibersii: Cacciali and Bauer (2003): ALTO PARAGUAY: Fuerte Olimpo.

Cercosaura schreibersii schreibersii: Doan (2003): ALTO PARAGUAY: Cerro León (USNM 347912). CENTRAL: Villeta (USNM 341988, 341989). MISIONES: Florida (USNM 139286).

Pantodactylus schreibersii: Motte et al. (2004): Paraguay.

Cercosaura schreibersii: Motte et al. (2009): Paraguay.

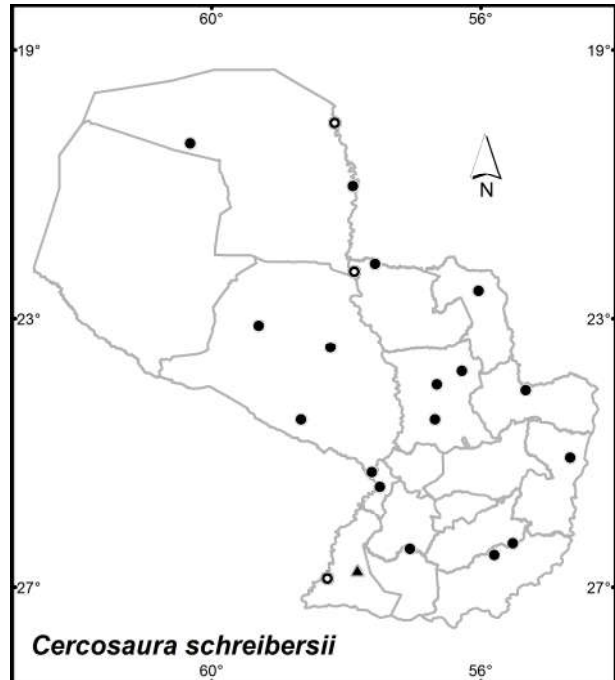
Cercosaura schreibersii: Cacciali (2010c): See Specimens Examined.

Cercosaura schreibersii: Smith et al. (2011): See Specimens Examined.

General Distribution: Central and southern Brazil, northern and central Argentina, Paraguay, Bolivia, and Uruguay (Peters and Donoso-Barros, 1970; Cei, 1993; Carreira et al., 2005).

Local Distribution: The species is distributed throughout Paraguay except in the Dry Chaco.

Conservation Status: Least Concern.



Comments: The species was recorded several times under the genus *Pantodactylus* (Bertoni, 1914; Peters and Donoso-Barros, 1970; Talbot, 1979; Aquino et al., 1996) until Doan (2003) placed it in *Cercosaura*. The subspecies *C. s. schreibersii* is present in Paraguay (Doan, 2003).

Several Cerrado specimens from Laguna Blanca and one from the Canindeyú (MNHNP 6460) differ from the others in our series in having lateral ocelli. The Laguna Blanca photographs show at least a tendency for ocelli in all but one of the specimens.

Specimens Examined: Paraguay (MNHNP 9678). ALTO PARAGUAY: Cerro León (USNM 347912); Fuerte Olimpo (MNHNP 8447, 10008, 10009). ALTO PARANÁ: Refugio Biológico Pikyry (MNHNP 11220, 11221). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2118, 2890, 2895, 7051, USNM 341985–341987). CAAZAPÁ: Parabel (MNHNP 11211). CANINDEYÚ: Reserva Mbaracayú (MNHNP 6460). CENTRAL: Asunción (LACM 126307, MNHNP 2893, 6609, 7669, 8189, 8190, 9845, 11468); San Lorenzo (MNHNP 11244); Villeta (MNHNP 2891, 2892, 2894, USNM 341988, 341989). CONCEPCIÓN: Río Apa (MZUT 960). ITAPÚA: Estancia San Isidro (MNHNP 9674). MISIONES: Florida (USNM 139286). PRESIDENTE HAYES: Estancia Juan de Zalazar (UCS 5726); Estancia La Golondrina (MNHNP 8443); Makthlawaiya (NHMUK 1928.1.8.14). SAN PEDRO: Carumbé (FML 489); Colonia Primavera (NHMUK 1954.1.3.54, 1956.1.3.23, 24, 1956.1.16.26, 1958.1.2.9, 1960.1.2.66, 1960.1.2.67, 1962.23–1962.26); Laguna Blanca (CZPLT 30, 61, 136, 147–149, 162, 167, 171, 202, 441, 442).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 437–439, 544–547, 621).

***Colobosaura modesta* (Reinhardt and Lütken, 1862)**

Perodactylus modestus: Peracca (1895): Paraguay?. See Comments.

Perodactylus kraepelini: Werner (1910): CONCEPCIÓN: Puerto Max (type locality).

Pantodactylus modestus: Bertoni (1914): Paraguay.

Colobosaura kraepelin [sic]: Amaral (1933): CONCEPCIÓN: Puerto Max.

Colobosaura kraepelini: Burt and Burt (1933): Paraguay.

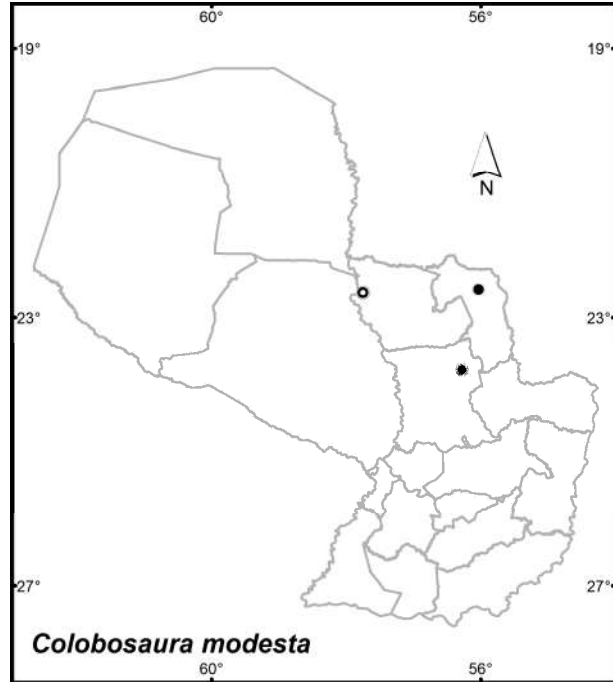
Pantodactylus modestus: Bertoni (1939): Paraguay.

?*Colobosaura kraepelini*: Vanzolini and Ramos (1977): CONCEPCIÓN: Puerto Max.

Colobosaura kraepelini [sic]: Talbot (1979): Eastern Paraguay.

Colobosaura modesta: Motte et al. (2009): Paraguay.

Colobosaura modesta: Cacciali (2010c): See Specimens Examined.



Colobosaura kraepelini: Cacciali (2010c): See Specimens Examined.

General Distribution: Northern and central Brazil (Amaral, 1933; Peters and Donoso-Barros, 1970) and northeastern Paraguay.

Local Distribution: Only present in Wet Chaco and Cerrado.

Conservation Status: Data Deficient.

Comments: Peracca (1895) gives detailed information about a specimen, *Perodactylus modestus*, but does not provide specific locality data. However, Peracca's (1895) report is based on collections from Argentina and Paraguay, and *C. modesta* does not occur in Argentina. Therefore, the specimen probably came from Paraguay, very possibly Colonia Risso on the Río Apa in Concepción.

Amaral (1933) revised the genus and concluded that *Colobosaura kraepelin* [sic] (Werner, 1910) is based on sexual dimorphism in *C. modesta*. The unique holotype of *C. modesta* is a female; that of *C. kraepelini* is a male. Vanzolini and Ramos (1977) concluded that *C. kraepelini* may not even be a *Colobosaura*.

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 8454–56, 8521, USNM 341977–79). SAN PEDRO: Laguna Blanca (CZPLT 172, 191, 193, 421, 422, 432, 434, 459).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 569–575, 629–633).

***Micrablepharus maximiliani* (Reinhardt and Lütken, 1862)**

Micrablepharus glaucurus Boettger (1885a): Paraguay (type locality).

Micrablepharus maximiliani: Boettger (1885b): Paraguay.

Micrablepharus glaucurus: Bertoni (1914): Paraguay.

Micrablepharus maximiliani: Burt and Burt (1933): Paraguay.

Micrablepharus glaucurus:
Bertoni (1939): Paraguay.

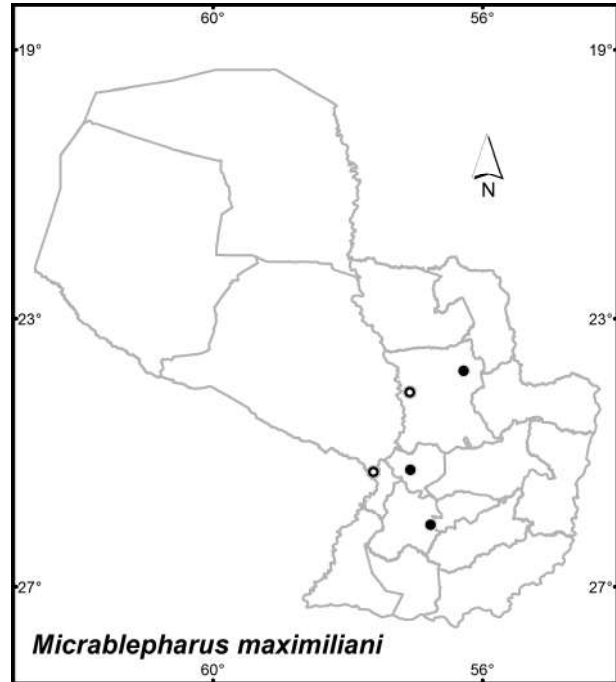
Micrablepharus maximiliani:
Talbot (1979): Eastern Paraguay.

Micrablepharus maximiliani:
Aquino et al. (1996): See
Specimens Examined.

Micrablepharus maximiliani:
Rodrigues (1996): Paraguay
(SMF 11774, holotype of *M.*
glaucus); CENTRAL: Asunción
(MNRJ 2547).

Micrablepharus maximiliani:
Motte et al. (2004): Paraguay.

Micrablepharus maximiliani:
Motte et al. (2009): Paraguay.



Micrablepharus maximiliani: Moura et al. (2010): CENTRAL: Asunción.
CORDILLERA: Tobatí (UMMZ 146745). PARAGUARÍ: Ybycuí (MNHNP 8445).
SAN PEDRO: San Pedro del Ycuamandyyú (MNHNP 11466).

Micrablepharus maximiliani: Cacciali (2010c): See Specimens Examined.

Micrablepharus maximiliani: Smith et al. (2011): See Specimens Examined.

General Distribution: Central Brazil, western Bolivia, and central Paraguay (Moura et al., 2010).

Local Distribution: Five definite localities from departamentos Central, Cordillera, and Paraguari in Central Forest ecoregion and Departamento San Pedro Cerrado habitat.

Conservation Status: Data Deficient.

Specimens Examined: CORDILLERA: 1.6 km S Tobatí (UMMZ 146754). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 8445). SAN PEDRO: Estancia Montanía (MNHNP 11466); Laguna Blanca (CZPLT 11, 70, 152, 188, 433, 437, 452).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 413–415, 431–434, 565).

***Vanzosaura rubricauda* (Boulenger, 1902)**

Gymnophthalmus rubricauda: Talbot (1979): Eastern Paraguay.

Gymnophthalmus rubricauda: Aquino et al. (1996): See Specimens Examined.

Vanzosaura rubricauda: Ziegler et al. (2002a): ALTO PARAGUAY: Vicinity of 20°29'S, 60°18'W (MTKD 43463). BOQUERÓN: Filadelfia (ZFMK 37022, 38288, 38495).

Vanzosaura rubricauda: Motte et al. (2009): Paraguay.

Vanzosaura rubricauda: Cacciali (2010c): See Specimens Examined.

Vanzosaura rubricauda: Smith et al. (2011): See Specimens Examined.

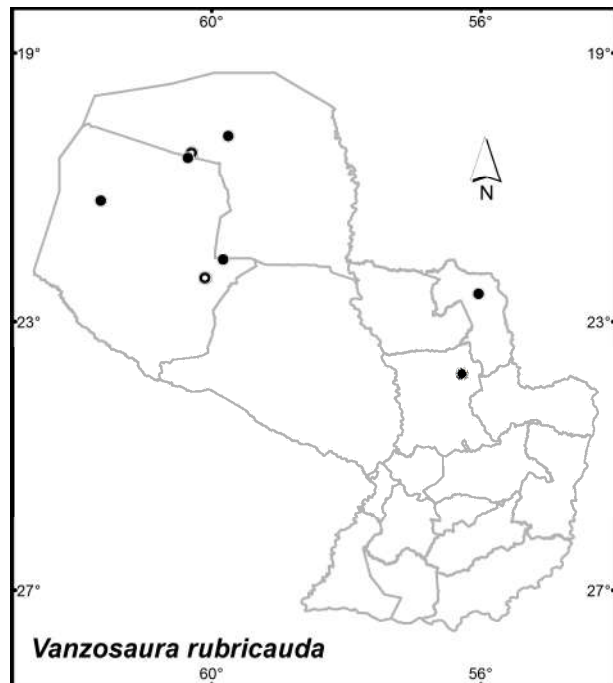
Vanzosaura rubricauda: Pheasey et al. (2014): See Specimens Examined.

General Distribution: From Bolivia and northeastern Brazil through Paraguay to central Argentina (Peters and Donoso-Barros, 1970; Dirksen and De la Riva, 1999; Freitas and Silva, 2005).

Local Distribution: Distributed in the northern departamentos in Cerrado and Dry Chaco.

Conservation Status: Data Deficient.

Comments: Although it was first reported by Talbot (1979) and cited by Aquino et al. (1996), Ziegler et al. (2002a) erroneously claimed the first record for the country. Formerly in *Gymnophthalmus*, Rodrigues (1991) erected a new genus, *Vanzosaura*, for the species.



Specimens Examined: ALTO PARAGUAY: 50 km WNW Madrejón (UMMZ 146755); Mojón 54 (MNHNP 11212). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2835, 2836, 8461, USNM 341980–341982). BOQUERÓN: Comunidad Ayoreo Tunucojai (MNHNP 10720); Parque Nacional Teniente Enciso (MNHNP 10616). SAN PEDRO: Laguna Blanca (CZPLT 15, 21, 29, 153, 154, 203, 443, 451, 453, 472).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 416–420, 566–568).

Family Teiidae

Ameiva ameiva (Linnaeus, 1758)

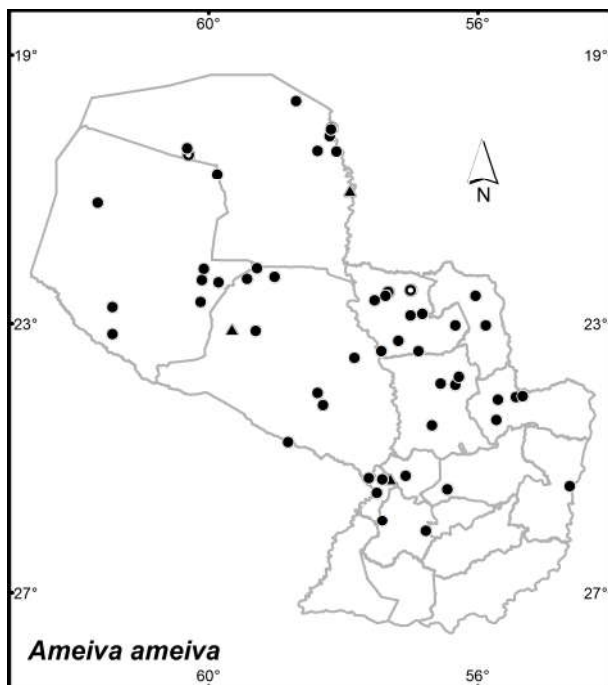
Ameiva surinamensis: Cope (1862d): Paraguay Expedition.

Ameiva surinamensis: Boettger (1885a): Paraguay.

Ameiva surinamensis: Boulenger (1894a): CENTRAL: Vicinity of Asunción.

Ameiva surinamensis: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Ameiva ameiva: Koslowsky (1898b): Paraguay.



Ameiva surinamensis: Peracca (1895): CENTRAL: Luque. CONCEPCIÓN: Río Apa. SAN PEDRO: Colonia Nueva Germania.

Ameiva surinamensis: Schenkel (1901): Paraguay.

Ameiva surinamensis: Peracca (1904): CENTRAL: Asuncion.

Ameiva ameiva: Bertoni (1914): Paraguay.

Ameida ameida [sic]: Schouten (1929): CENTRAL: Asunción.

Ameina ameina [sic]: Schouten (1931): Paraguay.

Ameiva ameiva: Bertoni (1939): Paraguay.

Ameiva ameiva ameiva: Hellmich (1960): CENTRAL: Trinidad (ZSM 200/1926). CONCEPCIÓN: Apa-Bergland (ZSM 262/1933, 263/1933); San Luís de la Sierra (ZSM 267/1933). SAN PEDRO: Nueva Germania (ZSM 164, 265/1933, 266/1933).

Ameiva ameiva: Scott and Lovett (1975): See Specimens Examined.

Ameiva ameiva: Talbot (1979): Eastern and western Paraguay.

Ameiva surinamensis: Elter (1981): CENTRAL: Asuncion (MZUT R2346); Luque (MZUT R2343). SAN PEDRO: Colonia Nueva Germania (MZUT R2345).

Ameiva ameiva: Aquino-Shuster et al. (1991): See Specimens Examined.

Ameiva ameiva: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Ameiva ameiva: Aquino et al. (1996): See Specimens Examined.

Ameiva ameiva: Fitzgerald et al. (1999): See Specimens Examined.

Ameiva ameiva: Ziegler et al. (2002b): ALTO PARAGUAY: Vicinity of 20°29'S, 60°18'W (MTKD 43495).

Ameiva ameiva: Motte et al. (2004): Paraguay.

Ameiva ameiva: Motte et al. (2009): Paraguay.

Ameiva ameiva: Cabral and Weiler (2014): ALTO PARAGUAY: Estación Biológica 3 Gigantes (CZCEN 750). CENTRAL: Asunción, Barrio Trinidad (CZCEN 209).

General Distribution: From extreme southeastern Costa Rica southward east of the Andes to southern Brazil, Argentina and Paraguay (Savage, 2002).

Local Distribution: The entire country north of about 26°S, in all ecoregions except Mesopotamian Grasslands.

Conservation Status: Least Concern.

Specimens Examined: Paraguay (MNHNP 4004). ALTO PARAGUAY: 13 km S Fortín Madrejón (UMMZ 146756); Bahía Negra (MNHNP 2763, 10666); Cerro León (MNHNP 7686, 7687); Colonia Potrerito (MNHNP 9234, 9235); Estancia General Díaz (MNHNP 3435–3438, 3440); Guyra Toro (MNHNP 10163); Kambá Aká (MNHNP 10164); Parque Nacional Defensores del Chaco, 7 km E crossroads Linea 1 and road to Lagerenza (MNHNP 7225, 7226). Parque Nacional Defensores del Chaco, 8 km W crossroads Linea 1 and road to Agua Dulce (MNHNP 72257); Puerto 14 de Mayo (MNHNP 9386); Reserva Pantanal Paraguayo (MNHNP 11198). ALTO PARANÁ: Itaipú reserves (MAI 131). AMAMBAY: Estancia Paicuará (MNHNP 2770, 2794); Parque Nacional Cerro Corá (MNHNP 2774–2777, 2779–2781, 3047, 4325, 8393, 8501, USNM 341945–341953, 341962). BOQUERÓN: 11 km SE de Fortín Pratts Gill (UCS 7958); Estancia Iparoma (UCS 7931); Estancia La Gama (MNHNP 8040); Filadelfia (MNHNP 3046); Neuland (MNHNP 8078); Loma Plata (KU 73445); Parque Nacional Teniente Enciso (MNHNP 2769, 3810). CAAGUAZÚ: Coronel Oviedo (MNHNP 7306). CANINDEYÚ: 13.3 km N Curuguaty (UMMZ 153105, 153106); Colonia Indígena Mboi Yaguá (MNHNP 3045); Estancia Giménez (MNHNP 10872, 10873); Reserva Natural del Bosque Mbaracayú (MNHNP 7081, 7666, 7735, 8028, 8491, 11230). CENTRAL: Areguá (MNHNP 2771, 2772, 2790, 2793, 4322, 4324, USNM 341965–341969); Asunción (NHMUK 94.3.14.18, 1930.11.27.166–1930.11.27.169, LACM 127245, MZUT 2741, UMMZ 153102–153104); Luque (MZUT 952); San Lorenzo (LACM 126306, MNHNP 2768); Villeta (MNHNP 2767). CONCEPCIÓN: Antebi Cué (MNHNP 9684); Arroyo Capitigo (MNHNP 2786–2788); Colonia Independencia (MNHNP 8374); Concepción (UMMZ 166872); Estancia Cerrito (MNHNP 7552, 7553); Horqueta (MNHNP 2764, 2766); Loreto (MNHNP 9849); Parque Nacional Serranía San Luís (KU 298152, MNHNP 6353); Rancho Z (MNHNP 6998). CORDILLERA: Tobatí (UMMZ 153107, 153108, 166873). PARAGUARÍ: Estancia Ypoá (MNHNP 8090); Parque Nacional Ybycuí (MNHNP 2773, 2782, 2791, 2792, 4349, 8386, 8446, 8499, 9139, UMMZ 166870, USNM 341954–341961, 341963). PRESIDENTE HAYES: 8 km NE Estancia Juan de Zalazar (UMMZ 166871); Estancia Juan de Zalazar (UCS 5732, 5733, MNHNP 4320, USNM 341964); Estancia Laguna Porã (UCS 7953); Estancia La Rural (MNHNP 9990); Estancia La Victoria (MNHNP 2765); Estancia Palo Santo (MNHNP 4221); Estancia Pozo Azul (MNHNP 2789); Riacho Negro (MNHNP 2783–2785). SAN PEDRO: Bella Vista (NHMUK 1962.21); Colonia Nueva Germania (MZUT 953); Colonia Primavera

(NHMUK 1954.1.1.62, 1955.1.5.83, 1956.1.3.22, 1956.1.16.31, 1958.1.2.8, 1962.15–1962.20, 1962.22); Laguna Blanca (CZPLT 173, 303, 389, 470); Lima (MNHNP 2778).

Photographic Records: ALTO PARAGUAY: Bahía Negra (FPREP 117); Fuerte Olimpo (FPREP 116). CENTRAL: Asunción (FPREP 400). CORDILLERA: San Bernardino (FPREP 683). PRESIDENTE HAYES: Laguna Bombacha (FPREP 160).

***Ameivula abalosi* (Cabrera, 2012)**

Cnemidophorus ocellifer: Peracca (1895): CONCEPCIÓN: Colonia Risso, Río Apa.

Cnemidophorus ocellifer: Hellmich (1960): CONCEPCIÓN: Centurión (ZSM 271/1933); Apa Bergland (ZSM 272/1933). SAN PEDRO: Nueva Germania (ZSM 270/1933).

Cnemidophorus ocellifer: Scott and Lovett (1975): See Specimens Examined.

Cnemidophorus ocellifer: Talbot (1979): Western Paraguay.

Cnemidophorus ocellifer: Elter (1981): CONCEPCIÓN: Colonia Risso, Río Apa (MZUT R2140).

Cnemidophorus ocellifer [partim]: Aquino et al. (1996): See Specimens Examined.

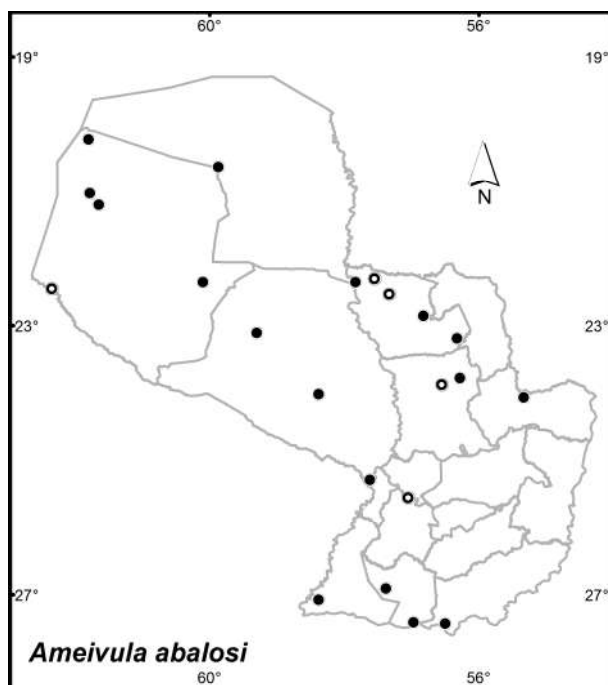
Cnemidophorus ocellifer [partim]: Motte et al. (2004): Paraguay.

Cnemidophorus ocellifer [partim]: Motte et al. (2009): Paraguay.

Cnemidophorus abalosi: Cabrera (2012): BOQUERÓN: Filadelfia (MNHNP 2747, 2883); Parque Cue (MNHNP 9195). PRESIDENTE HAYES: 60 km ENE Filadelfia (MNHNP 4069).

Ameivula ocellifera: Harvey et al. (2012): BOQUERÓN: Fotrín [sic] Guachalla (FMNH 44149, 44152, 44153, 44156). CENTRAL: Asunción (FMNH 13155, 13156).

Ameivula abalosi: Cabral and Weiler (2014): CORDILLERA: 10 km S de Piribebuy (CZCEN 208).



General Distribution: The Chaco of northern Argentina and Paraguay (Cabrera, 2012) and eastern Paraguay.

Local Distribution: West of Río Paraguay in Wet and Dry Chaco and east of the river in Cerrado, Mesopotamian Grasslands, and Wet Chaco.

Comments: Harvey et al. (2012) placed this species group in the new genus *Ameivula*. Many of the literature records listed under *Ameivula* sp. are probably this species instead.

We agree with Cabrera (2012) that there are at least two taxa of *Ameivula* in Paraguay. Genetic information is urgently needed, and we expect that our treatment will be modified in future studies.

Specimens Examined: ALTO PARAGUAY: 3 km NW Madrejón (MNHNP 3160). BOQUERÓN: Filadelfia (MNHNP 2744–2747, 2860, 2883, 2884); Parque Cue (MNHNP 9195); Parque Nacional Teniente Enciso (MNHNP 2877, 3812); Route IX Km 695 (MNHNP 2887). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 10859). CENTRAL: Asunción (NHMUK 1930.11.27.176). CONCEPCIÓN: Arroyo Capitigo (MNHNP 2876); Colonia Risso (MZUT 955); Colonia Takuarita (MNHNP 8376–8380). ITAPÚA: Isla Yacyretá (MNHNP 2878). MISIONES: 4 km W Corateí (MNHNP 3620–3624); 40 km W San Ignacio (MNHNP 11124). ÑEEMBUCÚ: Estancia San José (MNHNP 4223). PRESIDENTE HAYES: 3 km S Pozo Azul (MNHNP 4069); Estancia El Tejano (MNHNP 7357); Estancia Juan de Zalazar (UCS 7008); Estancia Pozo Azul (MNHNP 2881, 2882, 4206). SAN PEDRO: 3 km SW Laguna Blanca (MNHNP 11464, 11465); Laguna Blanca (CZPLT 27, 33, 58, 62, 63, 75, 76, 87, 88, 120, 121, 123, 124, 151, 201, 290–293).

Photographic Records: BOQUERÓN: Parque Nacional Teniente Enciso (FPREP 118–120). SAN PEDRO: Laguna Blanca (FPREP 121–126).

***Ameivula* sp.**

Cnemidophorus lemniscatus [partim?]: Boettger (1885a): Paraguay.

Cnemidophorus ocellifer [partim?]: Boettger (1885b): Paraguay.

Cnemidophorus ocellifer [partim?]: Boulenger (1887): Paraguay.

Cnemidophorus ocellifer [partim?]: Koslowsky (1898b): ?Paraguay.

Cnemidophorus ocellifer [partim?]: Schenkel (1901): Paraguay.

Cnemidophorus lemniscatus [partim?]: Bertoni (1914): Paraguay.

Cnemidophorus ocellifer [partim?]: Bertoni (1914): Paraguay.

Cnemidophorus ocellifer [partim?]: Burt and Burt (1933): Paraguay.

Cnemidophorus lemniscatus [partim?]: Bertoni (1939): Paraguay.

Cnemidophorus ocellifer [partim?]: Bertoni (1939): Paraguay.

Cnemidophorus ocellifer [partim]: Aquino et al. (1996): See Specimens Examined.

Cnemidophorus ocellifer: Fitzgerald et al. (1999): See Specimens Examined.

Cnemidophorus ocellifer [partim]: Motte et al. (2004): Paraguay.

Cnemidophorus ocellifer [partim]: Motte et al. (2009): Paraguay.

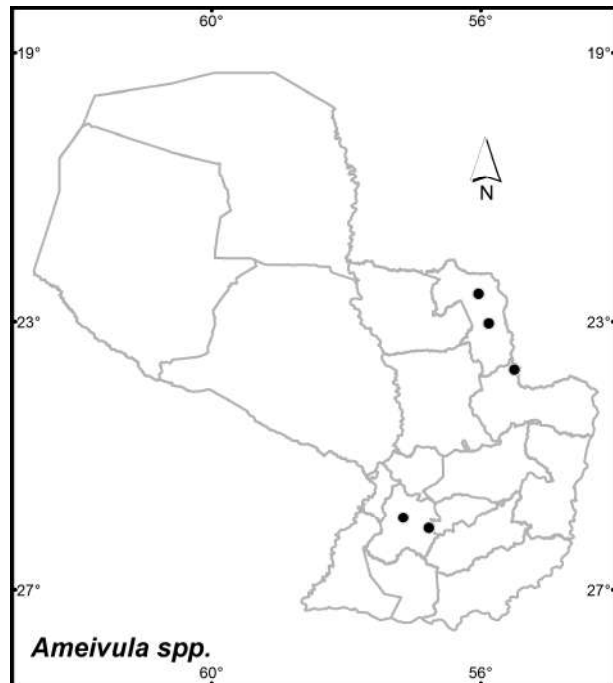
General Distribution: Eastern Paraguay (See Comments; Cabrera, 2012).

Local Distribution: Eastern Paraguay localities that are mixed Atlantic Forest and Cerrado, and Central Forest.

Conservation Status: Least Concern.

Comments: These specimens do not fit in Cabrera's (2012) concept of *A. abalosi*. He restricted *A. ocellifera* to Brazil, so any or all of the literature records above may instead be either *A. abalosi* or another undescribed species.

Harvey et al. (2012) put the species in the new genus *Ameivula*.



Specimens Examined: AMAMBAY: Estancia Paicuará (MNHNP 2875); Parque Nacional Cerro Corá (MNHNP 2862–2868, 2870–2874, 2879, 2880, 6984, 6999). CANINDEYÚ: Colonia Ybycuí (MNHNP 7324, 7326, 8173–8175). PARAGUARÍ: Centro de Rescate, Cabaña Aramí (MNHNP 10444–10447); Parque Nacional Ybycuí (EBD 23635, MNHNP 2748–2754, 2859, 2861, 2885, 2886, 2888, 2889, 3954).

***Dracaena paraguayensis* Amaral, 1950**

Crocodylurus lacertinus: Bertoni (1928b): Northern Paraguay.

Crocodylurus lacertinus: Bertoni (1939): Chaco.

Dracaena paraguayensis: Talbot (1979): Northwestern Paraguay.

Dracaena paraguayensis: Aquino et al. (1996): See Specimens Examined.

Dracaena [sic] *paraguayensis*: Motte et al. (2004): Paraguay.

Dracaena paraguayensis: Motte et al. (2009): Paraguay.

Dracaena paraguayensis: Scott and Cacciali (2011): Paraguay.

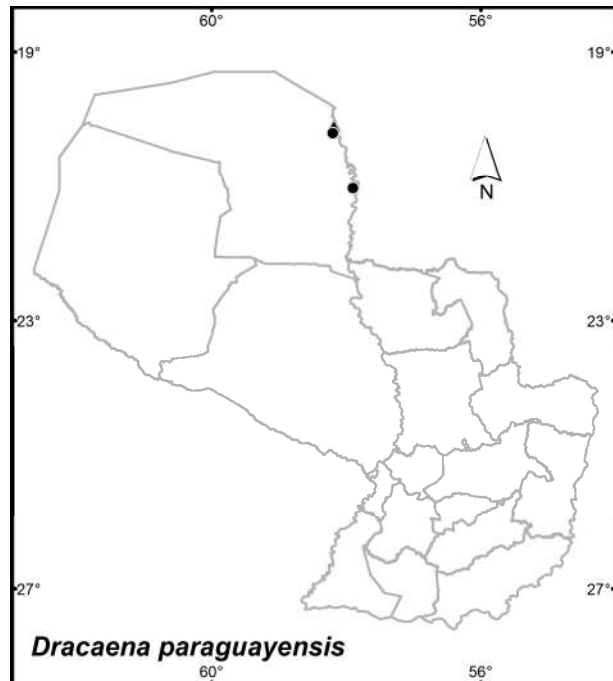
Dracaena paraguayensis: Cabral and Weiler (2014): ALTO PARAGUAY: Fuerte Olimpo (CZCEN 752).

General Distribution: Paraguay River basin, in Mato Grosso, Brazil, and the extreme upper Paraguay River of Paraguay as far south as Fuerte Olimpo, departamento Alto Paraguay (Norman, 1994).

Local Distribution: Pantanal and Wet Chaco along the upper Paraguay River in departamento Alto Paraguay. The Dry Chaco record from Misión Nueva Tribu needs confirmation.

Conservation Status: Data Deficient.

Comments: Amaral (1950) named the species *D. paraguayensis* after the Paraguay River, not the country; all of his specimens came from the Pantanal of Brazil. Mesquita et al. (2006), copying the record of Bertoni (1928b), cite *Crocodylurus lacertinus* for Paraguay. However, Bertoni's record is actually a *D. paraguayensis* (Scott and Cacciali, 2011).



A specimen catalogued as *Dracaena* sp. (LACM 132105) from the marshes at the foot of Cerro León in the Dry Chaco indicates that the species may be present in some of the other seasonal marshes scattered in extreme northern Paraguay. However, the specimen could not be found in the LACM in October 2009.

Specimens Examined: ALTO PARAGUAY: Bahía Negra (MNHNP 2837, 5241); Estancia Doña Julia (MNHNP 3038, 3976, 4009, 9198, 10494); Fuerte Olimpo (sight record, F. Bauer, pers. comm.).

Photographic Records: ALTO PARAGUAY: Tres Gigantes (FPREP 559, 560).

***Kentropyx viridistriga* (Boulenger, 1894)**

Kentropyx viridistriga: Boulenger (1894a): CENTRAL: Vicinity of Asunción (type locality).

Kentropyx viridistriga: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Kentropyx viridistriga: Schenkel (1901): Paraguay.

Kentropyx viridistriga: Bertoni (1914): Chaco.

Kentropyx viridistriga: Burt and Burt (1933): Paraguay.

Kentropyx viridistriga: Bertoni (1939): Chaco.

Kentropyx viridistriga: Hellmich (1960): SAN PEDRO: Nueva Germania (ZSM 269/33).

Kentropyx viridistriga: Talbot (1979): Western Paraguay.

Kentropyx viridistriga: Gallagher and Dixon (1992): ALTO PARAGUAY: Bahía Negra. CAAZAPÁ: "Pastorea" (=Villa Pastoreo; MCZ34223). CENTRAL: Asunción (NHMUK 98.6.3.3, holotype). SAN PEDRO: Carumbé (MZSUP 45906).

Kentropyx viridistriga: Álvarez et al. (1995): ITAPÚA: Isla Yacyretá (UNNEC 883–885).

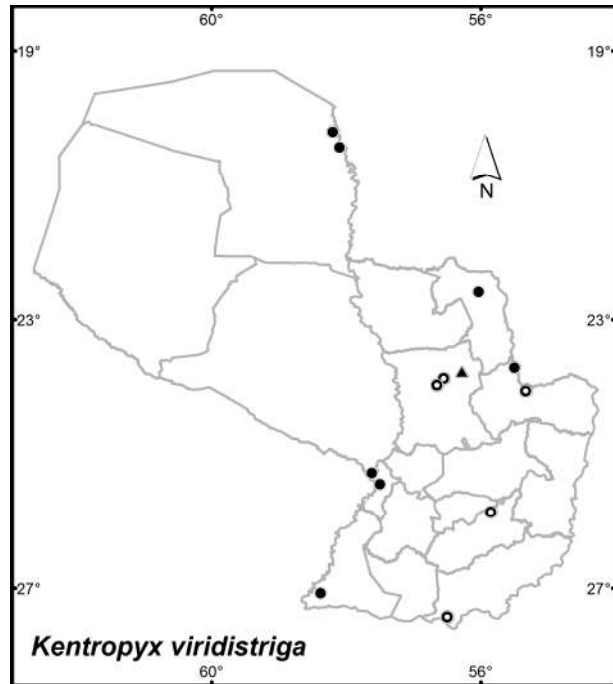
Kentropyx viridistriga: Aquino et al. (1996): See Specimens Examined.

Kentropyx viridistriga: Fitzgerald et al. (1999): See Specimens Examined.

Kentropyx viridistriga: Motte et al. (2004): Paraguay.

Kentropyx viridistriga: Motte et al. (2009): Paraguay.

Kentropyx viridistriga: Harvey et al. (2012): AMAMBAY: Parque Nacional Cerro Corá (USNM 341984). CANINDEYÚ: Mbaracayú Reserve (TCWC 72220).



General Distribution: Southeastern Bolivia, Mato Grosso, Brazil, Paraguay, and northeastern Argentina (Peters and Donoso-Barros, 1970; Embert, 2008).

Local Distribution: Present in scattered sites in Pantanal, Cerrado, Wet Chaco, and Central Forest, from the Río Paraguay to departamentos Amambay and Canindeyú, but with few specimens. The only record for Asunción was in the original description, but we examined another specimen from Departamento Central.

Conservation Status: Least Concern.

Specimens Examined. ALTO PARAGUAY: Estancia Doña Julia (MNHNP 3811); Puerto 14 de Mayo (NHMUK 98.6.3.3). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 4347, USNM 341983, 341984). CANINDEYÚ: Colonia Ybycuí (MNHNP 6606, 6607). CENTRAL: Asunción (NHMUK 94.3.14.17 [holotype]); Colonia Thompson (EBD 22294). ÑEEMBUCÚ: Estancia San José (MNHNP 4205). SAN PEDRO: Laguna Blanca (CZPLT 352, MNHNP 11508, 11557).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 668–675).

***Salvator duseni* (Lönnberg, 1910)**

Tupinambis duseni: Aquino et al. (1996): See Specimens Examined. Please check to see this species is listed in Aquino et al. 1996.

Tupinambis duseni: Fitzgerald et al. (1999): See Specimens Examined.

Tupinambis duseni: Péres and Colli (2004): CANINDEYÚ: Colonia Ybycuí (MNHNP 4343). CONCEPCIÓN: Paso Barreto (MNHNP 6182–6194).

Tupinambis duseni: Motte et al. (2009): Paraguay.

General Distribution: East-central Brazil and northeastern Paraguay (Fitzgerald et al., 1999; Péres and Colli, 2004).

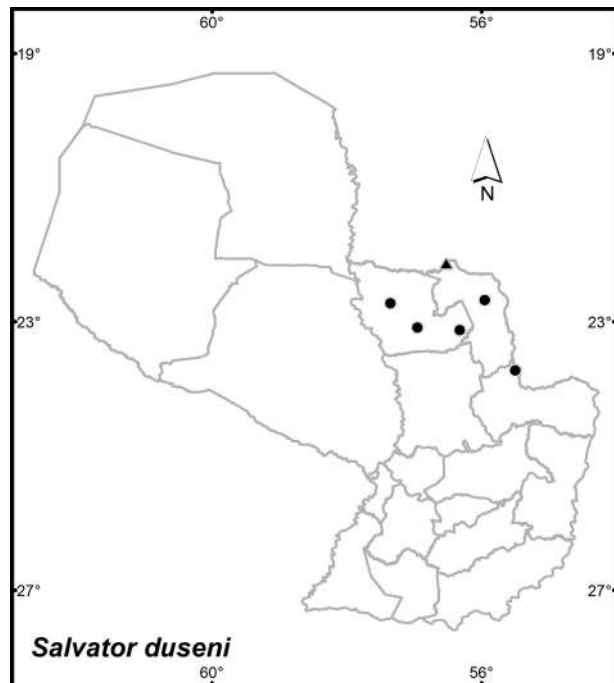
Local Distribution: Northeastern Paraguay in Cerrado.

Conservation Status: Vulnerable.

Comments: Formerly in the genus *Tupinambis*, Harvey et al. (2012) resurrected the genus *Salvator* to include this species. See Comments under *Salvator merianae*.

Specimens Examined: AMAMBAY: 28 km SW Pedro Juan Caballero (UMMZ 147656). CANINDEYÚ: Colonia Ybycuí (MNHNP 4342, 4343). CONCEPCIÓN: Estancia Garay Cué (MNHNP 9176); Paso Barreto (MNHNP 6181–6184); 2 km NW Paso Barreto (MNHNP 6185–6194); Estancia Siete Lagunas (MNHNP 5074, 5075).

Photographic Record: AMAMBAY: Bella Vista del Norte (FPREP 140).



***Salvator merianae* Duméril and Bibron, 1839**

Teyú-güazú: Azara (1802): Paraguay.

Tupinambis nigropunctatus: Boettger (1885a): Paraguay.

Tupinambis teguixin: Boettger (1885a): Paraguay.

Tupinambis teguixin: Boulenger (1894a): CENTRAL: Vicinity of Asunción.

Tupinambis teguixin: Peracca (1895): CONCEPCIÓN: Río Apa.

Tupinambis teguixin: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Tupinambis teguixin: Berg (1898): Paraguay.

Tupinambis teguixin: Koslowsky (1898b): Paraguay.

Tupinambis teguixin: Schenkel (1901): Paraguay.

Tupinambis teguixin: Peracca (1904): GUAIRÁ: Tebicuary.

Tupinambis teguixin: Bertoni (1905): ALTO PARANÁ.

Tupinambis nigropunctatus: Bertoni (1914): ALTO PARANÁ.

Tupinambis teguixin: Bertoni (1914): Paraguay.

Tupinambis teguixin: Schouten (1929): Paraguay.

Tupinambis nigropunctatus: Bertoni (1939): ALTO PARANÁ.

Tupinambis teguixin: Bertoni (1939): Paraguay.

Tupinambis teguixin: Hellmich (1960): CONCEPCIÓN: Centurión (ZSM 376/1933). SAN PEDRO: Nueva Germania (ZSM 279/1933).

Tupinambis teguixin: Talbot (1979): Eastern Paraguay.

Tupinambis teguixin: Elter (1981): GUAIRÁ: Tebicuary (MZUT R2187).

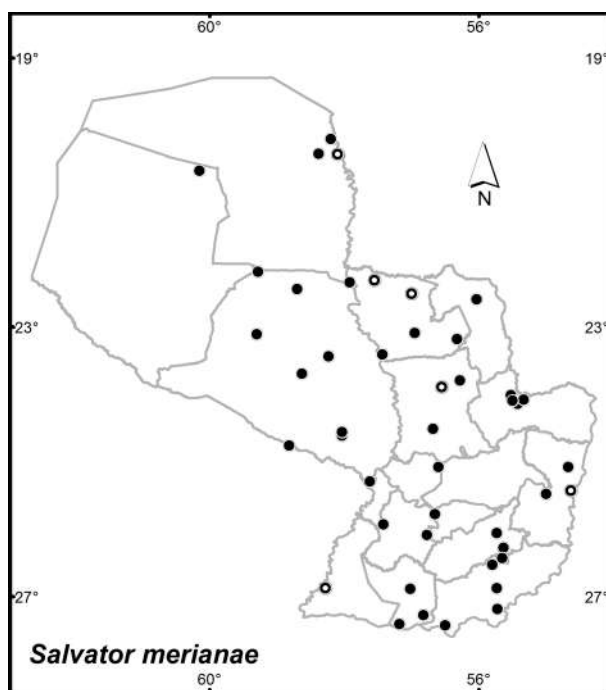
Tupinambis teguixin: Aquino-Shuster et al. (1991): See Specimens Examined.

Tupinambis teguixin: Giraudo and Contreras (1994): ÑEEMBUCÚ: Paso Lengá.

Tupinambis teguixin teguixin: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Tupinambis teguixin: Aquino et al. (1996): See Specimens Examined.

Tupinambis merianae: Fitzgerald et al. (1999): See Specimens Examined.



Tupinambis merianae: Motte et al. (2004): Paraguay.

Tupinambis merianae: Motte et al. (2009): Paraguay.

Salvator merianae: Harvey et al. (2012): CONCEPCIÓN: Pozo [sic, =Paso] Barreto (TCWC 90540, 90550–90552, 90554–90556, 90563).

Tupinambis merianae: Núñez (2012): ITAPÚA: Kangüery.

General Distribution: Central and southern Brazil, northern and central Argentina, eastern and central Paraguay, and Uruguay (Ávila-Pires, 1995; Carreira et al., 2005; Cabrera, 2009).

Local Distribution: This species is very common and widely distributed throughout the country except in the Dry Chaco.

Conservation Status: Least Concern.

Comments: Until the taxonomic revision of Ávila-Pires (1995), this species was considered to be a part of the northern taxon *T. teguixin*; she separated *T. merianae*, the form that occurs in Paraguay, from *T. teguixin*. Fitzgerald et al. (1999) found a large genetic distance between the Amazonian and northern South American *Tupinambis* species and those south of the Amazon drainage (Argentina, Bolivia, Brazil, Paraguay). In a revision of the family Teiidae based on morphology, Harvey et al. (2012) split *Tupinambis* into separate genera that also correspond to the north–south divergence, and returned the Southern Cone species of *Tupinambis* to the original Duméril and Bibron genus, *Salvator*.

Specimens Examined: Paraguay Expedition (ANSP 9277). ALTO PARAGUAY: Bahía Negra (MNHNP 3043); Colonia Potrerito (MNHNP 3984–4000, 4010, 4345); Puerto Casado (MNHNP 4326). ALTO PARANÁ: 15 km NW Santa Fé (MNHNP 4426); 35 km W Ciudad del Este (LACM 126309). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 3039, 8500); 28 km SW Pedro Juan Caballero (UMMZ 147656). CAAZAPÁ: Parque Nacional Caaguazú (MNHNP 6234, 6235); Parque Nacional San Rafael (MNHNP 6346). CANINDEYÚ: 1 km S Lagunita (MNHNP 3136); 3.1 km NE Ñanduro Cái (MNHNP 3042); Reserva Natural del Bosque Mbaracayú (MNHNP 4008, 4011, 6205); Villa Ygatimí (TCWC 90559). CENTRAL: Asunción (NHMUK 94.3.14.11, TCWC 90560); San Antonio (EBD 21352); San Lorenzo (LACM 126308, MNHNP 4346, 7240). CONCEPCIÓN: Concepción (MNHNP 9985); Estancia Siete Leguas (MNHNP 6236); Paso Barreto (MNHNP 5071, 5072, 6177–6179, 6198–6204, 6208–6217, 6219–6227, 6229–6233). CORDILLERA: Estancia Sombrero (MNHNP 4344, 6176). GUAIRÁ: Tebicuary (MZUT 2739). ITAPÚA: 10 km W Centro de Desarrollo Forestal (MNHNP 3041); El Tirol (USNM 253544–253546); Estancia Cuatro Puentes (MNHNP 9787); Isla Yacyretá (MNHNP 10607–10609); San Pedro Mi (MNHNP 8807). MISIONES: Estancia Sarandy (MNHNP 3977); San Ignacio (MNHNP 3052); Yabebury (MNHNP 3815). PARAGUARÍ: Estancia Ypoá (MNHNP 4364, 4365); Lago Ypoá (MNHNP 6175); Parque Nacional Ybycuí (MNHNP 2838, 2839, 3037, 4327, 6744, USNM 341990). PRESIDENTE HAYES: Estancia Campo Verde (MNHNP 5069); Estancia Juan de Zalazar (MNHNP 4142–4144, 5070, 6237); Estancia La Rural (MNHNP 4328); Estancia Villa Rey (MNHNP 6195); Makthlawaiya (MNHNP 4336);

Pozo Cué, 1 km E Route IX Km 250 (MNHNP 4333); Reserva Indígena Casanillo (MNHNP 4148); Route IX Km 125 (MNHNP 8410); Route IX Km 250 (MNHNP 4329, 4330, 4334, 4335, 6206, 6207, 6218, 6228); Route IX Km 251 (MNHNP 6196, 6197); Route IX Km 252 (MNHNP 4331, 4332, 6180). SAN PEDRO: Colonia Primavera (NHMUK 1960.1.2.63, 1960.1.3.42, 1969.433,434); Laguna Blanca (CZPLT 129).

Photographic Records: CANINDEYÚ: Reserva Mbaracayú (FREP 752). ITAPÚA: Nueva Gambach (FPREP 141–150). PRESIDENTE HAYES: Route IX Km 350 (FPREP 151, 152).

***Salvator rufescens* (Günther, 1871)**

Tupinambis rufescens: Hellmich (1960): CONCEPCIÓN: Apa-Bergland (ZSM 1995a, 1995b).

Tupinambis rufescens: Scott and Lovett (1975): See Specimens Examined.

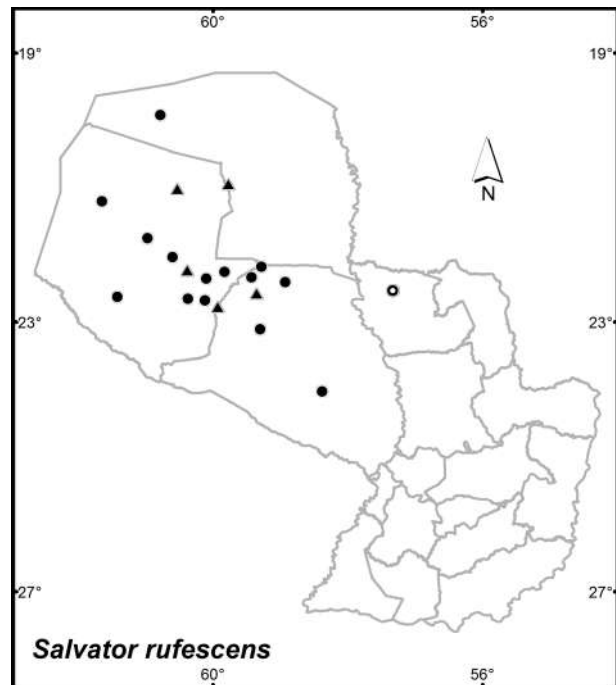
Tupinambis rufescens: Talbot (1979): Western Paraguay.

Tupinambis rufescens: Aquino et al. (1996): See Specimens Examined.

Tupinambis rufescens: Fitzgerald et al. (1999): See Specimens Examined.

Tupinambis rufescens: Péres and Colli (2004): BOQUERÓN: Filadelfia (MNHNP 3044, 4338), Neuland (MNHNP 4337, 4340).

Tupinambis rufescens: Motte et al. (2009): Paraguay.



General Distribution: Eastern Brazil, Bolivia, Paraguayan Chaco, and central and northern Argentina (Norman, 1994; Péres and Colli, 2004).

Local Distribution: Present in Dry Chaco and the fringes of Wet Chaco. A bibliographic record from Concepción (Hellmich, 1960) refers to a specimen from a transition zone between Wet Chaco and Cerrado.

Comments: There is a specimen in the American Museum of Natural History from the “vicinity of Asunción” (AMNH 75320) which is probably an erroneous shipping locality. Harvey et al. (2012) put this species in the genus *Salvator*. See Comments under *Salvator merianae*.

Specimens Examined: ALTO PARAGUAY: 5 km W Filadelfia (MNHNP 4338); 70 km NW Filadelfia on road to Fortín Madrejón (MNHNP 3036, 3040); Mayor Pablo Lagerenza (MNHNP 7224); Parque Nacional Defensores del Chaco (MNHNP 7934). BOQUERÓN: 2 km W Filadelfia (MNHNP 9738); Colonia Campo Alegre (MNHNP 4337); Colonia Fernheim (UCS 8089); Estancia Jabalí (MNHNP 4340, 4341); Filadelfia (MNHNP 3044, UCS 8090); Neuland (MNHNP 4339); Parque Nacional Teniente Enciso (UCS two uncatalogued skeletons); Teniente Ochoa (UCS 5737). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 4141, 5073, 6238); Colonia Fernheim, Estancia Laguna Porã (UCS 5768, 5769); Estancia Pozo Azul (MNHNP 4146, 4147); Estancia Santa Elisa (MNHNP 5068); Reserva Indígena Casanillo (MNHNP 4145).

Photographic Records: BOQUERÓN: (FPREP 156, 158, 159); Fortín Boquerón (FPREP 485); Route IX Km 500 (FPREP 155); Teniente Martínez (FPREP 557, 558); Teniente Picco (FPREP 157). PRESIDENTE HAYES: Reserva Privada Campo María (FPREP 153, 154).

***Teius oculatus* (D'Orbigny and Bibron, 1837)**

Teius teyou: Koslowsky (1898b): Paraguay.

Teius teyou: Bertoni (1914): Paraguay.

Teius [sic] *teyú* [sic]: Schouten (1929): Paraguay.

Teius teyou teyou: Burt and Burt (1933): Paraguay.

Teius teyou: Bertoni (1939): Paraguay.

Teius teyou [partim]: Talbot (1979): Eastern Paraguay.

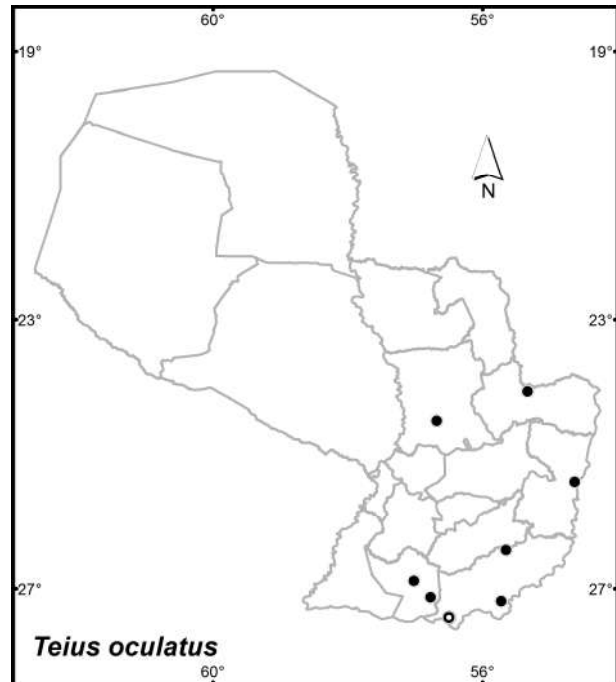
Teius teyou teyou: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Teius oculatus: Álvarez et al. (1995): ITAPÚA: Isla Talavera (UNNEC 871, 872).

Teius oculatus: Aquino et al. (1996): See Specimens Examined.

Teius oculatus: Motte et al. (2009): Paraguay.

Teius oculatus: Núñez (2012): ITAPÚA: Kangüery.



General Distribution: Southern Brazil, Paraguay, Uruguay, and Argentina (Carreira et al., 2005).

Local Distribution: The species occurs in eastern Paraguay from Canindeyú and Alto Paraná west to San Pedro, and south to Itapúa and Misiones, in Wet Chaco, Mesopotamian Grasslands, and Atlantic Forest.

Conservation Status: Least Concern.

Comments: The two Paraguayan *Teius* were long considered to be a single species until Cei (1993) differentiated the species and clarified their taxonomy.

Specimens Examined: ALTO PARANÁ: Itaipú reserves (MAI 52). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 10860). ITAPÚA: El Tirol (USNM 253543); Parque Nacional San Rafael (MNHNP 9221). MISIONES: San Ignacio (MNHNP 2761); Santiago (MNHNP 2762). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.3.21, 1960.1.2.64, 1960.1.2.65).

Photographic Records: ITAPÚA: Kangüery (FPREP 127, 128).

***Teius teyou* (Daudin, 1802)**

Lacerta vert: Azara (1801): Paraguay.

Teyu verde: Azara (1802): Paraguay.

Lacerta teyou: Daudin (1802b): Paraguay, type locality.

Teius viridis: Cope (1862d): Paraguay Expedition.

Tejus [sic] *teju* [sic]: Boettger (1885a): Paraguay.

Teius teyou: Peracca (1895): CONCEPCIÓN: Río Apa.

Teius teyou: Schenkel (1901): Paraguay.

Teius teyou cyanogaster: Hellmich (1960): CONCEPCIÓN: Apa-Bergland (ZSM 254, 257/1933–261/1933); San Luís de la Sierra (ZSM 256/1933).

Teius teyou: Scott and Lovett (1975): See Specimens Examined.

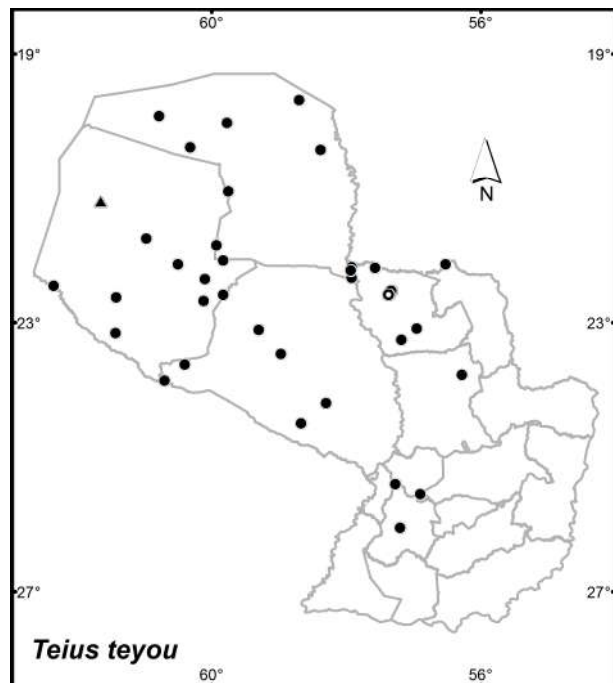
Teius teyou [partim]: Talbot (1979): Western Paraguay.

Teius teyou: Elter (1981): CONCEPCIÓN: Río Apa (MZUT R2198).

Teius teyou: Aquino-Shuster et al. (1991): See Specimens Examined.

Teius teyou: Aquino et al. (1996): See Specimens Examined.

Teius teyou: Motte et al. (2009): Paraguay.



General Distribution: Southern Brazil, Bolivia, Paraguay, and central and northern Argentina (Norman, 1994).

Local Distribution: Widely distributed in open formations in western and central Paraguay in Dry and Wet Chaco, Cerrado, and Central Forest ecoregiones.

Conservation Status: Least Concern.

Comments: One of the first reptiles described from Paraguay. The convoluted taxonomy of this species was unravelled by Cei (1993).

Specimens Examined: ALTO PARAGUAY: Agua Dulce (MNHNP 2739); Cerro León (MNHNP 2755–2760); Colonia Potrerito (MNHNP 9282); Estancia Punto Alto (MNHNP 10165); Mayor Pablo Lagerenza (MNHNP 7231); Parque Nacional Defensores del Chaco (MNHNP 7232); Puerto Casado (UMMZ 94089); 45 km S Madrejón (USNM 342486). AMAMBAY: 2 km W Bella Vista (MNHNP 2743). BOQUERÓN: Campo Loro (MNHNP 10654); Comunidad Ayoreo Jesudi (MNHNP 10727, 11112); Comunidad Ayoreo Tunucojai (MNHNP 10655); Estación Experimental Chaco Central (MNHNP 9994); Estancia Casilda (UMMZ 94089); Estancia Jabalí (MNHNP 8068); Estancia La Gama (MNHNP 8075, 11031); Filadelfia (MNHNP 2734–2738, 2740, 2741, USNM 341970, 341971); Neuland (MNHNP 8047, 8069, 8072, 8073); Pedro P. Peña (MNHNP 4021, 4030, 4032, 4033, 4039, 8077); Route IX Km 517 (MNHNP 7082, 7301, 7662); Teniente Ochoa (UCS 5729–5731, USNM 341974, 341975). CENTRAL: Lake Ypacaraí (USNM 341972). CONCEPCIÓN: Loreto (MNHNP 9848); NE Paso Barreto on road (MNHNP 9847); Río Apa (MZUT 958); Route to Bella Vista from Paso Barreto (MNHNP 8373); San Lázaro (MNHNP 2742). CORDILLERA: Saltos de Pira-retá (USNM 341973). PARAGUARÍ: 22 km N Caapucú (MNHNP 10018). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 3403, 3608–3615, 4204, 4222, 4318, 4319, UCS 5727, 5728, 6976–6986, USNM 341976); Estancia La Golondrina (MNHNP 328); Estancia La Victoria (MNHNP 4321); Estancia Toro Mocho (MNHNP 10628); Fortín Teniente Coronel Miguel A. Ramos (MNHNP 10770); Pozo Colorado (MNHNP 9725). SAN PEDRO: Laguna Blanca (CZPLT 86, 105, 288, 289, 319, 429, 436, 469).

Photographic Records: BOQUERÓN: Parque Nacional Teniente Enciso (FPREP 129, 136–139); Filadelfia (FPREP 486, 487). SAN PEDRO: Laguna Blanca (FPREP 130–135).

Family Mabuyidae

***Aspronema dorsivittatum* (Cope, 1862)**

Mabuia dorsivittata: Cope (1862d): Paraguay Expedition (type locality; USNM 5405, holotype).

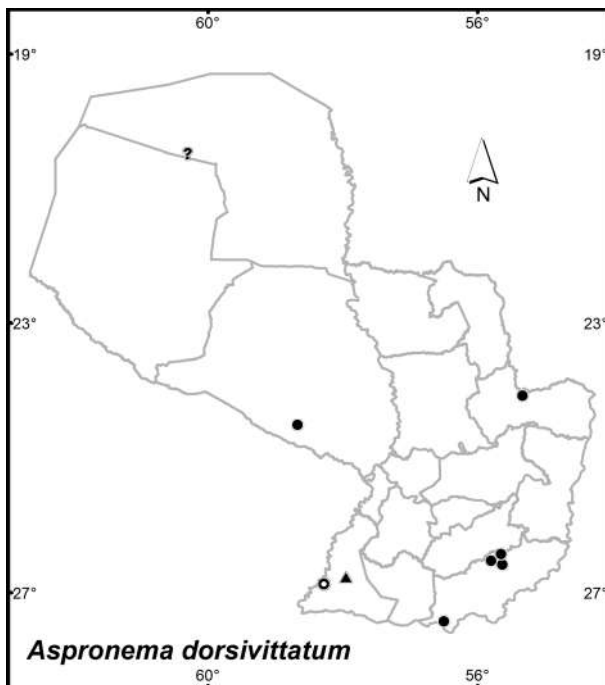
Mabuia tetrataenia: Boettger, 1885a: Paraguay (type locality).

Mabuia dorsivittata: Koslowsky (1898b): Paraguay.

Mabuia dorsivittata: Schenkel (1901): Paraguay.

Mambuia dorsivittata: Bertoni (1914): Paraguay.

Mambuia tetrataenia: Bertoni (1914): Paraguay.



Mabuya dorsivittata: Burt and Burt (1933): Paraguay.

Mambuia dorsivittata: Bertoni (1939): Paraguay.

Mambuia tetrataeniata: Bertoni (1939): Paraguay.

Mabuya dorsivittata: Talbot (1979): Eastern Paraguay.

Mabuya dorsivittata: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Mabuya dorsivittata: Aquino et al. (1996): See Specimens Examined.

?*Mabuya dorsivittata*: Ziegler (2002b): BOQUERÓN: Vicinity of 20°29'S, 60°18'W (MTKD 43503, 43504).

Mabuya dorsivittata: Motte et al. (2004): Paraguay.

Mabuya dorsivittata: Motte et al. (2009): Paraguay.

Mabuya dorsivittata: Núñez (2012): ITAPÚA: Kangüery.

General Distribution: Uruguay, Paraguay, central and northern Argentina, southern Brazil and Bolivia (Peters and Donoso-Barros, 1970; Cei, 1993; Carreira et al., 2005; Cabrera, 2009).

Local Distribution: Known from widely scattered localities in Wet Chaco, Cerrado, Atlantic Forest, and Mesopotamian Grasslands. A Dry Chaco record needs to be confirmed.

Conservation Status: Least Concern.

Comments: See taxonomic comments under *Notomabuya frenata*.

Specimens Examined: Paraguay Expedition, Argentina, Río Vermejo (USNM 5405, holotype of *Mabuia dorsivittata*). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 7731–7733, 7787–7790). ITAPÚA: Estancia San Isidro (MNHNP 9664); Isla Yacyretá (MNHNP 4985, 10636); Nueva Gambach (MNHNP 9850); Parque Nacional San Rafael (MNHNP 10519). PRESIDENTE HAYES: Estancia La Golondrina (MNHNP 8459); Estancia Pozo Azul (MNHNP 2910). SAN PEDRO: Colonia Primavera (NHMUK 1954.1.1.61, 1955.1.5.87).

Photographic Records: ÑEEMBUCÚ: (FPREP 101–103).

***Copeoglossum nigropunctatum* (Spix, 1825)**

Mabuya frenata [partim]: Aquino-Shuster et al. (1991): See Specimens Examined.

Mabuya guaporicola [partim]: Aquino et al. (1996): See Specimens Examined.

Mabuya nigropunctata: Lamas and Núñez (2003): Paraguay.

Mabuya nigropunctata: Motte et al. (2009): Paraguay.

General Distribution: Venezuela and Colombia to northern Paraguay and Brazil in dry formations (Ávila-Pires, 1995; Lamas and Núñez, 2003; Miralles et al., 2005).

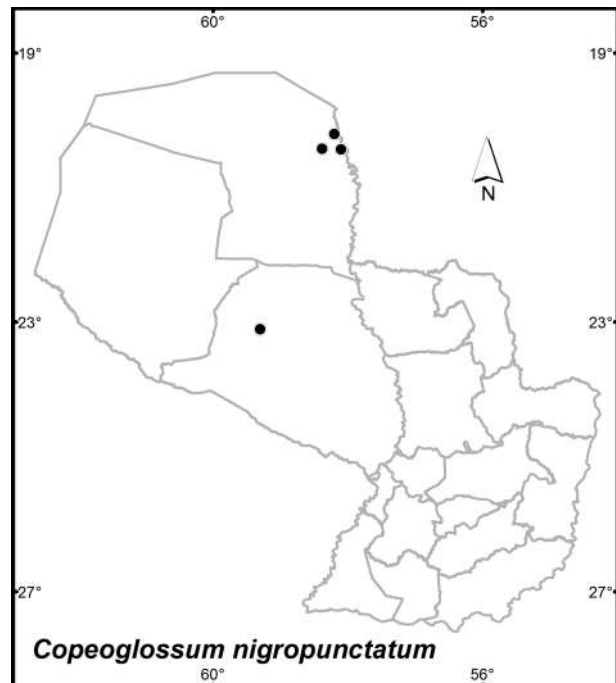
Local Distribution: Present in Pantanal and Dry Chaco.

Conservation Status: Data Deficient.

Comments: Few South American lizards have such an extensive distribution, but our specimens conform closely to the descriptions and photos in Ávila-Pires (1995) and Miralles et al. (2005, 2006). See taxonomic comments under *Notomabuya frenata*.

Specimens Examined:

ALTO PARAGUAY: 2 km S Estancia Doña Julia (MNHNP 4308); Colonia Potrerito (MNHNP 3125, 9280, 9281); Estancia Doña Julia (MNHNP 3790, 4303, 9215, 9216); Puerto Caballo (MNHNP 4295); Puerto Esperanza (MNHNP 3934). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 4229).



***Manciola guaporicola* (Dunn, 1935)**

Mabuya frenata [partim]: Aquino-Shuster et al. (1991): See Specimens Examined.

Mabuya guaporicola [partim]: Aquino et al. (1996): See Specimens Examined.

Mabuya guaporicola: Motte et al. (2004): Paraguay.

Mabuya guaporicola: Motte et al. (2009): Paraguay.

Manciola guaporicola: Cabral and Weiler (2014): BOQUERÓN: Teniente Picco (CZCEN 599). CONCEPCIÓN: Estancia Garay-Cue, Retiro La Paz.

General Distribution: Southwestern Bolivia, Brazil, and Paraguay.

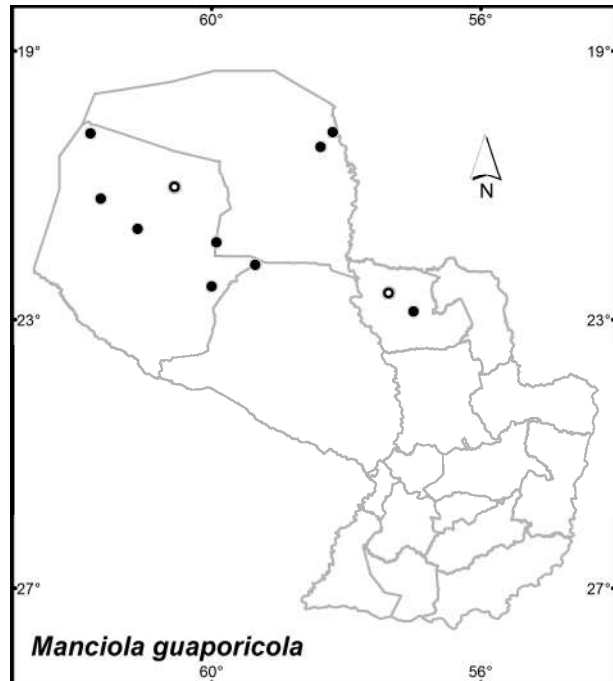
Local Distribution: Northern Paraguay in Pantanal and Wet and Dry Chaco.

Conservation Status: Least Concern.

Comments: See taxonomic comments under *Notomabuya frenata*.

Specimens Examined: Paraguayan Chaco (MNHNP 2907). ALTO PARAGUAY: Estancia Doña Julia (MNHNP 2967); Colonia Potrerito (MNHNP 3370). BOQUERÓN: 15.6 km S Filadelfia (MNHNP 10019); Copagro (UCS 7499); 19 km S Filadelfia (MNHNP 9727); Comunidad Ayoreo Jesudi (MNHNP 10726); Parque Cué (MNHNP 9223);

Parque Nacional Teniente Enciso (MNHNP 2903, 2905, 2906, 2908, 4301, 9129). CONCEPCIÓN: Rancho Z (MNHNP 7047). PRESIDENTE HAYES: Pozo Azul (MNHNP 2904).



***Notomabuya frenata* (Cope, 1862)**

Emoea frenata: Cope (1862c): “up the River Paraguay” (type locality; holotype USNM 5855).

Mabuia (Emoea) frenata: Boettger (1885a): Paraguay.

Mabuia frenata: Boulenger (1887): Paraguay.

Mabuia agilis: Boulenger (1894a): CENTRAL: Near Asunción.

Mabuia aurata: Boulenger (1894a): CENTRAL: Near Asunción.

Mabuia frenata: Boulenger (1894a): CENTRAL: Near Asunción.

Mabuia aurata: Peracca (1895): CONCEPCIÓN: Río Apa.

Mabuia frenata: Peracca (1895): CENTRAL: Luque. CONCEPCIÓN: Río Apa. SAN PEDRO: Nueva Germania.

Mabuia frenata: Koslowsky (1898b): Paraguay.

Mabuia frenata: Schenkel (1901): CORDILLERA: “Bemalcue” (=Nueva Colombia; Cacciali and Wüest, 2009).

Mabuia frenata: Peracca (1904): CENTRAL: Asunción.

Mambuia aurata: Bertoni (1914): Paraguay.

Mambuia frenata: Bertoni (1914): Paraguay.

Mabuya frenata: Burt and Burt (1933): Paraguay.

Mabuya frenata frenata: Dunn (1935): CAAGUAZÚ: Yhu (MCZ 34227).

Mambuia aurata: Bertoni (1939): Paraguay.

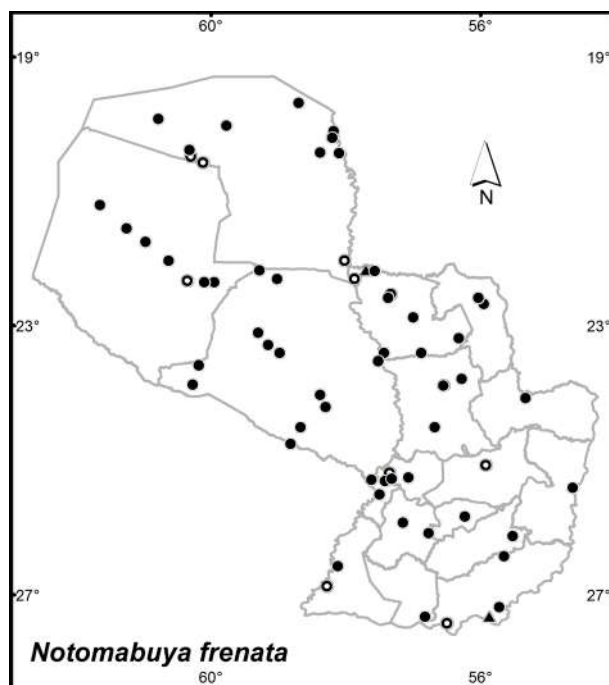
Mambuia frenata: Bertoni (1939): Paraguay.

Mabuia frenata frenata: Hellmich (1960): ALTO PARAGUAY: Puerto Sastre (ZSM 198/1933). CENTRAL: Trinidad (ZSM 202/1933). CONCEPCIÓN: Apa-Bergland (ZSM 192/1933, 197/1933).

Mabuya frenata: Cochran (1961): “Paraguay”, T. J. Page (USNM 5855, cotype *Emoia* [sic =*Emoea*] *frenata*).

Emoea frenata: Malnate (1971): “Paraguay” (ANSP 9395, cotype).

Mabuya frenata: Scott and Lovett (1975): See Specimens Examined.



Mabuya frenata: Talbot (1978): BOQUERÓN: 28.8 km W Madrejón.

Mabuya frenata: Talbot (1979): Eastern and western Paraguay.

Mabuya aurata: Elter (1981): CONCEPCION: Río Apa (MZUT R423).

Mabuya frenata: Elter (1981): CENTRAL: Asunción (MZUT R453), Luque (MZUT R449). CONCEPCIÓN: Río Apa (MZUT R487). SAN PEDRO: Nueva Germania (MZUT R459).

Mabuya frenata [partim]: Aquino-Shuster et al. (1991): See Specimens Examined.

Mabuya frenata: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Mabuya frenata: Álvarez et al. (1995): ITAPÚA: Isla Talavera (UNNEC 877).

Mabuya trenata [sic]: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Mabuya frenata: Aquino et al. (1996): See Specimens Examined.

Mabuya frenata: Ziegler et al. (2002b): BOQUERÓN: Vicinity of 20°29'S, 60°18'W; Fortín Toledo (MTKD 43500–43502).

Mabuya frenata: Padial et al. (2003): ALTO PARAGUAY: Bahía Negra.

Mabuya frenata: Motte et al. (2004): Paraguay.

Mabuya frenata: Motte et al. (2009): Paraguay.

Notomabuya frenata: Cabral and Weiler (2014): CANINDEYÚ: Mbaracayú (CZCEN 409, 412, 507). CONCEPCIÓN: Caverna Risso (CZCEN 714).

General Distribution: Bolivia, Brazil, Paraguay, and Argentina (Norman, 1994).

Local Distribution: Widely distributed in all ecoregions in the entire country.

Conservation Status: Least Concern.

Comments: The species is arboreal and is often found in human habitations. The four species of the *Mabuya* (*sensu lato*) complex in Paraguay were divided among four genera by Hedges and Conn (2012).

Manciola guaporicola is distinct, but the other three species have been confused in the literature. *Notomabuya frenata* is the most common and widespread, but some of the specimens in its synonymy may actually be *A. dorsivittatum* or, less likely, *C. nigropunctatum*.

Specimens Examined: Paraguay Expedition (ANSP 9395, syntype, USNM 5850, 5088, syntypes of *Emoea frenata*). Paraguay (NHMUK 85.9.1.14,15, MNHNP 2911, 2922, 4005). ALTO PARAGUAY: Agua Dulce (EBD 23540, MNHNP 9800, USNM 341912); Colonia Potrerito (MNHNP 3131, 9286, 9287); 2 km S Estancia Doña Julia (MNHNP 2968); Estancia Doña Julia (MNHNP 3798, 4296); Estancia General Díaz (MNHNP 3796, 3797, 3799–3801); Estancia Inmaculada Concepción (MNHNP 3944); Guyra Toro (MNHNP 10175); Misión Nueva Tribu (LACM 126298); Parque Nacional Defensores del Chaco (MNHNP 2913, 2916, 2917, 2920, 2924); Puerto Caballo

(MNHNP 2969); Puerto Esperanza (MNHNP 3937); Puerto Ramos (MNHNP 3791, 3792). ALTO PARANÁ: Itaipú reserves (MAI 129). AMAMBAY: 28 km SW Pedro Juan Caballero (USNM 205615); Parque Nacional Cerro Corá (USNM 341907). BOQUERÓN: 8.6 km E Filadelfia (LACM 126299); Route IX Km 620 (UMMZ 153109); Estancia Heisecke (MNHNP 2925); Filadelfia (MNHNP 2971, 4309); Parque Nacional Teniente Enciso (MNHNP 2919, 2930, USNM 341913); Mariscal Estigarribia (MNHNP 7086); Teniente Ochoa (UCS 5724, USNM 341914). CAAGUAZÚ: Colonia 1 de Mayo (MNHNP 2909). CAAZAPÁ: Tava'i (MNHNP 8621). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 3677, 7799, 10824). CENTRAL: Areguá (LACM 126305, MNHNP 4306); Asunción (NHMUK 94.3.14.37–94.3.14.40, 1930.11.27.179–1930.11.27.181, 1930.11.27.298, LACM 126300–126304, MNHNP 2921, 2926, 2927, 3802, 4314, MZUT 2754, UMMZ 143414, 143415, 147650, USNM 341908–341911); Luque (MZUT 974); Villeta (MNHNP 2918, 2923). CONCEPCIÓN: Colonia Takuarita (MNHNP 8375); Concepción (MNHNP 2914, 2929); Horcheta (MNHNP 3803); Parque Nacional Serranía San Luís (MNHNP 9883); Rancho Z (MNHNP 7048, 7049); Río Apa (MZUT 973, 975). CORDILLERA: San Bernardino (MNHNP 4554); Tobatí (UMMZ 153110). GUAIRÁ: Balneario Yvyturuzú (MNHNP 9938). ITAPÚA: El Tirol (USNM 253537–253542); Parque Nacional San Rafael (MNHNP 6384). MISIONES: 20 km SSW Santiago (LACM 126927). ÑEEMBUCÚ: Estancia Yacaré (MNHNP 4224–4228, 4230, UMMZ 227018). PARAGUARÍ: Centro de Rescate, Cabaña Arami (MNHNP 10440); Parque Nacional Ybycuí (MNHNP 2928, 2970, 4294, 4302, 4307, 4310–4313, USNM 341915–341944). PRESIDENTE HAYES: 4 km SSE Estancia Pozo Azul (MNHNP 4061); Estancia Josefina (MNHNP 8153); Estancia Juan de Zalazar (UCS 7004, MNHNP 3793–3795, 7344); Estancia La Golondrina (MNHNP 2912, 2915); Estancia La Rural (MNHNP 9844); Estancia La Victoria (MNHNP 2972–2975); Estancia Loma Porã (MNHNP 9181, 9194, 9213, 9214); Estancia Palo Santo (MNHNP 4150); Misión Indígena Laguna Escalante (MNHNP 10768); Route IX Km 295 (UCS 5723); Route IX Km 323 (MNHNP 10439). SAN PEDRO: Colonia Nueva Germania (MZUT 976); Colonia Primavera (NHMUK 1956.1.3.31, 1960.1.2.68–1960.1.2.71); Laguna Blanca (CZPLT 42, 77, 166, 460).

Photographic Records: CONCEPCIÓN: Estancia Estrella (FPREP 111). ITAPÚA: Encarnación (FPREP 105, 112, 548); Parque Nacional San Rafael, Nueva Gambach (FPREP 104, 106–110).

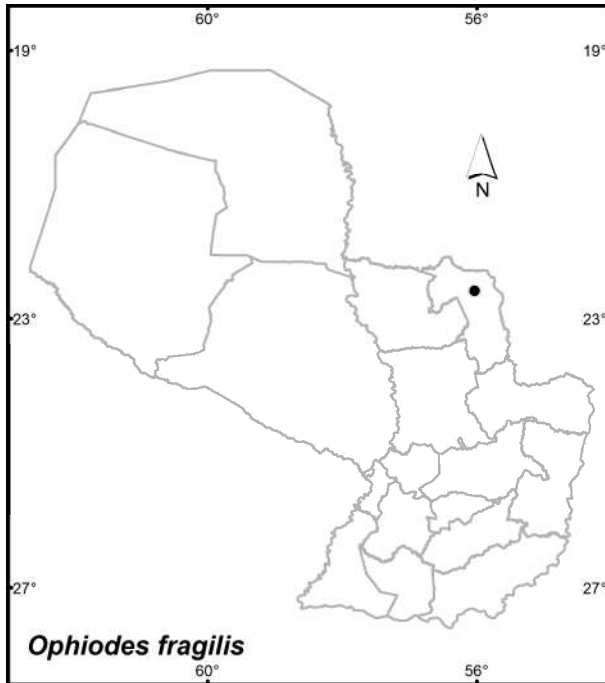
Diploglossa

Family Diploglossidae

***Ophiodes fragilis* (Raddi, 1820)**

Ophiodes yacupoi: Wermuth (1969): Paraguay.

Ophiodes fragilis: Cacciali and Scott (2012): See Specimens Examined.



General Distribution: This species has been recorded from Cerrado and Atlantic Forest in Argentina, Brazil, and Paraguay (Gallardo, 1966, Borges-Martins, 1998). The report for Bolivia by Dirksen and De la Riva (1999) is questioned by Langstroth (2005).

Local Distribution: One record in eastern Amambay in Cerrado.

Conservation Status: Not Evaluated.

Comments: This is the first valid country record. Previously known as *O. yacupoi*, it was placed in the synonymy of *O. fragilis* by Borges-Martins (1998) and Borges-Martins and Di-Bernardo (1999).

Specimens Examined: Paraguay (MNHNP 11178). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 9036).

***Ophiodes intermedius* Boulenger, 1894**

Ophiodes striatus: Cope (1862d): Paraguay Expedition (USNM "5819" [en errore =USNM 5849]).

Ophiodes intermedius: Boulenger (1894a): CENTRAL: Near Asunción (type locality).

Ophiodes intermedius: Peracca (1895): CENTRAL: Luque.

Ophiodes intermedius: Schenkel (1901): PRESIDENTE HAYES: Monte Sociedad (=Cerrito; Cacciali and Wüest, 2009).

Ophiodes intermedius: Schouten (1929): Paraguay.

Ophiodes intermedius: Bertoni (1914): Paraguay.

Ophiodes striatus: Burt and Burt (1930): "Chaco" (USNM 69873).

Ophiodes intermedius: Burt and Burt (1933): Paraguay.

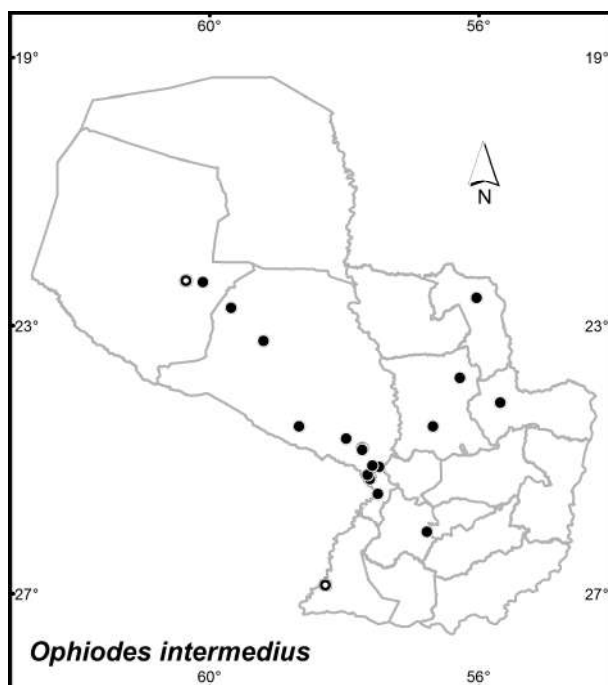
Ophiodes striatus: Burt and Burt (1933): Paraguay.

Ophiodes intermedius: Bertoni (1939): Paraguay.

Ophiodes intermedius: Gatti (1955): Paraguay.

Ophiodes intermedius: Hellmich (1960): CENTRAL: Asunción (ZSM 250/1933a).

Ophiodes intermedius: Gallardo (1966): CENTRAL: Asunción (MACN 5784–5787, 5791).



Ophiodes intermedius: Wermuth (1969): Paraguay.

Ophiodes intermedius: Talbot (1979): Eastern Paraguay.

Ophiodes intermedius: Elter (1981): CENTRAL: Luque (MZUT R1596).

Ophiodes intermedius: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Ophiodes intermedius: Borges-Martins (1998): CENTRAL: Asunción (MNRJ 1663, NHMUK 1946.8.31.3, NHMUK 1946.8.31.4). ÑEEMBUCÚ: Barrio General Díaz (CFA 131).

Ophiodes intermedius: Aquino et al. (1996): See Specimens Examined.

Ophiodes intermedius: Ziegler et al. (2002b): BOQUERÓN: Vicinity of Filadelfia (MTKD 43508); Fortín Toledo (sight record).

Ophiodes intermedius: Motte et al. (2004): Paraguay.

Ophiodes intermedius: Motte et al. (2009): Paraguay.

Ophiodes intermedius: Cacciali and Scott (2012): See Specimens Examined.

General Distribution: Argentina, southeastern Brazil, northern and central Paraguay, and Uruguay (Borges-Martins, 1998; Scolaro, 2006; Cabrera, 2009).

Local Distribution: Northern and central Paraguay in Wet and Dry Chaco, Cerrado, and Central Forest.

Conservation Status: Least Concern.

Specimens Examined: Paraguay Expedition (ANSP 9249, USNM 5849). Paraguay (MNHNP 9246, 9584). "Alto Paraguay" (USNM 69873). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 6969). BOQUERÓN: Filadelfia and vicinity (MNHNP 9730–9732, 10012, 10020, 10026, 10027, 10575). CANINDEYÚ: Colonia Chupa Pou (AMNH 143313). CENTRAL: Asunción (AMNH 75082, 75305, NHMUK 94.3.14.7–94.3.14.10 (type series), 1930.11.27.170–1930.11.27.75, 1946.8.31.3 (Holotype), LACM 109471–109475, 109960, MNHNP 2733, 4197, 8114, 8519, MSB 38832, 49380, UMMZ 166866, USNM 341991); Luque (MZUT 950); San Antonio (EBD 21356); San Lorenzo (MNHNP 2732, 3159); Villeta (MNHNP 2728). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 2731). PRESIDENTE HAYES: 27 km S Cruce de Los Pioneros (MNHNP 4013); 8 km N Falcón (MNHNP 7300, 8092); 60 km N Puente Remanso (MNHNP 2730); Route IX Km 75 and vicinity (MNHNP 3813, 4293); Route IX Km 107 (MNHNP 2729); Route IX Km 330 (MNHNP 7515); Estancia La Golondrina (MNHNP 4149, UMMZ 166867); Villa Hayes (USNM 341992). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.5.86, 1956.1.3.25,26, 1956.1.16.24,25, 1960.1.2.86,87, 1960.1.3.36,37, 1962.6–1962.14); Estancia Montanía (MNHNP 11469); Laguna Blanca (CZPLT 117, 155, 380, 440).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 679–681).

***Ophiodes luciae* Cacciali and Scott, 2015**

Ophiodes luciae Cacciali & Scott, 2015

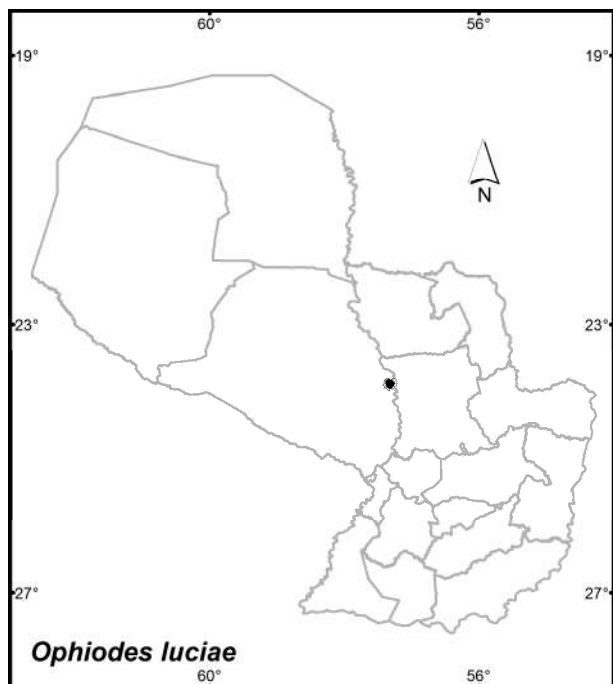
General Distribution: Paraguayan Chaco (Cacciali and Scott, 2015).

Local Distribution: One locality in Wet Chaco.

Comments: The single specimen is quite distinct from other *Ophiodes*.

Conservation Status: Not Evaluated.

Specimens Examined: PRESIDENTE HAYES: 35 km NW Antequera (SAN PEDRO; 23°53'18"S, 57°19'23"W; MNHNP 9685).



***Ophiodes striatus* (Spix, 1824)**

Ophiodes striatus: Cacciali and Scott (2012): See Specimens Examined.

Ophiodes sp.: Núñez (2012): ITAPÚA: Kangüery.

General Distribution: Southeastern Brazil and southeastern Paraguay (Borges-Martins, 1998).

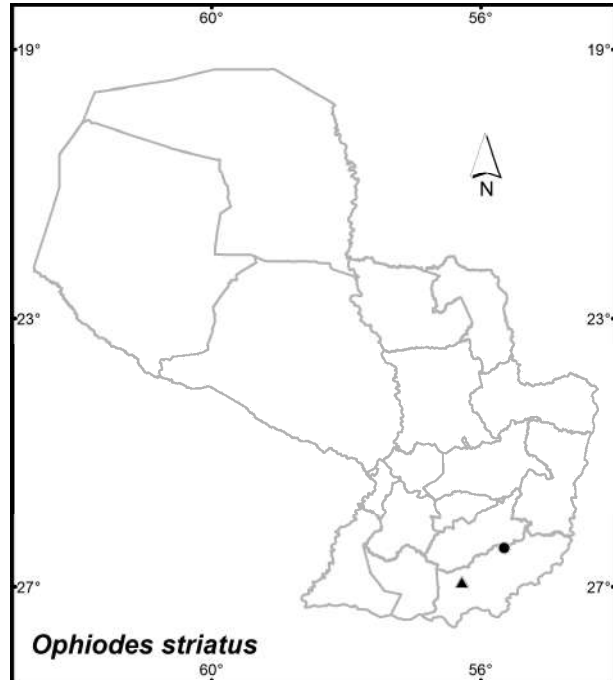
Local Distribution: Two localities in southern Paraguay in mixed Mesopotamian Grasslands and Atlantic Forest.

Comments: The records in Borges-Martins (1998) are clustered in Atlantic Forest on the coast of Brazil, but our specimens fit the description of *Ophiodes striatus* as the only described species where the vertical bars on the face extend onto the body.

Conservation Status: Not Evaluated.

Specimens Examined: ITAPÚA: Parque Nacional San Rafael (MNHNP 11341, 11342).

Photographic Records: ITAPÚA: Ñu Guazú, Artigas (FPREP 561, 562).



Ophiodes aff. striatus

?*Ophiodes striatus*: Boettger (1885a): Paraguay.

?*Ophiodes striatus*: Koslowsky (1898b): Paraguay.

?*Ophiodes striatus*: Bertoni (1914): Paraguay.

?*Ophiodes striatus*: Bertoni (1939): Paraguay.

?*Ophiodes striatus*: Gatti (1955): Paraguay.

Ophiodes striatus: Wermuth (1969): Paraguay.

?*Ophiodes intermedius*: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT R2823).

?*Ophiodes* sp.: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Ophiodes sp. "3": Borges-Martins (1998): ALTO PARANÁ: Hernandarias (MHNCI 5003).

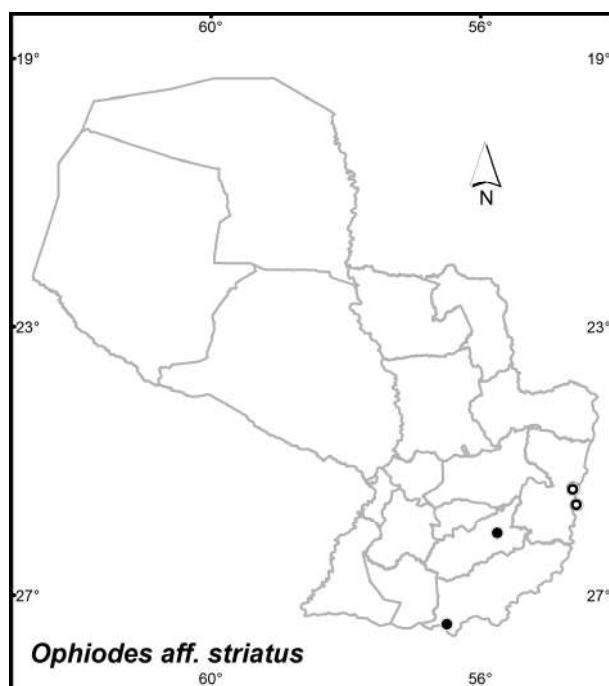
Ophiodes aff. striatus: Cacciali and Scott (2012): See Specimens Examined.

General Distribution: Southern Brazil through Uruguay, northeastern Argentina, and southeastern Paraguay (Borges-Martins, 1998).

Local Distribution: Two localities in central and southern Paraguay in Atlantic Forest and Mesopotamian Grasslands.

Conservation Status: Not Evaluated.

Comments: This is an unnamed species similar to *Ophiodes striatus* that was recognized by Borges-Martins (1998) and Borges-Martins and Di-Bernardo (1999). They called it *Ophiodes* sp. "3". Most of the old *O. striatus* records probably belong to this species. The Alto Paraná specimens should be reexamined.



Specimens Examined: CAAZAPÁ: San Carlos (MNHNP 7628). ITAPÚA: Isla Yacyretá (MNHNP 8091, 8331).

Amphisbaenia

Amphisbaenoidea

Family Amphisbaenidae

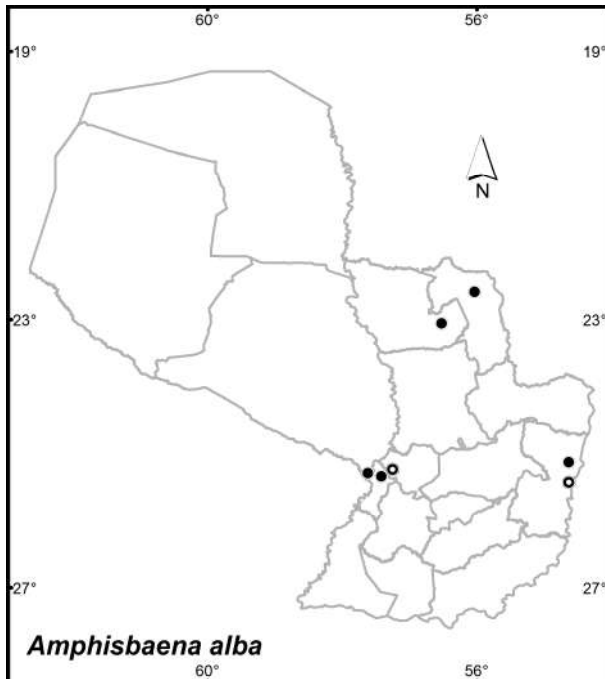
***Amphisbaena alba* Linnaeus, 1758**

Amphisbaena alba: Peracca (1895): CENTRAL: Luque.

Amphisbaena alba: Bertoni (1914): Paraguay.

Amphisbaena alba: Bertoni (1939): Paraguay.

Amphisbaena alba: Gatti (1955): Paraguay.



Amphisbaena alba: Hellmich (1960): CORDILLERA: San Bernardino (ZSM 217/1933).

Amphisbaena alba: Elter (1981): CENTRAL: Luque (MZUT R2111).

Amphisbaena alba: Talbot (1979): Eastern Paraguay.

Amphisbaena alba: Aquino et al. (1996): See Specimens Examined.

?*Amphisbaena* sp.: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Amphisbaena alba: Montero and Terol (1999): AMAMBAY: Parque Nacional Cerro Corá (MNHNP 5084). CENTRAL: Asunción (MNHNP 5085).

Amphisbaena alba: Motte et al. (2004): Paraguay.

Amphisbaena alba: Motte et al. (2009): Paraguay.

General Distribution: From Panama, Venezuela, and Guyana to Bolivia and eastern Paraguay (Gans, 2005).

Local Distribution: A wide distribution in eastern Paraguay, from departamentos Amambay to Central, in Cerrado and Central Forest, and in departamento Alto Paraná, Atlantic Forest.

Conservation Status: Least Concern.

Comments: Gans (1962) lists a Hellmich (1960) record from Buena Vista, "Paraguay." However, the Buena Vista locality is in Bolivia (Krieg, 1948).

Specimens Examined: Paraguay (MNHNP 8469). ALTO PARANÁ: 30 km N Hernandarias (LACM 126346). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 5084). CENTRAL: Asunción (MNHNP 5085); Capiatá (MNHNP 11243); Luque (MZUT 962). CONCEPCIÓN: Route III, 10 km S Route V (USNM 341889).

***Amphisbaena albocingulata* Boettger, 1885**

Amphisbaena albocingulata: Boettger (1885a): Paraguay (ZIN 6660, holotype).

Amphisbaena Darwini [sic]: Boettger (1885a): Paraguay.

Amphisbaena Darwinii [sic]: Peracca (1895): CENTRAL: Asuncion.
CONCEPCIÓN: Río Apa.

Amphisbaena Darwinii [sic]: Koslowsky (1898b): Paraguay.

Amphisbaena albocingulata: Bertoni (1914): Paraguay.

Amphisbaena albocingulata: Burt and Burt (1933): Paraguay.

Amphisbaena albocingulata: Bertoni (1939): Paraguay.

Amphisbaena albocingulata: Gatti (1955): Paraguay.

Amphisbaena prunicolor albocingulata: Gans (1966a): Paraguay (NMW 10618, 12333:1 through 12333:3). CENTRAL: Asuncion (MZUT 985). CORDILLERA: San Bernardino (UMMZ 103075). CONCEPCIÓN: Río Apa (MZUT 964A, 964C).

Amphisbaena prunicolor: Talbot (1979): Eastern Paraguay.

Amphisbaena prunicolor albocingulata: Elter (1981): Paraguay (MZUT R2088). CONCEPCIÓN: Río Apa (MZUT R2092).

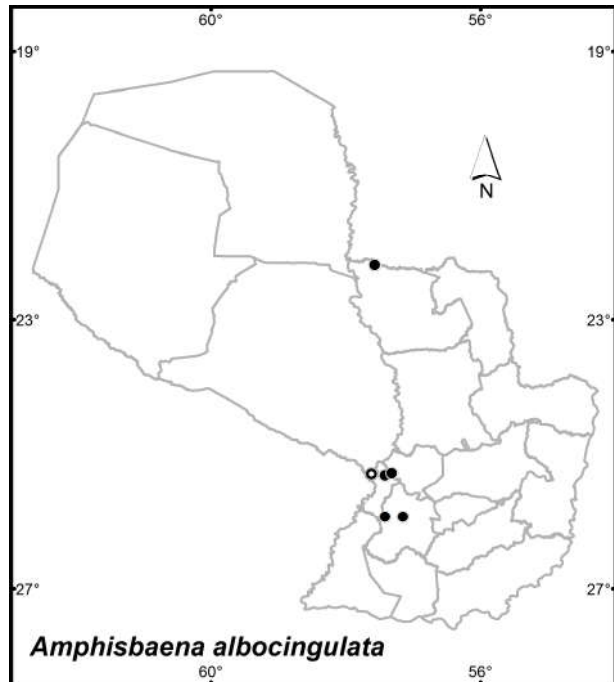
Amphisbaena prunicolor: Aquino et al. (1996): See Specimens Examined.

Amphisbaena prunicolor albocingulata: Montero and Terol (1999): CENTRAL: Areguá (MNHNP 4316); Cerro Patiño (MNHNP 6094, UMMZ 147651–147653). PARAGUARÍ: Cerro Acahay (MNHNP 6100, 6101); Lago Ypoá, Tarumá Fondo (MLP 211, see detailed Comments on this locality under *Amphisbaena mertensii*).

Amphisbaena albocingulata: Gans (2005): See Comments.

Amphisbaena albocingulata: Perez et al. (2012): Paraguay (ZIN 6660, holotype). CENTRAL: Areguá (MNHNP 4316); Cerro Patiño (MNHNP 6094). PARAGUARÍ: (MNHNP 6100, 6101).

General Distribution: Mato Grosso do Sul and Goiás in Brazil and Paraguay (Gans, 2005).



Local Distribution: Distributed east of Río Paraguay in Wet Chaco and Central Forest.

Conservation Status: Not Evaluated.

Comments: Montero and Terol (1999) list this taxon as a subspecies of *A. prunicolor*, although they say that with further study it may prove to be a distinct species. Gans's (2005) listing of *A. albocingulata* as a species in his checklist is not a taxonomic judgement as to whether it is a subspecies of *A. prunicolor* or a full species; see Comments under *Amphisbaena darwini heterozonata*.

Perez et al. (2012) finally found diagnostic characters that definitively separate *A. albocingulata* from *A. prunicolor*.

Specimens Examined: CENTRAL: Areguá, Cerro Patiño (MNHNP 4316, 6094, LACM 126336–126344, UMMZ 147651–147653, USNM 205611, 205612, 341906). CORDILLERA: San Bernardino (UMMZ 103075). CONCEPCIÓN: Río Apa (MZUT 964). PARAGUARÍ: Vicinity of Cerro Acahay (MNHNP 6100, 6101); Lago Ypoá (USNM 341905).

***Amphisbaena angustifrons* Cope, 1861**

Amphisbaena angustifrons: Montero and Terol (1999): “Alto Paraguay” (SAN PEDRO; see Comments): Puerto Primavera (=Colonia Primavera; FML 490).

Amphisbaena angustifrons: Motte et al. (2009): Paraguay.

General Distribution: Northern and central Argentina, Bolivia, and Paraguay (Montero and Terol, 1999; Gans, 2005).

Local Distribution: Previously only known from Wet Chaco in departamento San Pedro (Montero and Terol, 1999). We reviewed specimens from Teniente Enciso (Dry Chaco, Boquerón) and Paraguari (Central Forest). A photographic record that may be this species came from Mesopotamian Grasslands in Parque Nacional San Rafael.

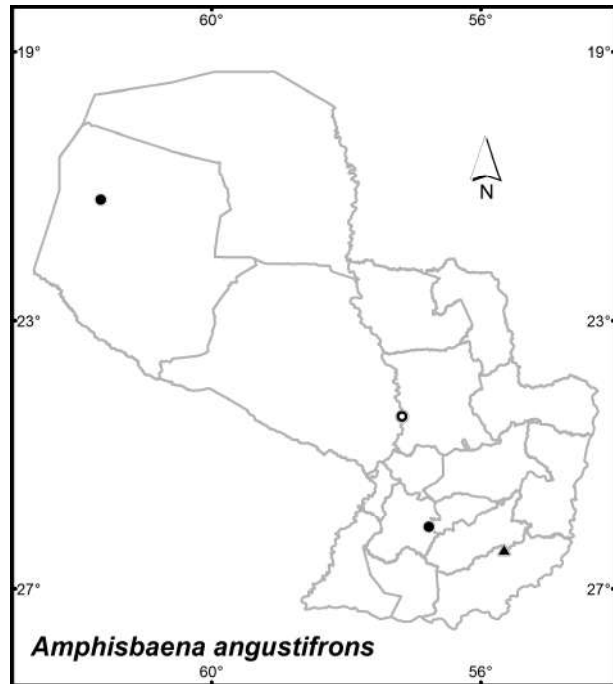
Conservation Status: Data Deficient.

Comments: There is confusion in the literature about the location of Colonia Primavera in Paraguay. Many publications (including Montero and Terol, 1999) refer to the location as being in “Alto Paraguay” but in this case, “Alto Paraguay” is not the name of the department; it merely means “up the Paraguay River from Asunción”. Colonia Primavera was the principal locality for the NHMUK collector, E. J. Phillips, in Departamento San Pedro.

Montero and Terol (1999) doubt that the Primavera record has accurate locality data. However, there are specimens of other species in the FML from this locality, collected by E. J. Phillips.

The Boquerón record is probably an animal transported in agricultural or road-building activities. See Comments under *Amerotyphlops brongersmianus*.

Specimens Examined: BOQUERÓN: Parque Nacional Teniente Enciso (MNHNP 10615). PARAGUARÍ: Parque Nacional Ybycuí (EBD 30430).



***Amphisbaena bolivica* Mertens, 1929**

Amphisbaena camura: Gans (1965): BOQUERÓN: Fortín Guachalla (FMNH 44134).

Amphisbaena camura [partim]: Talbot (1979): Western Paraguay.

Amphisbaena camura [partim]: Aquino et al. (1996): See Specimens Examined.

Amphisbaena bolivica: Montero (1996): Paraguay (MNHNP field number). BOQUERÓN: Filadelfia (3 MNHNP field numbers).

Amphisbaena bolivica: Montero and Terol (1999): BOQUERÓN: Filadelfia (MNHNP 5089, 5097, 5099, 5101, 5107); Parque Teniente Enciso (MNHNP 5088). PRESIDENTE HAYES: Estancia Pozo Azul (MNHNP 5102).

Amphisbaena bolivica: Motte et al. (2009): Paraguay.

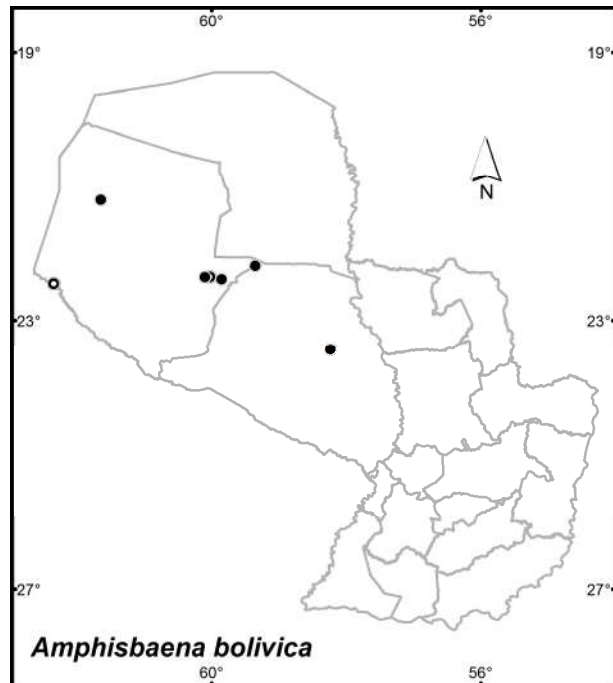
Amphisbaena bolivica: Cabral and Weiler (2014): BOQUERÓN: Filadelfia (CZCEN 420).

General Distribution: Central and northern Argentina, southern Bolivia, and western Paraguay (Montero and Terol, 1999).

Local Distribution: Mainly in Dry Chaco in Boquerón and Presidente Hayes, with one Wet Chaco locality in this last department.

Conservation Status: Least Concern.

Comments: *Amphisbaena bolivica* was considered a synonym of *A. camura*, but Montero (1996) resurrected the name as a valid species. The “MNHNP” numbers in Montero (1996) are field numbers that have been superseded by the collection numbers given in Specimens Examined below.



The distribution in Paraguay given by Gans (2005) is not accurate; it is found in northwestern, not southwestern, Paraguay.

Specimens Examined: Paraguay (MNHNP 9430). BOQUERÓN: Filadelfia (MNHNP 5089, 5097, 5099, 5105, 5107, 6239, 10022, USNM 341891, MSB 54865); vicinity of Filadelfia (MNHNP 5101); Loma Plata (KU 73447); Parque Nacional Teniente Enciso (MNHNP 5088). PRESIDENTE HAYES: Makthlawaiya (NHMUK 1928.1.8.13); Estancia Pozo Azul (MNHNP 5102, USNM 341890).

***Amphisbaena camura* Cope, 1862**

Amphisbaena camura Cope (1862d): Paraguay Expedition (USNM 5860, 2 syntypes *fide* Gans, 1965).

Amphisbaena camura: Boulenger (1894a): CENTRAL: Near Asunción.

Amphisbaena camura: Peracca (1895): CENTRAL: Asunción.

Amphisbaena camura: Schenkel (1901): Paraguay.

Amphisbaena camura: Bertoni (1914): Paraguay.

Amphisbaena camura: Burt and Burt (1930): "Paraguay" (USNM 5860; 2 specimens).

Amphisbaena camura: Burt and Burt (1931): GUAIRÁ: Villarrica (AMNH 25173).

Amphisbaena camura camura: Burt and Burt (1933): Paraguay.

Amphisbaena camura: Bertoni (1939): Paraguay.

Amphisbaena camura [sic] *camura*: Gatti (1955): Paraguay.

Amphisbaena camura: Hellmich (1960): CENTRAL: Asunción (ZSM 218/1933).

Amphisbaena camura: Cochran (1961): Paraguay, T. J. Page (USNM 5860[2] cotypes *Amphisbaena camura*).

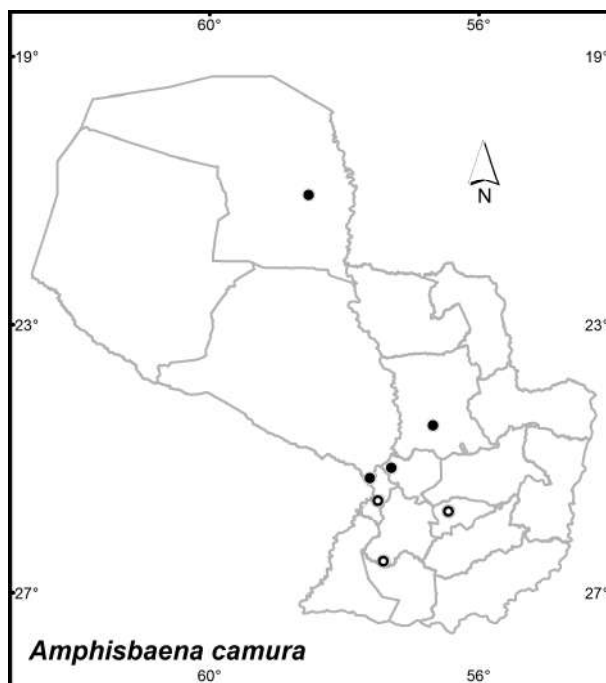
Amphisbaena camura: Gans (1965): Type locality restricted to CENTRAL: Asunción (syntypes USNM 5860A, 5860B). Also Paraguay: MACN 17855, NMB 3812, NMW 12329. CENTRAL: Colonia Nueva Italia (FMNH 42292); Asunción (NHMUK 94.3.14.23 through 94.3.14.26, 1930.11.27.177, 1930.11.27.178, 1956.1.16.28 through 1956.1.16.30, MZUT 969, BYU 16124, 16127, ZSM 218/33). GUAIRÁ: Villarica (AMNH 25173). PRESIDENTE HAYES: Makthlawaiya (NHMUK 1928.1.18.13).

Amphisbaena camura [partim]: Talbot (1979): Eastern Paraguay.

Amphisbaena camura: Elter (1981): CENTRAL: Asunción (MZUT R2110).

Amphisbaena camura [partim]: Aquino et al. (1996): See Specimens Examined.

Amphisbaena camura: Montero and Terol (1999): Paraguay: MNHNP (5080, 5096, 5104). ALTO PARAGUAY: Estancia General Díaz (MNHNP 5083). CENTRAL: Asunción (MNHNP 5077–5079, 5081, 5086, 5098, MHNSRMza



(H-1147). CORDILLERA: Compañía Matiauda (MNHNP 4557). PARAGUARÍ: Paraje Mbocaya Sapucay (CFA HL80).

Amphisbaena camura: Motte et al. (2004): Paraguay.

Amphisbaena camura: Motte et al. (2009): Paraguay.

Amphisbaena camura: Cabral and Weiler (2014): CENTRAL: Asunción (CZCEN 202, 513).

General Distribution: Northeastern Argentina, southern Bolivia, Paraguay, and the State of Mato Grosso in Brazil (Peters and Donoso-Barros, 1970; Gans, 2005).

Local Distribution: Wet Chaco and Central Forest in the center of the Oriental Region (departamentos Central, Cordillera, Guairá, Paraguairí, and San Pedro) and west of the river in Departamento Alto Paraguay.

Conservation Status: Least Concern.

Comments: Some of the records before Montero (1996) may pertain to *A. bolivica*. This is a very common species in Asunción.

Specimens Examined: "Paraguay" (USNM 5860, only one syntype found). Paraguay (MNHNP 5080, 5096, 5104, 8416). ALTO PARAGUAY: Estancia General Díaz (MNHNP 5083). CENTRAL: Asunción (MNHNP 5078, 5079, 5081, 5086, 5098, 7054, 8401, 8465, 11239, MZUT 969, NHMUK 94.3.14.23–94.3.14.26, 1930.11.27.177, 1930.11.27.178, USNM 341892–341895); San Antonio (EBD 21353, 21354); San Lorenzo (MNHNP 8466). CORDILLERA: Compañía Matiauda (MNHNP 4557). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.16.28–1956.1.16.30); Laguna Blanca (CZPLT 336, 345, 346).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 645–655).

***Amphisbaena darwini* Duméril and Bibron (1839)**

Amphisbaena darwini: Boulenger (1894a): CENTRAL: Near Asunción.

Amphisbaena darwini: Bertoni (1914): Paraguay.

Amphisbaena darwini: Burt and Burt (1933): Paraguay.

Amphisbaena darwini: Bertoni (1939): Paraguay.

Amphisbaena [sic] *darwini*: Gatti (1955): Paraguay.

Amphisbaena darwini heterozonata: Gans (1966a): Paraguay (MACN 17848, 17850). Chaco (NHMUK1901.3.9.1). "BOQUERÓN" (=PRESIDENTE HAYES): Guajhó, Casaso San Pedro (MACN 8211).

Amphisbaena darwini: Talbot (1979): Eastern Paraguay.

Amphisbaena darwini trachura: Montero and Terol (1999): ÑEEMBUCÚ: Pilar (CFA HL097).

Amphisbaena darwini heterozonata × *trachura*: Montero and Terol (1999): ÑEEMBUCÚ: Pilar (CFA HL147).

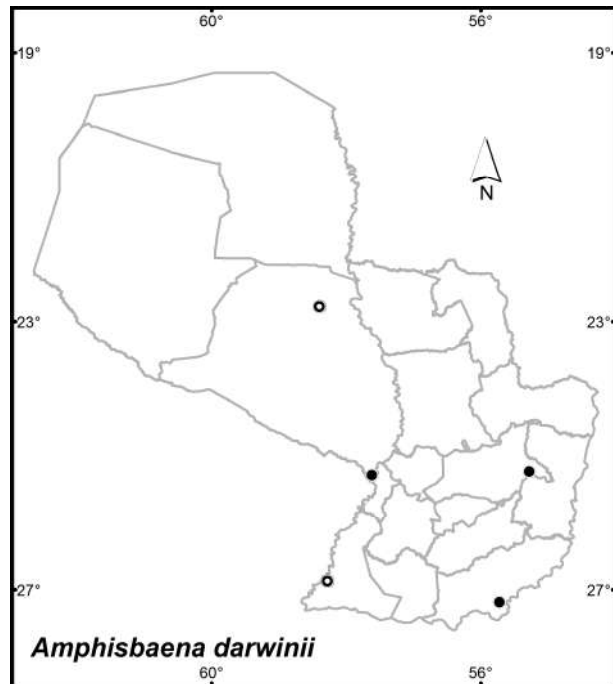
Amphisbaena heterozonata: Gans (2005): See Comments.

General Distribution: Central and southern Brazil, southern Bolivia, northern Argentina, Paraguay, and Uruguay (Peters and Donoso-Barros, 1970).

Local Distribution: The only definite localities are Wet Chaco and Atlantic Forest.

Conservation Status: Not Evaluated.

Comments: Montero and Terol (1999) recorded *A. darwini heterozonata*, *A. d. trachura*, and *A. d. heterozonata* × *A. d. trachura* from Paraguay. There is a wide zone in which the subspecies (*A. d. darwini*, *A. d. heterozonata*, and *A. d. trachura*) seem to show intergradation (Gans, 1966a; Montero and Terol, 1999; Carreira et al., 2005).



Nevertheless, Vanzolini (2002) presented tables for distinguishing among subspecies (all with overlapping values) and declared them to be full species. Gans (2005:7) further complicated the picture by listing recognized subspecies as if they were full species, saying "...it seems best to list the names [of subspecies] here, but to treat them as species..." Carreira et al. (2005) doubt the validity of separating *A. darwini* and *A. trachura* into different species, and we agree. The continent-wide systematics of these forms clearly needs more work.

Specimens Examined: Paraguayan Chaco (NHMUK 1930.11.27.177, 1930.11.27.178). CENTRAL: Asunción (NHMUK 94.3.14.21, 94.3.14.22). CAAGUAZÚ: Represa Yguazú (MNHNP 11471). ITAPÚA: El Tirol (USNM 253536).

***Amphisbaena leeseri* Gans, 1964**

Amphisbaena vermicularis: Peracca (1895): CONCEPCIÓN: Río Apa.

Amphisbaena vermicularis: Bertoni (1914): Paraguay.

Amphisbaena vermicularis: Bertoni (1939): Paraguay.

Amphisbaena [sic] *vermicularis*: Gatti (1955): Paraguay.

Amphisbaena leeseri: Gans (1964a): CONCEPCIÓN: Río Apa (MZUT 963A through 963D, 964B).

Amphisbaena leeseri: Talbot (1979): Eastern Paraguay.

Amphisbaena vermicularis: Talbot (1979): Eastern Paraguay.

Amphisbaena leeseri: Elter (1981): CONCEPCIÓN: Río Apa (MZUT R2091).

Amphisbaena leeseri: Motte et al. (2009): Paraguay.

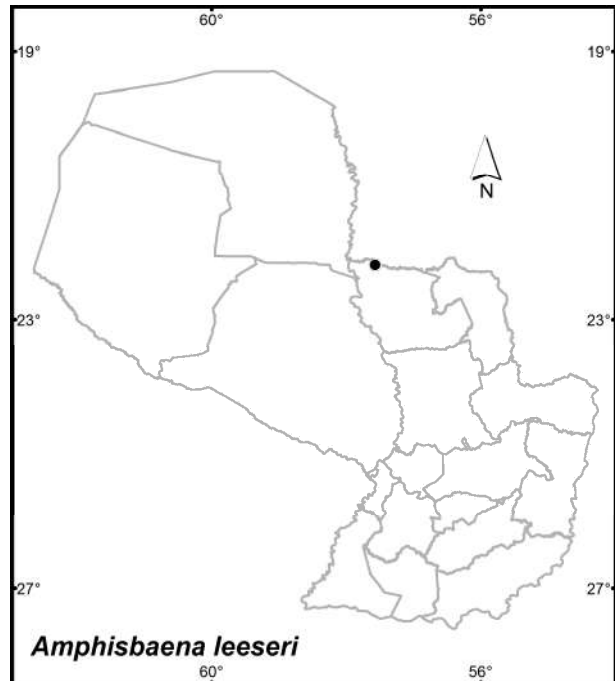
General Distribution: Central Mato Grosso in Brazil to the northern extreme of the Oriental Region of Paraguay (Gans, 2005).

Local Distribution: Departamento Concepción in Cerrado.

Conservation Status: Data Deficient.

Comments: This is a tropical species that was only recorded in the original description, and never again found in Paraguay.

Specimens Examined: CONCEPCIÓN: Río Apa (MZUT 963A–963D, 964B).



***Amphisbaena mertensii* Strauch, 1881**

Amphisbaena Bohlsii [sic]: Boulenger (1894a): CENTRAL: Near Asunción.

Amphisbaena bohlsii: Schenkel (1901): Paraguay.

Amphisbaena mertensii: Burt and Burt (1931): GUAIRÁ: Villarrica (AMNH 25172).

Amphisbaena bohlsii: Burt and Burt (1933): Paraguay.

Amphisbaena mertensi: Gans (1966b): Paraguay (AMNH 25172, ZMH 2196, 3436A through 3436D, MACN 17845, 17780, NMB 3809–10). CENTRAL: Near Asunción (NHMUK 94.3.14.19: RR1946.8.8.80, 94.3.14.20:RR1946.8.8.81, syntypes of *A. bohlsi*); Colonia Elisa (ZMUC 4436–37); Colonia Nueva Italia (FMNH 42291, MCZ 49549).

Amphisbaena mertensii: Talbot (1979): Eastern Paraguay.

Amphisbaena mertensi: Aquino et al. (1996): See Specimens Examined.

Amphisbaena mertensi: Montero and Terol (1999): AMAMBAY: Parque Nacional Cerro Corá (MNHNP 5082, 5087, 5090–5095, 5100, 6090–6097). PRESIDENTE HAYES (*en errore*): Tarumá Fondo, 24°38'S, 58°03'W (MLP 212; see Comments for a discussion of this locality). SAN PEDRO: Estancia Carumbé (FML 436).

Amphisbaena mertensi: Pramuk and Alamillo (2003): ITAPÚA: Alto Verá, San Pedro Mí.

Amphisbaena mertensi: Barcelos Ribeiro et al. (2007:map): Six Paraguayan localities.

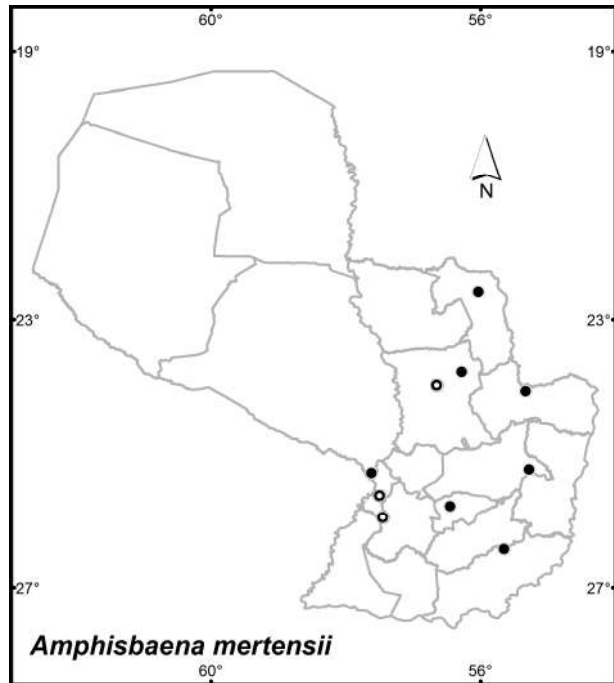
Amphisbaena mertensi: Motte et al. (2009): Paraguay.

Amphisbaena mertensii: Mott and Vieites (2009): ITAPÚA: Alto Verá (KU 290721).

Amphisbaena mertensii: Cabral and Weiler (2014): Asunción (CZCEN 201).

General Distribution: Central Brazil, eastern Paraguay, and northeastern Argentina (Gans, 2005; Barcelos Ribeiro et al., 2007).

Local Distribution: Widely distributed east of the Río Paraguay from departamentos



Amambay and Canindeyú in the north, south to departamentos Paraguari and Itapúa, in Central Forest, Cerrado, and Atlantic Forest.

Conservation Status: Least Concern.

Comments: The coordinates given by Montero and Terol (1999) for the locality “Lago Ypoá, Tarumá Fondo” are incorrect. The coordinates that they give are in Presidente Hayes, but the true locality is a cattle station of the Estancia Ypoá in Departamento Paraguari on the shores of Lago Ypoá (25°57'S, 57°27'W).

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 5082, 5087, 5090–5095, 5100, 6090–6093, 6095–6097, USNM 341896–341904). CAAGUAZÚ: Represa Yguazú (MNHNP 11470). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 8467). CENTRAL: Asunción (ANSP 34619, MNHNP 6099, 11160, NHMUK94.3.14.19,20). GUAIRÁ: Villarrica (AMNH 25172). ITAPÚA: Parque Nacional San Rafael (MNHNP 8740–8742). SAN PEDRO: Laguna Blanca (CZPLT 206).

Photographic Records: ITAPÚA: Parque Nacional San Rafael, Nueva Gambach (FREP 161–171). SAN PEDRO: Laguna Blanca (FPREP 602–607).

***Amphisbaena prunicolor* (Cope, 1885)**

Amphisbaena prunicolor prunicolor: Montero and Terol (1999): ITAPÚA: 3 km NE Encarnación (CM 109119).

Amphisbaena prunicolor: Motte et al. (2004): Paraguay.

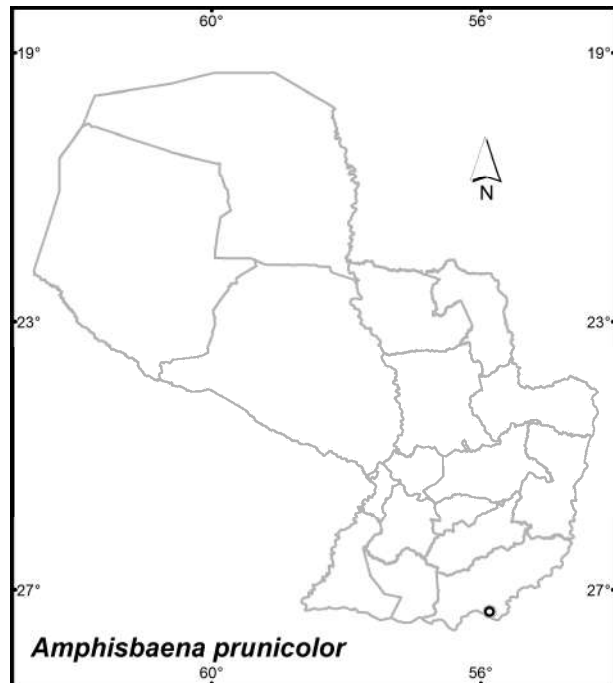
Amphisbaena prunicolor: Motte et al. (2009): Paraguay.

General Distribution: Southern Paraguay, Misiones and Corrientes in Argentina, and southern Brazil (Peters and Donoso-Barros, 1970; Álvarez, 1996; Montero and Terol, 1999). Gans (2005) does not list it for Paraguay.

Local Distribution: The only record is in southern Paraguay in the lower Río Paraná in Mesopotamian Grasslands (Montero and Terol, 1999).

Conservation Status: Data Deficient.

Specimens Examined: None.



***Amphisbaena roberti* (Gans, 1964)**

Cercolophia roberti: Aquino et al. (1996): See Specimens Examined.

Cercolophia roberti: Montero and Terol (1999): AMAMBAY: Parque Nacional Cerro Corá (MNHNP 6098); 8 km E Parque Nacional Cerro Corá (MNHNP 5113).

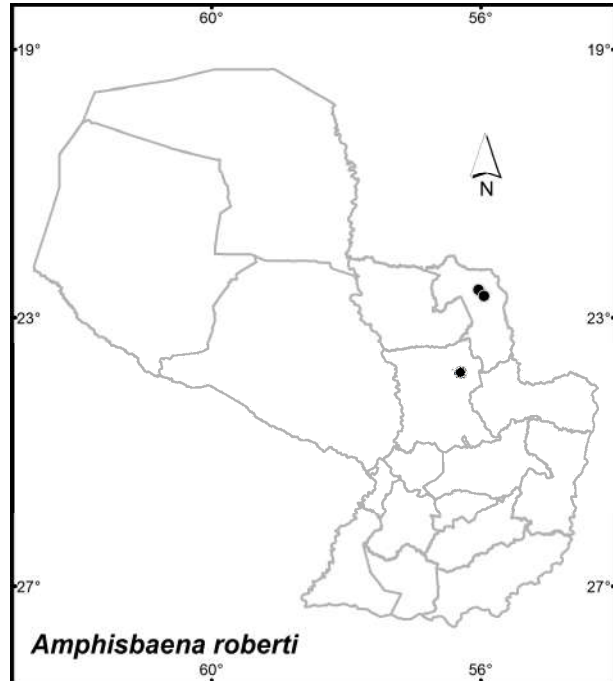
General Distribution: Southcentral Brazil and eastern Paraguay (Gans, 2005).

Local Distribution: Only present in Cerrado in departamentos Amambay and San Pedro.

Conservation Status: Data Deficient.

Comments: Vanzolini (1992) erected the genus *Cercolophia* to include species with a vertical keel on the tail. However, Mott and Veites (2009), based on genetics, showed that this character is homoplastic and the genus polyphyletic, returning it to *Amphisbaena*.

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 6098); 8 km E Parque Nacional Cerro Corá (MNHNP 5113). SAN PEDRO: Laguna Blanca (CZPLT 482, 540, 572, 713, MNHNP 11521).



***Amphisbaena steindachneri* (Strauch, 1881)**

Cercolophia steindachneri: Aquino et al. (1996): See Specimen Examined.

Cercolophia cf. borelli: Montero and Terol (1999): Paraguay (MNHNP 5103).

Cercolophia borelli: Motte et al. (2009): Paraguay.

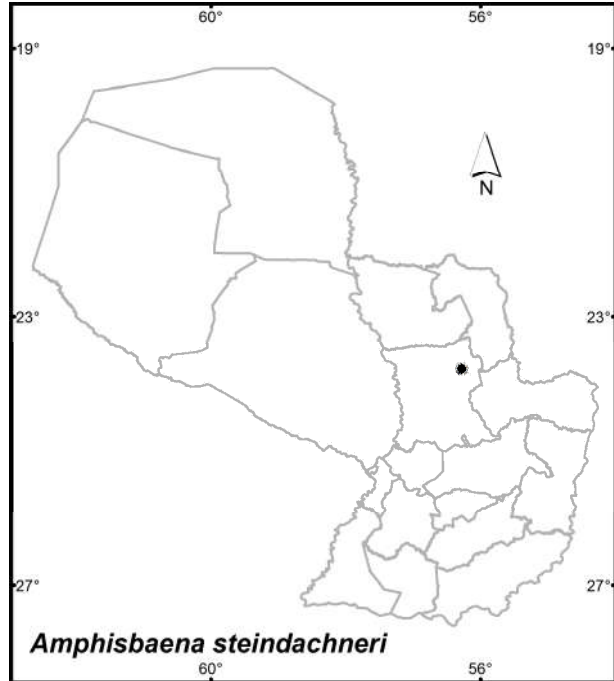
Cercolophia steindachneri: Motte et al. (2009): Paraguay.

General Distribution: Southeastern Bolivia, Paraguay, northwestern Argentina, and southwestern Brazil (Gans, 2005).

Local Distribution: The only known specific Paraguayan record is in Cerrado, Departamento San Pedro.

Conservation Status: Data Deficient.

Comments: See the taxonomic comments under *Amphisbaena roberti*. This species is probably associated with Cerrado, but very little is known about its ecological preferences. Montero (pers. comm., 2014) believes that these specimens pertain to *A. borelli*, a Bolivian species (Peracca 1987).



Specimens Examined: Paraguay (MNHNP 5103). SAN PEDRO: Laguna Blanca (CZPLT 095).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 503–506).

Rhineuroidea

Family Indetermined

Leposternon microcephalum Wagler, 1824

Leposternum affine Boettger (1885a): Paraguay.

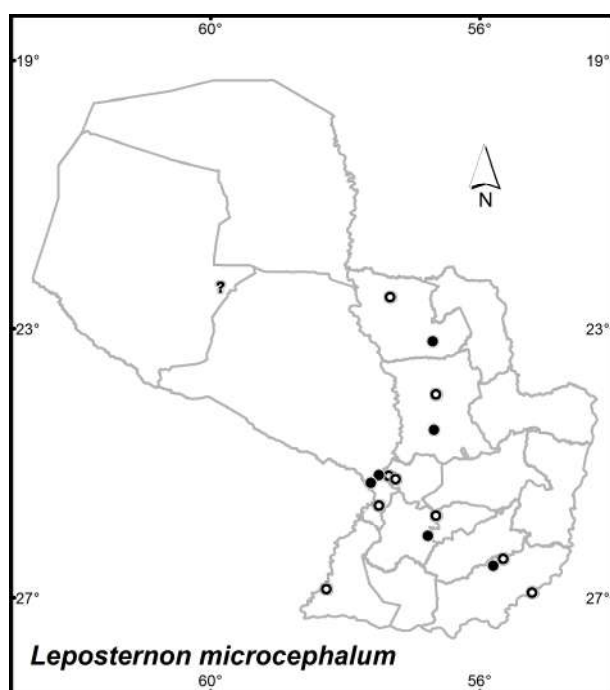
Leposternum boulengeri Boettger (1885a): Paraguay.

Leposternum onychocephalum Boettger (1885a): Paraguay.

Leposternum strauchi Boettger (1885a): Paraguay.

Leposternum latifrontale Boulenger (1894a): CENTRAL: Near Asunción.

Leposternum latifrontale: Boulenger (1895): Paraguay.



Leposternum camerani Peracca (1895): CENTRAL: Luque.

Leposternum boulengeri: Schenkel (1901): CORDILLERA: "Bemalcue" (=Nueva Colombia; Cacciali and Wüest, 2009).

Leposternum carcani Peracca (1904): GUAIRÁ: Tebicuary

Leposternum pfefferi Werner (1910): Paraguay.

Leposternum affine: Bertoni (1914): Paraguay.

Leposternum boulengeri: Bertoni (1914): Paraguay.

Leposternum camerani: Bertoni (1914): Paraguay.

Leposternum latifrontale: Bertoni (1914): Paraguay.

Leposternum onychocephalum: Bertoni (1914): Paraguay.

Leposternum strauchi: Bertoni (1914): Paraguay.

Leposternum affine: Burt and Burt (1933): Paraguay.

Leposternum boulengeri: Burt and Burt (1933): Paraguay.

Leposternum camerani: Burt and Burt (1933): Paraguay.

Leposternum carcani: Burt and Burt (1933): Paraguay.

Leposternum laticeps: Burt and Burt (1933): Paraguay.

Leposternum latifrontale: Burt and Burt (1933): Paraguay.

Leposternum onychocephalum: Burt and Burt (1933): Paraguay.

- Leposternon pfefferi*: Burt and Burt (1933): Paraguay.
- Leposternon strauchi*: Burt and Burt (1933): Paraguay.
- Lepidosternon affine*: Bertoni (1939): Paraguay.
- Lepidosternon boulengeri*: Bertoni (1939): Paraguay.
- Lepidosternon camerani*: Bertoni (1939): Paraguay.
- Lepidosternon latifrontale*: Bertoni (1939): Paraguay.
- Lepidosternon onychocephalum*: Bertoni (1939): Paraguay.
- Lepidosternon strauchi*: Bertoni (1939): Paraguay.
- Lepidosternon affine*: Gatti (1955): Paraguay.
- Lepidosternon boulengeri*: Gatti (1955): Paraguay.
- Lepidosternon camerani*: Gatti (1955): Paraguay.
- Lepidosternon latifrontale*: Gatti (1955): Paraguay.
- Lepidosternon onychocephalum*: Gatti (1955): Paraguay.
- Lepidosternon strauchi*: Gatti (1955): Paraguay.
- Leposternon latifrontale*: Hellmich (1960): CONCEPCIÓN: Apa-Bergland (ZSM 231/1933).
- Leposternon microcephalum*: Gans (1971): Paraguay (ZMH ?? [holotype of *L. pfefferi*, destroyed], ZMH 3438, MACN 17886, NMBE 69A, NMB 3816, 3818 through 3820, NMW 10, 12374, ZIN 6653 [holotype of *L. onychocephalum*], ZIN 6654 [holotype of *L. affine*], ZIN 6656 [holotype of *L. boulengeri*], ZIN 6655 [holotype of *L. strauchi*]). CENTRAL: Near Asunción (NHMUK 94.3.14.27:RR1946.8.8.87– 94.3.14.30:RR1946.8.8.90 [lectoparatypes of *L. latifrontale*], 94.3.14.31:RR1946.8.8.91 [lectotype of *L. latifrontale*], 94.3.14.32:RR1946.8.8.92– 94.3.14.35:RR1946.8.8.95, MCZ 10783 [lectoparatypes of *L. latifrontale*]); Asunción (ZMH 1654, ZMUC 443, MZUSP 28386, MZUT 970, SMF 11849, 11850); Colonia Nueva Italia (FMNH 42290, MCZ 47030); Villa Elisa (NRM 2897A, 2897B); Luque (MZUT 972, holotype of *L. camerani*). CONCEPCIÓN: Apa-Bergland (ZSM 231/1933). CORDILLERA: San Bernardino (ZMU 26267). GUAIRÁ: Tebicuary (MZUT 2750, holotype of *L. carcani*). SAN PEDRO: Primavera (CG 1595, 1596, NHMUK1955.1.5.85, 1956.1.3.27– 1956.1.3.30, 1956.1.16.27, 1958.1.2.10, 1958.1.2.11, 1960.1.2.92, 1960.1.2.93, 1962.27).
- Leposternon microcephalum*: Talbot (1979): Eastern Paraguay.
- Leposternon cameranii*: Elter (1981): CENTRAL: Luque (MZUT R237 holotype).
- Leposternon carcani*: Elter (1981): GUAIRÁ: Tebicuary (MZUT R238 holotype).
- Leposternon microcephalum*: Elter (1981): Paraguay (MZUT R236).
- Leposternon microcephalum*: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Leposternon microcephalum: Aquino et al. (1996): See Specimens Examined.

Leposternon microcephalum: Montero and Terol (1999): Paraguay: (MNHNP 5114). CAAZAPÁ: Entre San Juan Nepomuceno y General Morínigo (MNHNP 244). CENTRAL: (MNHNP 5111); Areguá (MNHNP 5112); Asunción (MZUSP 28386, syntype of *L. latifrontale*); Río Paraguay, 1 km S Puente Remanso (UMMZ 166869); San Lorenzo (MNHNP 5109, 5110). ITAPÚA: Capitán Meza (MNHNP 245). ÑEEMBUCÚ: Valle Apuá (CFA HL146). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 5108). SAN PEDRO: Estancia Carumbé (FML 602).

Leposternon microcephalum: Motte et al. (2004): Paraguay.

Leposternon microcephalum: Perez and Ribeiro (2008:map): 13 unnamed Paraguayan localities.

Leposternon microcephalum: Motte et al. (2009): Paraguay.

Leposternon microcephalum: Núñez (2012): ITAPÚA: Kangüery.

Leposternon microcephalum: Cabral and Weiler (2014): CENTRAL: Asunción (CZCEN 508); San Lorenzo (CZCEN 297).

General Distribution: Brazil, Bolivia, Paraguay, Uruguay, and northern Argentina (Perez and Ribeiro, 2008).

Local Distribution: Widespread east of the Río Paraguay in Wet Chaco, Mesopotamian Grasslands, and Central and Atlantic forests. The specimen from Boquerón Dry Chaco was probably transported in agricultural materials. See comments under *Amerotyphlops brongersmianus*.

Conservation Status: Data Deficient.

Comments: The phylogenetic position of this enigmatic taxon is extremely fluid. Vanzolini (1951) included *Leposternon* in the subfamily Rhineurinae of the Amphisbaenidae. Berman (1973) excluded *Leposternon* from Rhineurinae, leaving only a North American species. Gans (1978) elevated the subfamily to family level but left *Leposternon* in the family Amphisbaenidae. Cei (1993) again put *Leposternon* in Rhineuridae, without comment. Kearney (2003) put *Leposternon* in the Rhineuroidea but excluded it from the family Rhineuridae. Gans (2005) returned it to Amphisbaenidae. Our only solid conclusion is that, following Berman (1973), Gans (1978, 2005), Kearney (2003), and Mott and Vieites (2009), *Leposternon* is not related to the North American *Rhineura* at the family level.

Because *Leposternon* is associated with a major branch of a polyphyletic genus *Amphisbaena*, Mott and Vieites (2009) included it in that genus. However, we prefer to retain *Leposternon*; it remains a distinctive monophyletic grouping and will probably be returned to *Leposternon* when the unwieldy *Amphisbaena* is realistically partitioned.

Specimens Examined: Paraguay (MNHNP 9446). BOQUERÓN: Loma Plata (KU 73448). CENTRAL: Asunción (LACM 126345, MNHNP 5111, 8464, NHMUK 94.3.14.27–94.3.14.36); Mariano Roque Alonso (UMMZ 166869); San Lorenzo

(MNHNP 5106, 5109, 5110). CONCEPCIÓN: 91 km E de Concepción (MNHNP 7626). ITAPÚA: Estancia San Isidro (MNHNP 9666). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 5109). SAN PEDRO: Colonia Primavera (NHMUK1955.1.5.85, 1956.1.3.27–1956.1.3.30, 1956.1.16.27, 1958.1.2.10, 1958.1.2.11, 1960.1.2.92, 93, 1962.27).

Photographic Records: CENTRAL: Asunción (FPREP 440–443). ITAPÚA: Kangüery (FPREP 435, 436).

SQUAMATA-SERPENTES

Booidea

Family Boidae

***Boa constrictor* Linnaeus 1758**

Boa imperator: Boettger (1885a): Paraguay.

Boa occidentalis: Boulenger (1896): Paraguay.

Boa constrictor: Koslowsky (1898b): Paraguay.

Boa constrictor: Bertoni (1914): Paraguay.

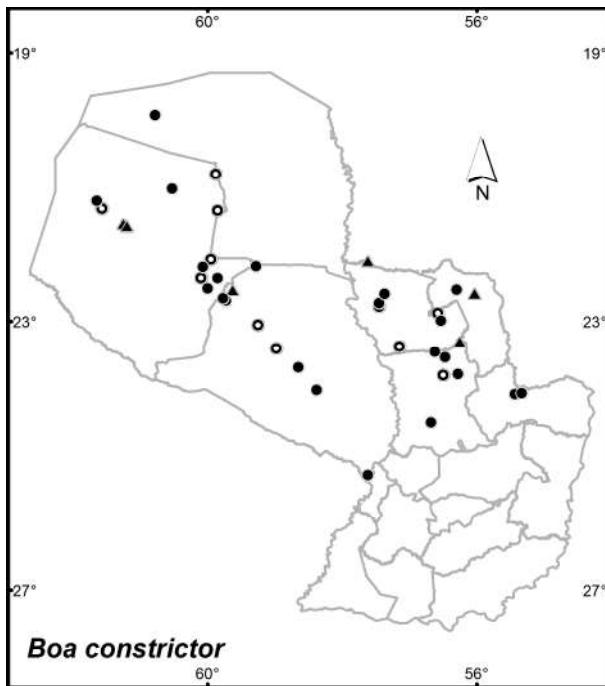
Boa imperator: Bertoni (1914): Paraguay.

Boa occidentalis: Bertoni (1914): Paraguay.

Boa occidentalis: Werner (1921a): Paraguay.

Boa constrictor: Schouten (1931): Paraguay.

Boa imperator: Schouten (1931): Paraguay.



Boa occidentalis: Schouten (1931): Paraguay.

Boa constritor [sic]: Schouten (1937): Paraguay.

Boa imperator: Schouten (1937): Paraguay.

Boa occidentalis: Schouten (1937): Paraguay.

Boa imperator: Bertoni (1939): Paraguay.

Constrictor c. constrictor: Bertoni (1939): Paraguay.

Constrictor c. occidentalis: Bertoni (1939): Paraguay.

Boa imperator: Gatti (1955): Paraguay.

Constrictor constrictor constrictor: Gatti (1955): Northern Paraguay; CENTRAL: Asunción (see Comments).

Constrictor constrictor occidentalis: Gatti (1955): CENTRAL: Asunción (see Comments).

Constrictor constrictor constrictor: Canese (1966): Northern Paraguay.

Constrictor constrictor imperator: Canese (1966): Paraguay.

Constrictor constrictor occidentalis: Canese (1966): Northern Paraguay.
CENTRAL: Asunción (see Comments).

Boa constrictor occidentalis: Stimson (1969): Paraguay.

Boa constrictor: Scott and Lovett (1975): BOQUERÓN: Near Filadelfia.

Boa constrictor: Talbot (1979): Eastern and western Paraguay.

Boa constrictor: Waller et al. (1995): ALTO PARAGUAY: 20 km S Fortín Madrejón; Parque Nacional Defensores del Chaco. AMAMBAY: Estancia San Juan (CM 109101). BOQUERÓN: N of Teniente Montanía; vicinity of Filadelfia; 20 km E Filadelfia; 48 km S Filadelfia; 14 km S Filadelfia; Parque Nacional Teniente Enciso; 2 km W Parque Nacional Teniente Enciso; 3 km N Parque Nacional Teniente Enciso; 15 km SE Parque Nacional Teniente Enciso. CANINDEYÚ: Reserva Natural del Bosque Mbaracayú; Colonia Indígena Mbói-Dyaguá. CONCEPCIÓN: Iby-Yaú; Parque Nacional Serranía San Luís; 30 km E Concepción; 95 km E Concepción on Route V; Tagatiya-guazú. PRESIDENTE HAYES: Estancia Pozo Azul; Route IX Km 300; Route IX Km 350; Reserva Indígena Casanillo. SAN PEDRO: Santa Rosa de Lima; Route III, 40 km N Río Aguaray-Guazú.

Boa constrictor: Aquino et al. (1996): See Specimens Examined.

Boa constrictor: Leynaud and Bucher (1999:map): Paraguay.

Boa constrictor: Ziegler et al. (2002b): BOQUERÓN: Vicinity of 21°21'S, 59°51'W.

Boa constrictor amarali: Motte et al. (2009): Paraguay.

Boa constrictor occidentalis: Motte et al. (2009): Paraguay.

Boa constrictor: Cacciali (2009a:map): Paraguay.

General Distribution: Northern México through Central America to south-central Brazil, northern Argentina, and Paraguay (McDiarmid et al., 1999; Tipton, 2005).

Local Distribution: Paraguay north of 24°20'S in Wet and Dry Chaco, Atlantic Forest, and Cerrado (Waller et al., 1995).

Conservation Status: *Boa c. amarali*, Vulnerable; *B. c. occidentalis*, Least Concern.

Comments: We have not assigned individual records to subspecies, but boas in western Paraguay usually conform to *B. c. occidentalis* and those east of the Río Paraguay to *B. c. amarali*. In Paraguay, the two taxa seem to be separated by the broad floodplain of the Río Paraguay, but they intergrade broadly in eastern Bolivia and possibly even northwestern Paraguay (Waller et al., 1995).

There are a few records of *Boa* from as far south as Asunción. However, as Canese (1966) states, these are probably waifs from floating rafts of camalote (*Eichornia*) brought down the Río Paraguay during floods.

Specimens Examined: Paraguay (MNHNP 3979, 9434). ALTO PARAGUAY: Mayor Pablo Lagerenza (MNHNP 7241). AMAMBAY: Route III, 20 km N Route V (MNHNP 6636). BOQUERÓN: 14 km S Filadelfia (MNHNP 5135); 20 km E Filadelfia (MNHNP

246); 48 km S Filadelfia (MNHNP 5134); Estancia Iparoma (UCS 7964); Fortín Americo Picco (EBD 29747); Parque Nacional Teniente Enciso (MNHNP 3789, USNM 342485). CANINDEYÚ: Colonia Indígena Mboi Jaguá (MNHNP 2985); Reserva Natural del Bosque Mbaracayú (MNHNP 3196). CENTRAL: Vicinity of Asunción (AMNH 75316, 75500). CONCEPCIÓN: 30 km N Estancia San Fernando (MNHNP 5155); 95 km E Concepción (MNHNP5133); Yby Jaú (MNHNP 2493); Parque Nacional Serranía San Luís (MNHNP 6635). PRESIDENTE HAYES: Estancia Pozo Azul (MNHNP 2986); Parque Nacional Tinfunqué (MNHNP 4045); Reserva Indígena “Casanillo” (MNHNP 5132); IX Km 420 (MNHNP 10531). SAN PEDRO: 40 km N Río Aguaray Guazú (MNHNP 2494); Colonia Primavera (NHMUK 1958.1.2.21); Laguna Blanca (CZPLT 115).

Photographic Records: AMAMBAY: Parque Nacional Cerro Corá (FPREP 180); Reserva Privada Ka’i Rague (FPREP 175–179). BOQUERÓN: Aldea Neu Moll (FPREP 182–184); 150 km N Filadelfia (FPREP 185, 186); Route IX Km 614 (FPREP 456, 457). CONCEPCIÓN: Saite (FPREP 181). PRESIDENTE HAYES: Laguna Capitán (FPREP 748–750). SAN PEDRO: Laguna Blanca (FPREP 530).

***Epicrates alvarezi* Abalos, Báez and Nader, 1964**

Epicrates cenchris: Schenkel (1901): PRESIDENTE HAYES: “Monte Sociedad” (=Cerrito, PRESIDENTE HAYES [Cacciali and Wüest, 2009]).

Epicrates cenchria: Schouten (1931): Paraguay.

Epicrates cenchria: Schouten (1937): Paraguay.

Epicrates cenchria alvarezi:
Waller et al. (1995):
BOQUERÓN: Filadelfia; 9 km S
Filadelfia; 34 km S Filadelfia;
Parque Nacional Teniente Enciso.

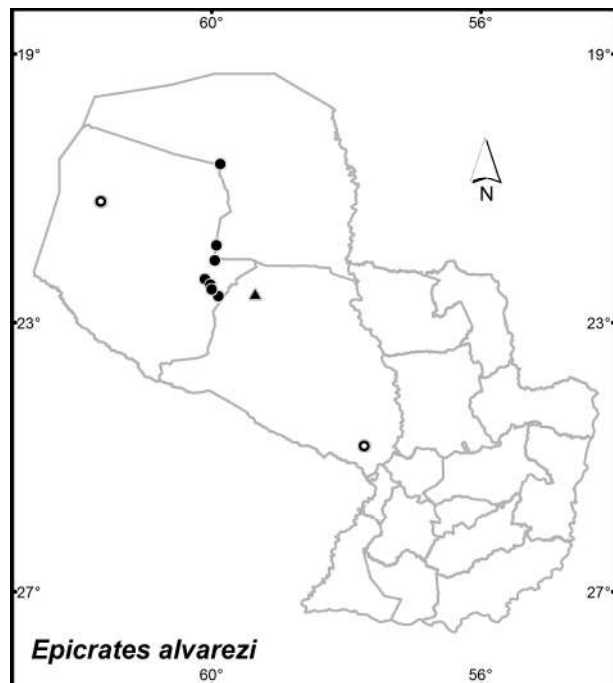
Epicrates cenchria [partim]:
Aquino et al. (1996): See
Specimens Examined.

Epicrates cenchria: Leynaud and
Bucher (1999:map): Paraguay.

Epicrates cenchria: Ziegler et al.
(2002b): “Dry Chaco.”

Epicrates cenchria alvarezi: Motte
et al. (2009): Paraguay.

Epicrates alvarezi: Cacciali
(2009a:map): Paraguay.



General Distribution: Northern Argentina, Bolivia, and western Paraguay (Peters and Orejas-Miranda, 1970; McDiarmid et al., 1999; Tipton, 2005; Scrocchi et al., 2006).

Local Distribution: West of the Río Paraguay in Wet and Dry Chaco.

Conservation Status: Least Concern.

Comments: Until recently, this species was considered to be a subspecies of *E. cenchria*. It was elevated to specific status by Passos and Fernandes (2008).

Specimens Examined: ALTO PARAGUAY: Madrejón (MNHNP 9796). BOQUERÓN: Comunidad Ayoreo Jesudi (MNHNP 11114); Filadelfia and vicinity (MNHNP 2495, 10037, 10038); About 34 km S Filadelfia (MNHNP 5136, 5137); 9 km S Filadelfia (MNHNP 5138); 15 km S Filadelfia (MNHNP 10032); 66 km S Teniente Montanía (MNHNP 10191).

Photographic Records: BOQUERÓN: Parque Nacional Teniente Enciso (FPREP 188–189; 591–595). PRESIDENTE HAYES: Reserva Privada Campo María (FPREP 190).

***Epicrates crassus* Cope, 1862**

Epicrates crassus: Cope (1862d): “Cadosa, Paraná River” (type locality; USNM 5409 [sic =5402], holotype). See Comments.

Epicrates cenchris: Koslowsky (1898b): Paraguay.

Epicrates cenchria: Bertoni (1914): ALTO PARANÁ: Puerto Bertoni?

Epicrates crassus: Bertoni (1914): “Cadosa, R[ío]. Paraná.”

Epicrates crassus: Werner (1921a): “Cadosa am Parana.”

Epicrates crassus: Schouten (1931): Paraguay.

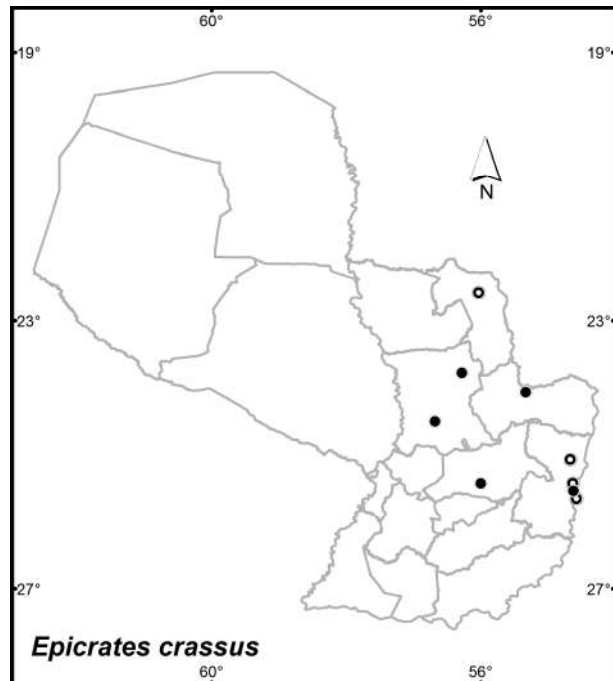
Epicrates crassus: Schouten (1937): Paraguay.

Epicrates c. cenchria: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni.

Epicrates cenchria cenchria: Gatti (1955): Paraguay: “Región Central.”

Epicrates cenchria cenchria: Canese (1966): “Centro del Paraguay.” *Epicrates cenchria crassus*: Stimson (1969): Paraguay.

Epicrates cenchria: Talbot (1979): Eastern Paraguay.



Epichrates [sic] *cenchría crassus*: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Epicrates cenchría crassus: Waller et al. (1995): ALTO PARANÁ: Reserva Itabó; Itaipú Dam. AMAMBAY: Parque Nacional Cerro Corá. CAAGUAZÚ: 7 km N Route VII on road to Yhú. CANINDEYÚ: Lagunita, Reserva Natural del Bosque Mbaracayú.

Epicrates cenchría [partim]: Aquino et al. (1996): See Specimens Examined.

Epicrates cenchría crassus: Motte et al. (2009): Paraguay.

Epicrates crassus: Cacciali (2009a:map): Paraguay.

Epicrates crassus: Atkinson et al. (2014): See Specimens Examined.

General Distribution: Eastern Paraguay, northern and northeastern Argentina (Peters and Orejas-Miranda, 1970; Leynaud and Bucher, 1999; McDiarmid et al., 1999).

Local Distribution: Northeastern Paraguay in Atlantic Forest, Cerrado, and Central Forest (Waller et al., 1995).

Conservation Status: Vulnerable.

Comments: The type locality “Cadosa, Paraná River” (Cope, 1862d) has not been relocated. Amaral (1955) could not find the locality, which he “corrected” to “Gardosa, Paraná River, Paraguay.” Waller et al. (1995) could find neither “Cadosa” nor “Gardosa.”

A logical explanation is that “cadoso” is an archaic Spanish term for “a deep part of the river, where the water is stagnant” (Halse, 1908). Given the itinerary of the Page Expedition (Page, 1859), the type locality could be anywhere on the lower Río Paraná in either Paraguay or Argentina where there was a backwater with little current.

Until recently, *Epicrates crassus* was considered to be a subspecies of *E. cenchría*. It was re-elevated to specific status by Passos and Fernandes (2008). Atkinson et al. (2014) reported a record for a prey item. Specimens Examined: “Cadosa, Parana River” (USNM 12413). ALTO PARANÁ: Ciudad del Este (MAI 101). CAAGUAZÚ: 7 km N Route VII on road to Yhú (LACM 126523). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 3784). SAN PEDRO: Colonia Primavera (NHMUK 1958.1.2.15–1958.1.2.20); Road to Laguna Blanca, E of Santa Rosa (CZPLT 135, 333); 8 km from Santa Rosa del Aguaray (CZPLT 697).

Photographic Records: SAN PEDRO: near Santa Rosa del Aguaray (FPREP 539–543).

***Eunectes murinus* (Linnaeus, 1758)**

Eunectes murinus: Bertoni (1914): Paraguay.

Eunectes murinus: Schouten (1931): Paraguay.

Eunectes murinus: Schouten (1937): Paraguay.

Eunectes murinus: Bertoni (1939): Northern Paraguay.

Eunectes murinus: "Gatti (1955): Paraguay.

Eunectes Murinus-Eunectes Notaeus [partim]: Canese (1966): "Alto Paraguay y Alto Paraná."

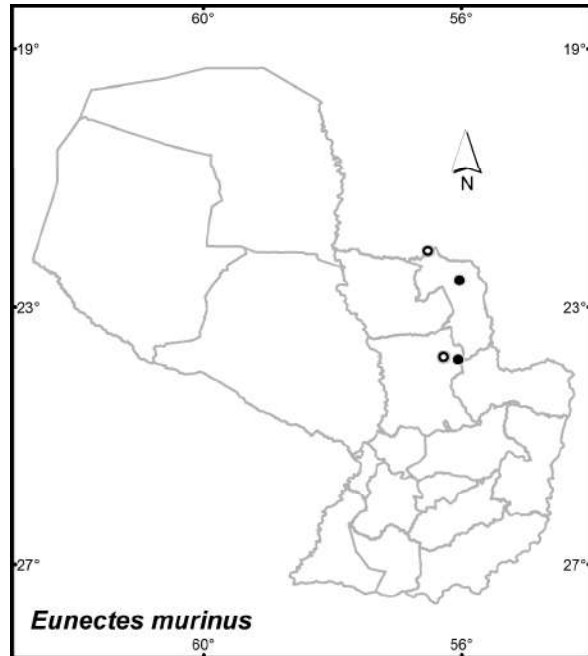
Eunectes murinus: Talbot (1979): Northeastern Paraguay.

Eunectes murinus: Waller et al. (1995): AMAMBAY: Parque Nacional Cerro Corá; Arroyo Estrella near Bella Vista. SAN PEDRO: Laguna Blanca.

Eunectes murinus: Aquino et al. (1996): See Specimens Examined.

Eunectes murinus: Motte et al. (2009): Paraguay.

Eunectes murinus: Cacciali (2009a:map): Paraguay.



General Distribution: South America, in the Amazon, Orinoco, and upper Paraguay river basins; from Venezuela and Colombia to Bolivia and Paraguay (Peters and Orejas-Miranda, 1970).

Local Distribution: Departamentos San Pedro and Amambay in Cerrado and the edge of Atlantic Forest (Waller et al., 1995).

Conservation Status: Critically Endangered.

Comments: Canese's (1966) citation of "Alto Paraguay" is probably based on the fact that the misidentified *E. notaeus* record of Peracca (1895) is from "Río Apa, Alto Paraguay." Peracca did not mean Departamento Alto Paraguay. See Comments under *Amphisbaena angustifrons* for additional information.

The Paraguayan populations are probably well isolated from those in the Amazon drainage.

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2501, 6958). SAN PEDRO: Colonia Jaguareté Forest (MNHNP 11245).

Photographic Records: SAN PEDRO: Yaguareté (FPREP 192, 193); Laguna Blanca (FPREP 820–822).

***Eunectes notaeus* Cope, 1862**

Eunectes notaeus: Cope (1862b): "Paraguay River and confluents." (type locality [see Comments]; USNM 4707 holotype).

Eunectes notaeus: Cope (1862d): "Taken in the Paraguay River about thirty miles south of Fort Coimbra, Brazil, near lat. 20°S." See Comments.

Eunectes murinus: Peracca (1895): CONCEPCIÓN: Río Apa.

Eunectes murinus: Berg (1898): Paraguay.

Eunectes murinus: Koslowsky (1898b): Paraguay.

Epicrates wieningeri:
Steindachner (1903):
CORDILLERA: "Paraguay bei
Altos" (type locality; NMW 18929,
holotype [McDiarmid et al.,
1999]).

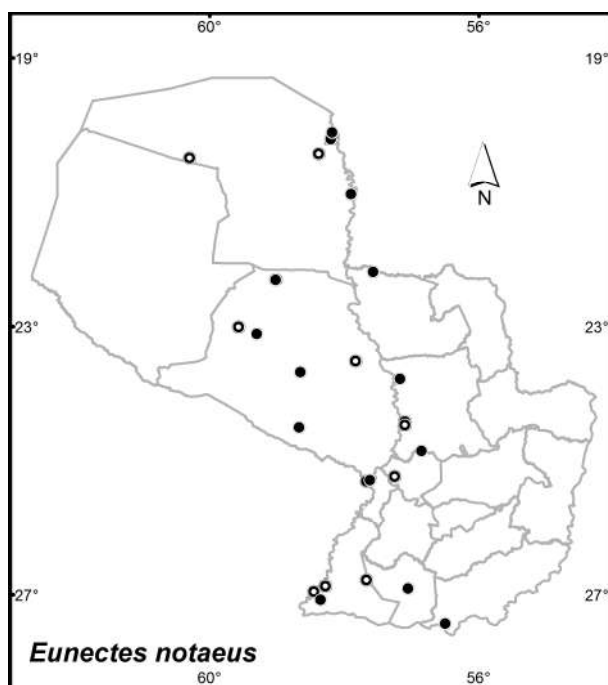
Epicrates wieningeri: Ihering
(1911): CORDILLERA: Altos.

Epicrates wieningeri: Bertoni
(1914): CORDILLERA: Altos.

Eunectes notaeus: Bertoni (1914):
Paraguay.

Epicrates wieningeri: Werner
(1921a): CORDILLERA: Altos.

Eunectes notaeus: Werner
(1921a): Paraguay.



Eunectes notaeus: Schouten (1931): CENTRAL: Bahía de Asunción.

Epicrates wieningeri: Schouten (1931): Paraguay.

Eunectes notaeus: Schouten (1937): Paraguay.

Epicrates wieningeri: Bertoni (1939): CORDILLERA: Altos.

Eunectes notaeus: Bertoni (1939): CENTRAL: Asunción.

E[picrates]. wieningeri: Gatti (1955): Paraguay: "Región Central."

Eunectes notaeus: Gatti (1955): Río Paraguay Basin.

Eunectes Murinus-Eunectes Notaeus [partim]: Canese (1966): "Alto Paraguay y Alto Paraná."

Eunectes notaeus: Stimson (1969): Paraguay.

Eunectes notaeus: Talbot (1979): Eastern and western Paraguay.

Eunectes notaeus: Tiedemann and Häupl (1980): CORDILLERA: Altos (type locality; NMW 18929, holotype of *Epicrates wieningeri*).

Eunectes murinus: Elter (1981): CONCEPCIÓN: Río Apa (MZUT R1259).

Eunectes notaeus: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar; Puerto Naranjito.

Eunectes notaeus: Tiedemann et al. (1994): CORDILLERA: Altos (type locality; NMW 18929, holotype of *Epicrates wieningeri*).

Eunectes notacus [sic]: Duré Rodas (1995): ?ALTO PARANÁ: Vicinity of Itaipú. See Comments.

Eunectes notaeus: Waller et al. (1995): ALTO PARAGUAY: Puerto Caballo (CM 109115); Estancia Doña Julia; Puerto Ramos; Laguna General Díaz; Colonia Potrerito. ALTO PARANÁ: Near Itaipú dam (see Comments). CENTRAL: Asunción (FMNH 9505); Bahía de Asunción. CORDILLERA: Altos. ITAPÚA: Yacyretá dam; Isla Cadena; Isla Modesto; Isla Talavera; Islas del Canal de los Jesuitas. MISIONES (without more-specific locality data). ÑEEMBUCÚ: 8 km E Estero Cambá (currently San Lorenzo de Ñeembucú); Pilar; Puerto Naranjito. PRESIDENTE HAYES: Estancia San Juan; Ruta militar a Concepción 60 km al E de intersección con la Ruta Trans-Chaco; between Pozo Colorado and Concepción, on military road (23°31'07"S-57°50'06"W); Estancia Tinfunqué. SAN PEDRO: Estero Yetyty; Río Cuarepotí E Puerto Rosario.

Eunectes notaeus: Aquino et al. (1996): See Specimens Examined.

Eunectes notaeus: Leynaud and Bucher (1999:map): Paraguay.

Eunectes notaeus: Ziegler et al. (2002b): ALTO PARAGUAY: Vicinity of 20°29'S, 60°18'W.

Eunectes notaeus: Motte et al. (2009): Paraguay.

Eunectes notaeus: Cacciali (2009a:map): Paraguay.

Eunectes notaeus: Cabral and Weiler (2014): CENTRAL: Puerto Sajonia (CZCEN 206).

General Distribution: Southern South America from eastern Bolivia, the Pantanal of Brazil south through central and western Paraguay, and northeastern Argentina to southern Brazil and the northern edge of Uruguay (Peters and Orejas-Miranda, 1970; Ceí, 1993; Leynaud and Bucher, 1999; McDiarmid et al., 1999; Carreira et al., 2005).

Local Distribution: Abundant in the floodplain of the Río Paraguay and the lower Río Paraná in Dry and Wet Chaco, Central Forest, and Mesopotamian Grasslands ecoregions. See Comments regarding the upper Río Paraná records in Waller et al. (1995).

Conservation Status: Least Concern.

Comments: In the original description, Cope (1862b) gave the type locality as "Paraguay River and confluents." Later Cope (1862d) refined the type locality to "Paraguay River about thirty miles south of Fort Coimbra, Brazil, near lat. 20°S, a site near the Paraguay-Brazil border" (Waller, 2000).

Lieutenant Page (1859) describes the capture of what was probably the holotype: "We caught in the river near our anchorage a boa seven feet in length. Found some difficulty in putting huge reptile alive into alcohol without injuring it, as a specimen" (Page, 1859:171). The locality was in the "Bahía Negra" at the mouth of the Río Negro, north of the present-day site of the town of Bahía Negra. Page (1859:610) gives the latitude as 20°10'14"S, which is very near the present-day site of the Hito XI Tripartito (Tripartite Boundary Marker) on Paraguayan maps. There the boundaries of Bolivia, Brazil, and Paraguay meet. Given the uncertainty of the accuracy of Page's localities before GPS, we restrict the type locality to the Paraguayan, Alto Paraguay side of the site of the Hito XI Tripartito (20°10'22"S, 58°10'12"W).

Dunn and Conant (1937) placed *Epicrates wieningeri* Steindachner, 1903 in the synonymy of *E. notaeus*. According to J. Peters, the holotype of *E. notaeus* (USNM 4707) is missing (Stimson, 1969).

Waller et al. (1995) and Duré Rodas (1995) have the only records of *E. notaeus* from the upper Río Paraná. Waller et al. (1995) observed live specimens in the Zoológico de Itaipú, which supposedly came from the vicinity of Itaipú Dam in Alto Paraná. Duré Rodas (1995) referred to the same specimens. The accuracy of the zoo's records is compromised by the presence in the zoo of several specimens of the Chaco tortoise *Chelonoidis chilensis* that were also said to have come from Alto Paraná.

Waller et al. (1995) also cite an unnumbered specimen of *E. notaeus* in the Argentine National Collection (MACN) from Iguazú in the Argentine Provincia de Misiones, which is on the border of Alto Paraná, Paraguay. This specimen cannot be found (Santiago Nenda, pers. comm., 2012), and authors of the latest compilations of Argentine snake records do not recognize the presence of this boid in the upper Río Paraná (Giraudo, 2002; Giraudo and Scrocchi, 2002). Alejandro Giraudo (pers. comm., 2012) states, "El Río Paraná en Misiones corre por el cañon del guayrá y es muy encajonado, con escasas áreas inundables y esteros (habitat preferido por *E. notaeus*). En el Río Paraná a la altura de San Pablo la reemplaza *Eunectes murinus*" (The Río Paraná in Misiones [Argentina] runs through the canyon of the Guayrá, and is very channelized, with few flooded areas and marshes [preferred habitat of *E. notaeus*]. In the Río Paraná at the level of [the Brazilian State of] São Paulo, it is replaced by *Eunectes murinus*).

Specimens Examined: Paraguay (ZVC-R 2932). ALTO PARAGUAY: Estancia Doña Julia (MNHNP 3116, 3885, 3886); Estancia General Díaz (MNHNP 3896); Fuerte Olimpo (MNHNP 9756); Estancia Inmaculada Concepción (MNHNP 11274). CENTRAL: Bahía de Asunción (MNHNP 6940); San Lorenzo (MNHNP 6957). ITAPÚA: Isla Guazu'í (MNHNP 6952, 6953); Isla Modesto (MNHNP 4848, 6955); Isla Talavera (MNHNP 48, 49); Isla Yacyretá (MNHNP 4850, 6844–6937, 6939, 6941–6951, 9427). CONCEPCIÓN: Río Apa (MZUT 980, 981). MISIONES: No other data (MNHNP 227). ÑEEMBUCÚ: 8 km E Estero Cambá (MNHNP 4044). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 6938); Hacienda Tinfunqué (MNHNP 253). SAN PEDRO: 13 km SW 25 de Diciembre (MNHNP 9509); Estancia Pedernal (MNHNP 10901).

Photographic Records: ALTO PARAGUAY: Bahía Negra (FPREP 196); Tres Gigantes (FPREP 194, 195); Toro Pampa (FPREP 581, 582). CENTRAL: Asunción (FPREP 199–201). PRESIDENTE HAYES: Estancia La Golondrina (UMMZ slide).

Colubroidea

Family Viperidae

***Bothrops alternatus* Duméril, Bibron and Duméril, 1854**

Bothrops alternatus: Duméril et al. (1854): Paraguay and South America (type locality).

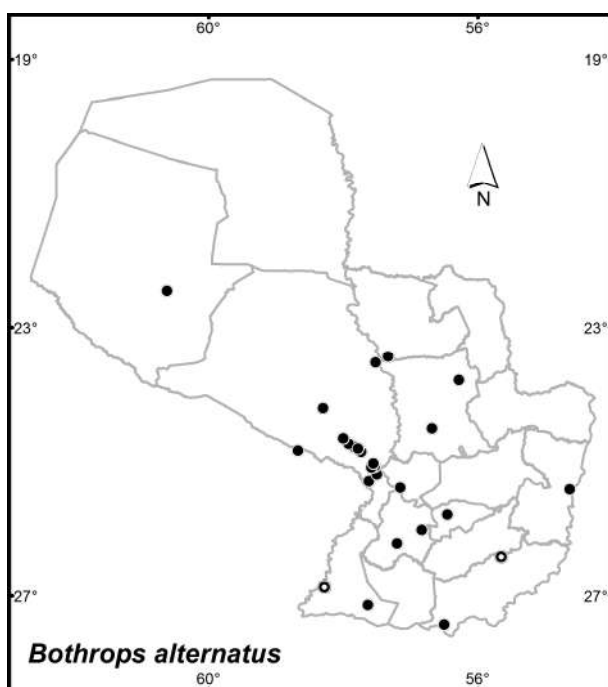
Bothrops alternatus: Boulenger (1894a): CENTRAL: Asunción.

Bothrops alternatus: Peracca (1895): GUAIRÁ: Villarrica.

Lachesis alternatus: Boulenger (1896): CENTRAL: Asunción.

Lachesis alternatus: Berg (1898): Paraguay.

Lachesis alternatus: Koslowsky (1898b): Paraguay.



Lachesis alternatus: Bertoni (1914): CENTRAL: Asunción. GUAIRÁ: Villarrica.

L [achesis]. alternatus: Werner (1922): Paraguay.

Lachesis alternatus: Migone (1929): Chaco region.

Bothrops alternata: Schouten (1931): Paraguay.

Bothrops alternata: Schouten (1937): Paraguay.

Bothrops alternatus: Bertoni (1939): CENTRAL: Asunción. GUAIRÁ: Villarrica. SAN PEDRO.

Bothrops alternata: Gatti (1955): Paraná and Paraguay river basins.

Bothrops alternatus: Canese (1966): Oriental zone of Paraguay.

Bothrops alternatus: Canese (1970): Paraguay.

Bothrops alternatus: Talbot (1979): Eastern Paraguay.

Bothrops alternatus: Elter (1981): GUAIRÁ: Villarrica (MZUT R2784).

Bothrops alternatus: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar; Potrero Esteche.

Bothrops alternatus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Bothrops alternatus: Aquino et al. (1996): See Specimens Examined.

Bothrops alternatus: Leynaud and Bucher (1999:map): Paraguay. *Bothrops alternatus*: Motte et al. (2004): Paraguay.

Bothrops alternatus: Campbell and Lamar (2004:map): Paraguay. CENTRAL: Near Asunción (UTA R-5602).

Bothrops alternatus: Motte et al. (2009): Paraguay.

Rhinocerothis alternatus: Cacciali (2009a:map): Paraguay.

Rhinocerothis alternatus: Núñez (2012): ITAPÚA: Kangüery.

Bothrops alternatus: Cacciali (2013): ITAPÚA: Kangüery.

Bothrops alternatus: Cabral and Weiler (2014): PARAGUARÍ: Paraguari (CZCEN 232). PRESIDENTE HAYES: Chaco'i (CZCEN 514).

General Distribution: Central and southern Brazil, Paraguay, Uruguay, and northern Argentina (Campbell and Lamar, 2004).

Local Distribution: Present in much of Paraguay south of 22°, and present in all ecoregions except Pantanal and Cerrado. The records from Dry Chaco (EBD 31284, 31285) need to be confirmed.

Conservation Status: Least Concern.

Comments: Fenwick et al. (2009) placed this species in the genus *Rhinocerothis*, but Carrasco et al. (2012) returned it to *Bothrops*.

Specimens Examined: Paraguay Expedition (ANSP 6964, 7026, USNM 5822). Paraguay (MNHNP 9457, 9762): ALTO PARANÁ: Centro Ambiental Itaipú (MAI 73); Itaipú reserves (MAI 103). BOQUERÓN: Route IX 50 km S[E] Mariscal Estigarribia (EBD 31284, 31285). CENTRAL: Asunción (NHMUK 94.3.14.81); Surubí'y (MNHNP 10913). CONCEPCIÓN: 12 km E Concepción (MNHNP 8395). CORDILLERA: Itacurubí de la Cordillera (MNHNP 8427). GUAIRÁ: Villarrica (MZUT 1034). ITAPÚA: Isla Yacyretá (MNHNP 4857, 4940, 8368); Kangüery (Cacciali, 2013). ÑEEMBUCÚ: Potrero Esteche (MNHNP 11039). PARAGUARÍ: (MNHNP 6745); Caapucú (MNHNP 225); Coronel C. Barrientos (MNHNP 2585); Parque Nacional Ybycuí (MNHNP 8429, USNM 342424). PRESIDENTE HAYES: Estancia Loma Porá (MNHNP 9180); Estancia La Victoria (MNHNP 11475); Río Pilcomayo, 21 km SE Fortín General Bruguez (UMMZ 166865); Route IX at Río Confuso (USNM 342420); Route IX, km 15 (EBD 30079, 30127); Route IX, km 44 (USNM 342421); Route IX Km 74 (MNHNP 8426); Route IX Km 76 (MNHNP 8433); Route IX Km 83 (USNM 347913); Route IX Km 86 (USNM 342422); Route IX Km 90 (USNM 342419); Route IX Km 92 (MNHNP 9023, 9034, USNM 342423); Route IX Km 105 (MNHNP 5230); Route IX Km 106 (USNM 342418); Route IX Km 113 (MNHNP 9022); Route IX, between Benjamín Aceval and Villa Hayes (MNHNP 8434). SAN PEDRO: Colonia Primavera (NHMUK 1954.1.3.62, 1955.1.6.18, 1956.1.3.54, 1962.130–1962.132); Road to Laguna Blanca, E of Santa Rosa (CZPLT 211).

Photographic Records: ITAPÚA: Kangüery (FPREP 339, 340); San Cosme y Damián (FPREP 341–343). SAN PEDRO: Santa Barbara (FPREP 619, 620).

***Bothrops diporus* Cope, 1862**

Lachesis neuwiedii: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Lachesis neuwiedi: Berg (1898): Paraguay.

Lachesis neuwiedi: Koslowsky (1898b): Paraguay.

Bothrops diporus: Boettger (1885a): Paraguay.

Bothrops diporus: Boulenger (1894a): CENTRAL: Asunción.

Bothrops diporus: Peracca (1895): CENTRAL: Luque.

Lachesis neuwiedi: Boulenger (1896): Paraguay. CENTRAL: Asunción.

Lachesis neuwiedi: Boettger (1898): Paraguay (SMF 9542b).

Lachesis neuwiedii: Schenkel (1901): Paraguay.

Lachesis neuwiedi: Bertoni (1914): Paraguay.

Lachesis neuwiedi: Serié (1915):
La Granja. We were unable to find
this locality.

L [achesis]. neuwiedii: Werner
(1922): Paraguay.

Lachesis neuwiedi: Migone
(1929): Chaco and central
regions.

Lachesis neuwiedi: Schouten
(1931): Paraguay.

Bothrops neuwiedii: Schouten
(1937): Paraguay.

Bothrops neuwiedi: Bertoni
(1939): Río Paraguay. CENTRAL:
Asunción.

Bothrops neuwiedii meridionalis:
Gatti (1955): Central Paraguay. CENTRAL: Asunción.

Bothrops neuwiedii meridionalis: Canese (1966): Paraguay.

Bothrops neuwiedii meridionalis: Canese (1970): Paraguay.

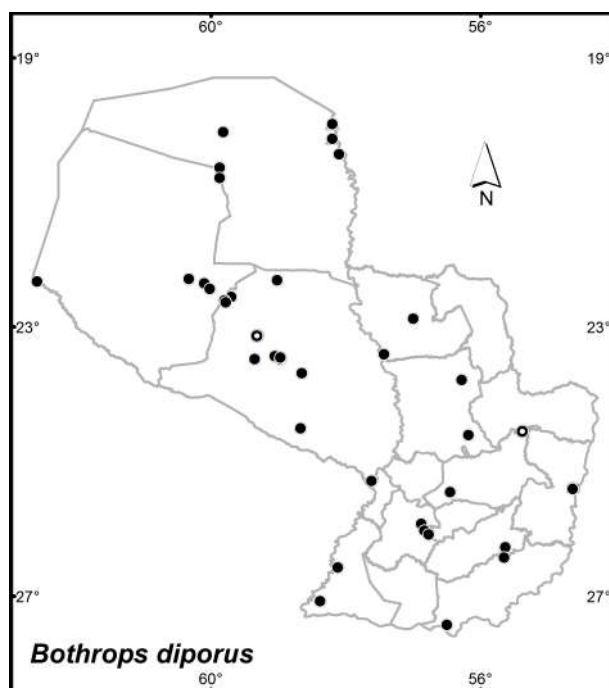
Bothrops neuwiedii diporus: Canese (1970): Paraguay.

Bothrops neuwiedi: Talbot (1979): Eastern Paraguay.

Bothrops (neuwiedii) diporus: Elter (1981): CENTRAL: Luque (MZUT R2771).

Lachesis neuwiedii: Elter (1981): Paraguay (MZUT R2038).

Bothrops neuwiedi: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.



- B[othrops]. jararaca* [partim]: Aquino et al. (1996): See Specimens Examined.
- B[othrops]. neuwiedi* [partim]: Aquino et al. (1996): See Specimens Examined.
- Bothrops neuwiedi*: Leynaud and Bucher (1999:map): Paraguay.
- Bothrops neuwiedi* [partim]: Motte et al. (2009): Paraguay.
- Bothrops diporus*: Silva (2004:map): Paraguay.
- Bothrops mattogrossensis*: Silva (2004:map): Paraguay.
- Bothropoides mattogrossensis*: Silva and Rodriguez (2008): ALTO PARANÁ: Hernandarias (IB 29972, 29975). AMAMBAY: Pedro Juan Caballero (IB 40047, 40634– 40643). CENTRAL: Bahía de Asunción (IB 10093, 10094).
- Bothrops diporus*: Motte et al. (2009): Paraguay.
- Bothrops mattogrossensis* [partim]: Motte et al. (2009): Paraguay.
- Bothropoides diporus*: Cacciali (2009a): Paraguay.
- Bothropoides mattogrossensis*: Cacciali (2009a:map): Paraguay.
- Bothropoides diporus*: Núñez (2012): ITAPÚA: Kangüery.
- Bothrops diporus*: Cabral and Weiler (2014): BOQUERÓN: Fildelfia (CZCEN 746). ÑEEMBUCÚ: (CZCEN 197). PRESIDENTE HAYES: Rancho Carandá (CZCEN 505).
- Bothrops mattogrossensis*: Cabral and Weiler (2014): ALTO PARAGUAY: Tres Gigantes (CZCEN 755). BOQUERÓN: Filadelfia (CZCEN 296). CAAGUAZÚ: Reserva Privada Morombi (CZCEN 416, 417).
- Bothrops mattogrossensis*: Cacciali (2013): ITAPÚA: Kangüery.

General Distribution: Central and southern Brazil, southeastern Bolivia, Paraguay, northern Argentina, and Uruguay (Silva and Rodriguez, 2008).

Local Distribution: Recorded from all ecoregions except the Cerrado in Amambay and Canindeyú, but present in most of the rest of the country. There are no records from two east-central departamentos (Cordillera, and Misiones), but this may be only a collecting anomaly.

Conservation Status: Least Concern.

Comments: The morphologic diagnostic characters used by Silva (2004) and Silva and Rodrigues (2008) to fragment *Bothrops neuwiedi* (*sensu lato*) into seven “species” do not distinguish meaningful clusters using Paraguayan specimens. For example, a major diagnostic character for *Bothrops “diporus”* is that the paired postcephalic blotches are long and connect with the first dorsal body blotch (Silva and Rodrigues, 2008; fig. 1f), yet this is true in only two of our specimens, many of which otherwise fit the description of *B. diporus*.

We recorded the characters from the key in Silva and Rodrigues (2008) for 69 Paraguayan specimens in the MNHNP. A detailed analysis will be published later. In short, some specimens keyed out unambiguously to “*diporus*,” “*mattogrossensis*,” or “*pauloensis*,” but many others had a mixture of supposedly diagnostic characters.

Part of the problem is that Silva and Rodrigues (2008) had an inadequate sample from the extensive range of the complex west of Brazil. They report examining specimens from only three localities in Paraguay (two of these on the Brazilian border), six localities in Argentina, and three in Bolivia.

Another problem is that, although the analysis by Silva and Rodrigues (2008) is based on color pattern, they largely ignored ventral pattern. We found this very useful in sorting specimens into geographically meaningful groups and in understanding their geographic variation in Paraguay.

According to our analysis, a form (our “*mattogrossensis*”) with a venter marked with black checkers inhabits the Pantanal and Wet Chaco along the Río Paraguay in Alto Paraguay and Concepción. Another form (our “*diporus*”) has an unmarked venter in the Dry Chaco of Boquerón. There is a sharp gradient in Alto Paraguay where the ranges of the forms with clear and black-checked venters meet; here several snakes have an intermediate color pattern.

As one moves south from the core of the Boquerón range of the “*diporus*” form, through the Wet Chaco in Presidente Hayes and eastward across the Río Paraguay into Itapúa, Ñeembucú, Paraguari, and San Pedro, specimens gradually accumulate ventral stippling, which can become somewhat dark in some specimens from Itapúa.

A third form (our “*pauloensis*”) is centered in the Cerrado of Amambay and Canindeyú. This form may indeed be a distinct species, but our material is too scant to determine this.

In a recent morphological, ecological, and genetic analysis, Carrasco et al. (2012) concluded that *B. diporus* and *B. mattogrossensis* are very close, with *B. pauloensis* more distinct. Therefore, we choose to retain *B. pauloensis* and *B. diporus*, with *B. mattogrossensis* as a junior synonym of the latter. This is a tentative decision, valid until more Paraguayan specimens are examined genetically.

Fenwick et al. (2009) placed this species in the genus *Bothropoides*, but Carrasco et al. (2012) returned it to *Bothrops*.

Specimens Examined: Paraguay (MNHNP 4001, 8420, 9257, 9258, 9547, 9572, 9592, 9997, 10106, MZUT n/n, NHMUK 85.9.1.7, 85.9.1.8). ALTO PARAGUAY: 10.5 km SW Agua Dulce (USNM 342434); Estancia Doña Julia (MNHNP 3971, 3974, 8438, 8479); Estancia General Díaz (MNHNP 3972, 9169, USNM 342427–342433); Fortín Madrejón (MNHNP 2584, 2586, 2588, 2591, USNM 342436, 342437); 1 km N Madrejón (USNM 342435); 15 km S Madrejón (MNHNP 2587); Fortín Patria (MNHNP 10189); Puerto 14 de Mayo (NHMUK 98.6.3.13); Puerto Caballo (USNM 347915). ALTO PARANÁ: Forestal Itaipú (MAI 16, 46). AMAMBAY: Estancia Paicuará (USNM 342441). BOQUERÓN: 8 km S Filadelfia (MNHNP 9734); 9 km S Cruce de Los Pioneros (MNHNP 4012); 41 km W Filadelfia on Route IX (MNHNP 2597); Filadelfia (MNHNP 2592–2594, 2596, 3063); 8 km NW Pozo Hondo (USNM 342442). CAAGUAZÚ: Coronel Oveido (USNM 342443). CAAZAPÁ: Parque Nacional San Rafael (MNHNP 8850). CENTRAL: Asunción (NHMUK 94.3.14.79, 94.3.14.80, 1930.11.27.253); Luque (MZUT 1032); Trinidad (UMMZ 108970). CONCEPCIÓN: 2 km E Concepción (MNHNP 8440, USNM 342444); Rancho Z (MNHNP 9021).

ITAPÚA: Isla Yacyretá (MNHNP 4140, 4202, 4203, 4971, 5001–5006, 8088, 8336); Isla Ybycuí (MNHNP 11046); Kangüery (Cacciali, 2013); Parque Nacional San Rafael (MNHNP 6382). ÑEEMBUCÚ: Estancia San José (MNHNP 6677); Estancia Yacaré (MNHNP 8399). PARAGUARÍ: Compañía Apyragua (MNHNP 2585, 2590); Parque Nacional Ybycuí (MNHNP 2589, 4029, 8424, 8432, UMMZ 166847–166849, USNM 342445–34248); vicinity of Coronel C. Barrientos (MNHNP 2595). PRESIDENTE HAYES: 18 km W Route IX on road to General Díaz (MNHNP 8397); 20 km W Route IX on road to General Díaz (MNHNP 8437); 49 km W Route IX on road to General Díaz (MNHNP 8441, 8387); Hacienda Tinfunqué (MNHNP 3973); Laguna Capitán (MNHNP 10994); Pozo Colorado (MNHNP 10453); 44 km S Filadelfia (MNHNP 9735); Estancia La Golondrina (MNHNP 2598, 6021, USNM 342449); Road to General Bruguez (MNHNP 9050). SAN PEDRO: Yryvukuá (MNHNP 3772); Road to Laguna Blanca, E of Santa Rosa (CZPLT 137); Laguna Blanca (CZPLT 90, 92, 135, 447).

Photographic Records: ALTO PARAGUAY: Fortín Patria (FPREP 370). PRESIDENTE HAYES: Estancia Golondrina (FPREP 344).

***Bothrops jararaca* (Wied, 1824)**

Lachesis atrox lanceolatus:
Bertoni (1914): Eastern
Paraguay.

Bothrops jararaca: Amaral
(1925): Paraguay.

Lachesis lanceolatus [partim]:
Migone (1929): Central and
eastern regions.

Lachesis atrox lanceolatus:
Schouten (1931): Paraguay.

Bothrops atrox: Schouten (1937):
Paraguay.

Bothrops jararaca: Bertoni
(1939): CENTRAL: Asunción.

Bothrops jararaca: Gatti (1955):
CENTRAL: Asunción.

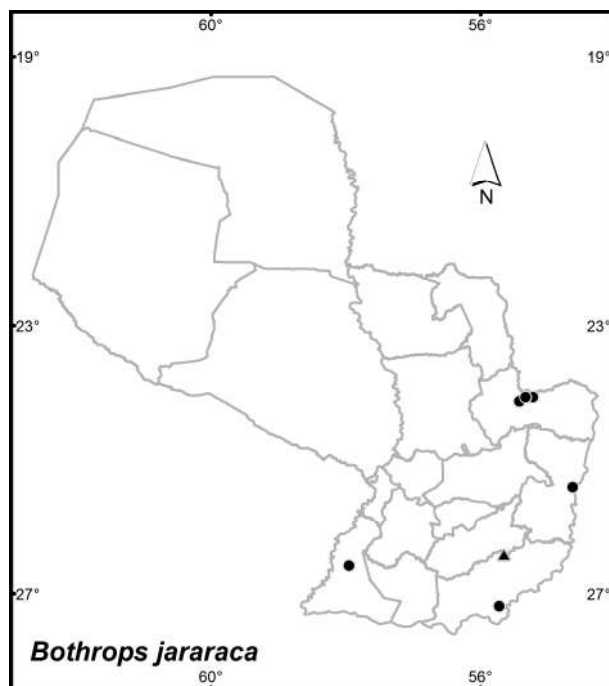
Bothrops yararaca: Canese (1966): Río Paraguay.

Bothrops jararaca: Canese (1966): Río Paraguay.

Bothrops jararaca: Canese (1970): Paraguay.

Bothrops jararaca: Talbot (1979): Eastern Paraguay.

Bothrops jararaca: Hoge and Romano-Hoge (1981): Paraguay.



Bothrops jararaca: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

B[othrops]. jararaca [*partim*]: Aquino et al. (1996): See Specimens Examined.

Bothrops jararaca: Campbell and Lamar (2004:map): southeastern Paraguay.

Bothrops jararaca: Motte et al. (2009): Paraguay.

Bothrops jararaca: Cacciali (2009a:map): Paraguay.

Bothrops jararaca: Cabral and Weiler (2014): ALTO PARANÁ: Reserva Limoy (CZCEN 413).

General Distribution: Central and southern Brazil, extreme eastern Paraguay, and Misiones in Argentina (Campbell and Lamar, 2004; Cacciali, 2009a).

Local Distribution: Extreme eastern Paraguay in Cerrado and Atlantic Forest.

Conservation Status: Least Concern.

Comments: This species was returned to the genus *Bothrops* by Carrasco et al. (2012).

The Bertoni (1939) Asunción record copied by Gatti (1955) is almost certainly incorrect.

Specimens Examined: Paraguay (MNHNP 9754). ALTO PARANÁ: Hernandarias (MAI n/n); Vivero Forestal Itaipú (MAI 66). CANINDEYÚ: 12 km E Refugio Mbaracayú (MNHNP 10031); Lagunita (MNHNP 8476); Reserva Natural del Bosque Mbaracayú (MNHNP 3439). ITAPÚA: El Tirol (USNM 253593, 253594); 8 km N San Rafael (UMMZ 154558).

Photographic Records: ALTO PARANÁ: Itabó (FPREP 358). ITAPÚA: Nueva Gambach (FPREP 351–357).

***Bothrops jararacussu* Lacerda, 1884**

Lachesis atrox jararacussu: Bertoni (1914): ALTO PARANÁ.

Bothrops jararacussu: Amaral (1925): Paraguay.

L[achesis]. jararacussu: Bertoni (1928a): ALTO PARANÁ.

Lachesis jararacussú: Migone (1929): Eastern region.

Lachesis atrox jararacussu: Schouten (1931): Paraguay.

Bothrops jaracussu [sic]: Schouten (1937): Paraguay.

Bothrops jararacussu: Bertoni (1939): ALTO PARANÁ.

B[othrops]. jararacusu [sic]: Gatti (1955): ALTO PARANÁ.
CENTRAL: Asunción.

Bothrops jararacussu: Gatti (1955): Paraguay.

Bothrops yararacusu [sic]: Canese (1966): Paraguay.

Bothrops Jararacusu [sic]: Canese (1966): Paraguay.

Bothrops jararacusu [sic]: Canese (1970): Paraguay.

Bothrops jararacussu: Talbot (1979): Eastern Paraguay.

Bothrops jararacussu: Hoge and Romano-Hoge (1981): Paraguay.

Bothrops jararacussu: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

B[othrops]. jararaca [partim]: Aquino et al. (1996): See Specimens Examined.

B[othrops]. jararacussu: Aquino et al. (1996): See Specimens Examined.

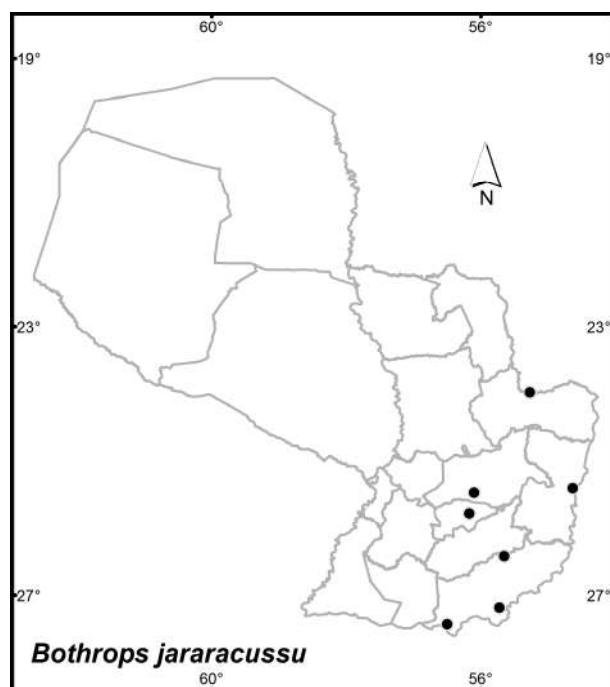
Bothrops jararacussu: Campbell and Lamar (2004:map): eastern Paraguay.

Bothrops jararacusu [sic]: Motte et al. (2009): Paraguay.

Bothrops jararacussu: Motte et al. (2009): Paraguay.

Bothrops jararacussu: Cacciali (2009a:map): Paraguay.

Bothrops jararacussu: Cabral and Weiler (2014): ALTO PARANÁ: Reserva Limoy (CZCEN 413).



General Distribution: South-central Brazil, extreme northeastern Argentina and southeastern Bolivia, and eastern Paraguay (Campbell and Lamar, 2004).

Local Distribution: Present in eastern Paraguay in Atlantic Forest.

Conservation Status: Critically Endangered.

Specimens Examined: Paraguay (USNM 12382). ALTO PARANÁ: Itaipú reserves (MAI n/n). CAAGUAZÚ: Colonia Walter Insfrán (MNHNP 3083, 3084). CANINDEYÚ: Carapá (MAI 35). GUAIRÁ: Compañía Santa Cecilia (MNHNP 3978). ITAPÚA: El Tirol (USNM 253589–253592); Parque Nacional San Rafael (MNHNP 6381, 10677); Isla Yacyretá (MNHNP 8745, 8806).

Photographic Records: ITAPÚA: Nueva Gambach (FPREP 359–369).

***Bothrops moojeni* Hoge, 1966**

Lachesis lanceolatus: Griffin (1916): Paraguay (CM 253 through 255).

Bothrops atrox: Amaral (1926a): Paraguay.

Bothrops atrox: Amaral (1926b): Paraguay (CM 253 through 255).

Lachesis lanceolatus [partim]: Migone (1929): Chaco, central and eastern regions.

Lachesis atrox: Migone (1929): Chaco.

Bothrops moojeni: McDiarmid and Foster (1987): AMAMBAY: Parque Nacional Cerro Corá.

Bothrops moojeni: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

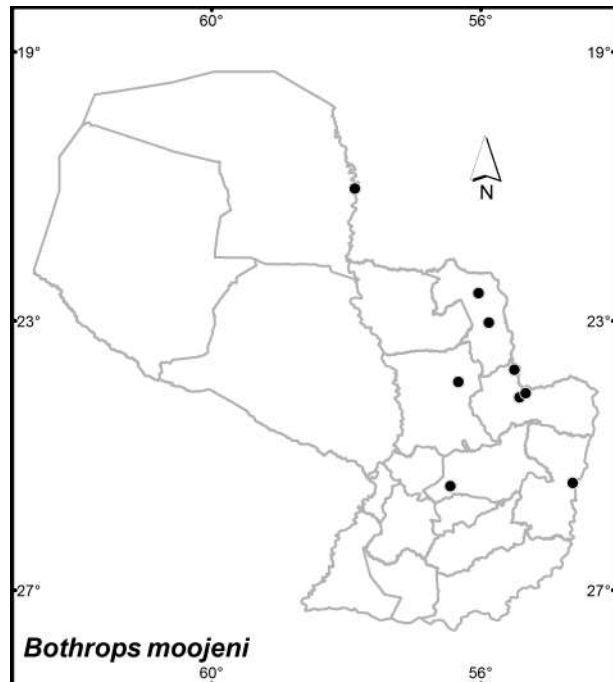
B[othrops]. moojeni: Aquino et al. (1996): See Specimens Examined.

Bothrops moojeni: Buongermini and Waller (1999): CANINDEYÚ: Bosque de Mabaracayú (MNHNP 6831).

Bothrops moojeni: Campbell and Lamar (2004:map): eastern Paraguay.

Bothrops mojeni [sic]: Motte et al. (2009): Paraguay.

Bothrops moojeni: Cacciali (2009a:map): Paraguay.



General Distribution: East-central Brazil, extreme northwestern Argentina, and eastern Paraguay (Giraudo, 2002; Campbell and Lamar, 2004).

Local Distribution: The species is present in east-central Paraguay in Cerrado and Atlantic Forest. An apparently isolated population occurs west of the Río Paraguay in Pantanal in northern Alto Paraguay.

Conservation Status: Least Concern.

Specimens Examined: ALTO PARAGUAY: Estancia Doña Julia (MNHNP 3909, 3910, 3912, 3960, 8436); Fuerte Olimpo (MNHNP 10188). ALTO PARANÁ: Itaipú reserves (MAI 102, 104, 120); Vivero Forestal Itaipú (MAI 115). AMAMBAY: Estancia Paicuará (MNHNP 8428, 8430, 8431, USNM 342439–342440); Parque Nacional Cerro Corá (MNHNP 8394, 8425, 8474, USNM 253143–253144, 342425, 342426). CAAGUAZÚ: Coronel Oviedo (MNHNP 8421). CANINDEYÚ: Colonia Ybycuí (MNHNP 8422); Lagunita (MNHNP 6831); Reserva Natural del Bosque Mbaracayú (MNHNP 8475, 8488). SAN PEDRO: Estancia El Porvenir (MNHNP 2583).

***Bothrops pauloensis* Amaral, 1925**

B[othrops]. neuwiedi [partim]: Aquino et al. (1996): See Specimens Examined.

Bothrops mattogrossensis [partim]: Motte et al. (2009): Paraguay.

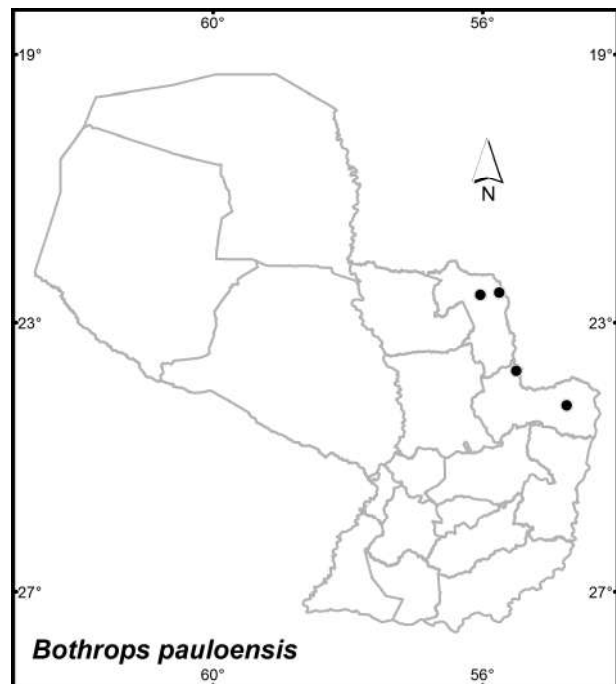
General Distribution: Southcentral Brazil (Silva and Rodriguez, 2008) and northeastern Paraguay.

Local Distribution: Recorded from the Cerrado of Amambay and Canindeyú.

Conservation Status: Least Concern.

Comments: See the Comments under *Bothrops diporus*.

Specimens Examined: Paraguay (MNHNP 9538, 9548). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 8391, 8480); Vivero Forestal Pedro Juan (USNM 342438). CANINDEYÚ: 4 km N Catuete (USNM 347916); Colonia Ybycuí (MNHNP 6586, 6694).



***Crotalus durissus* Linnaeus, 1758**

Caudisona terrifica: Cope (1862d): Paraguay Expedition (USNM 5783).

Crotalus horridus: Boulenger (1894a): CENTRAL: Asunción.

Crotalus terrificus: Boulenger (1896): CENTRAL: Asunción.

Crotalus horridus: Peracca (1895): CONCEPCIÓN: Río Apa.

Crotalus terrificus: Berg (1898): Paraguay.

Crotalus terrificus: Koslowsky (1898b): Paraguay.

Crotalus terrificus: Schenkel (1901): Paraguay.

C[rotalus]. terrificus: Bertoni (1913): Paraguay.

Crotalus terrificus: Bertoni (1914): ALTO PARANÁ.

C[rotalus]. terrificus: Werner (1922): Paraguay.

Crotalus terrificus: Amaral (1926a): Paraguay (USNM 11258[3], 11262).

Crotalus terrificus: Migone (1929): Chaco and eastern regions.

Crotalus terrificus: Schouten (1931): Paraguay.

Crotalus terrificus: Schouten (1937): Paraguay.

Crotalus terrificus: Bertoni (1939): Paraguay.

Crotalus durissus terrificus: Gloyd (1940): GUAIRÁ: Colonia Independencia (MCZ 34213).

Crotalus terrificus terrificus: Gatti (1955): Río Paraguay, Alto Paraná, and Chaco.

Crotalus terrificus terrificus: Canese (1966): Río Paraguay, Alto Paraná, and Chaco.

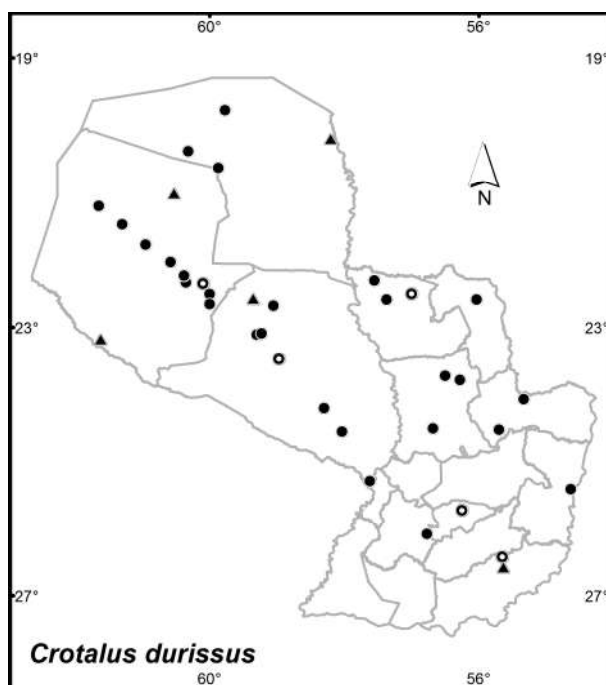
Crotalus durissus terrificus: Canese (1970): Paraguay.

Crotalus durissus collilineatus: Canese (1970): Paraguay.

Crotalus durissus: Scott and Lovett (1975): See Specimens Examined.

Crotalus durissus: Talbot (1979): Eastern Paraguay.

Crotalus durissus terrificus: Hoge and Romano-Hoge (1981): Paraguay.



Crotalus durissus teriificus [sic]: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Crotalus durissus: Aquino et al. (1996): See Specimens Examined.

Crotalus durissus: Leynaud and Bucher (1999:map): Paraguay.

Crotalus durissus: Vanzolini and Calleffo (2002): ALTO PARAGUAY: Fortín Teniente Martínez; Parque Nacional Defensores del Chaco. ALTO PARANÁ: Represa de Itaipú. AMAMBAY: Parque Nacional Cerro Corá. BOQUERÓN: Filadelfia; Route IX Km 530; Route IX Km 605; Parque Nacional Teniente Enciso. CANINDEYÚ: Curuguaty; Reserva Biológica Mbaracayú. CENTRAL: Asunción. CONCEPCIÓN: Estancia Centurión; Río Apa. GUAIRÁ: Independencia. PARAGUARÍ: Parque Nacional Ybycuí. PRESIDENTE HAYES: Estancia Juan de Zalazar; Route IX Km 150; Route IX Km 344; Río Verde. SAN PEDRO: Colonia Río Verde.

Crotalus durissus: Ziegler et al. (2002b): BOQUERÓN: 22°13'S, 59°04'W (sighting); Filadelfia; Fortín Toledo (MTKD 43453, 43454, without specifying which specimen belongs to which locality).

Crotalus durissus: Motte et al. (2004): Paraguay.

Crotalus durissus terrificus: Campbell and Lamar (2004:map): Paraguay.

Crotalus durissus: Quijada-Mascareñas et al. (2007): BOQUERÓN: Filadelfia.

Crotalus durissus: Motte et al. (2009): Paraguay.

Crotalus durissus: Cacciali (2009a:map): Paraguay.

Crotalus durissus: Núñez (2012): ITAPÚA: Kangüery.

Crotalus durissus: Cacciali (2013): ITAPÚA: Kangüery.

General Distribution: Discontinuous in open formations from Colombia to Argentina and Uruguay (Campbell and Lamar, 2004).

Local Distribution: Dry Chaco and drier portions of the Wet Chaco west of the Río Paraguay; widespread east of the river in Cerrado, Central Forest, and Atlantic Forest (see Comments).

Conservation Status: Least Concern.

Comments: Although there are only two localities from southern Paraguay, from Itapúa, the species is probably present throughout departamentos Ñeembucú and Misiones because Giraudo (2002) has many records from near the Paraguayan border in the Argentine provinces of Chaco, Formosa, and Misiones.

Long considered to be a single species ranging from México to Argentina and Uruguay (e. g., Klauber, 1956), the *Crotalus durissus* complex has recently been divided into three allopatric taxa: *C. totanacus* Gloyd and Kauffeld in northeastern México, *C. simus* Latreille from southern México to Costa Rica, and *C. durissus* from Colombia to Argentina and Uruguay (Campbell and Lamar, 2004).

The subspecies in Paraguay is *C. d. terrificus* (Laurenti) (Campbell and Lamar, 2004).

Specimens Examined: Paraguay (MNHNP 9465, 9514, 9555, USNM 11258, 11262, 322056–322067). ALTO PARAGUAY: Cerro León (147654); Estancia Campo Grande (MNHNP 10190); Misión Nueva Tribu (LACM 126525); Parque Nacional Defensores del Chaco (MNHNP 3068, 3071, 3127). ALTO PARANÁ: Itaipú reserves (MAI n/n). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 0001, 3064, USNM 342450). BOQUERÓN: 15 km E Neuland (MNHNP 8087); 15.6 km S Filadelfia (MNHNP 10025); Estancia Piroy (MNHNP 3065); Fortín Toledo (MNHNP 3130, 9843); Parque Nacional Teniente Enciso (MNHNP 3066); Route IX Km 495 (MNHNP 10486); Route IX Km 530 (MNHNP 3073); Route IX, 50 km N[W] of Fortín Americo Picco (EBD 31255, 31266). CANINDEYÚ: 5 km N Curuguaty (MNHNP 3070); Reserva Natural del Bosque Mbaracayú (MNHNP 3617). CENTRAL: Asunción (NHMUK 94.3.14.82). CONCEPCIÓN: Estancia Centurión (MNHNP 3430); Parque Nacional Serranía San Luis (MNHNP 6344). ITAPÚA: Kangüery (Cacciali, 2013). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 3069). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 3911, 9170, 71, 9991, UCS 5719); Estancia La Victoria (MNHNP 6380, 11474); Laguna Fortín Teniente Rojas Silva (MNHNP 10157); Route IX, between Km 100 and Km 150 (MNHNP 3913); Route IX Km 344 (MNHNP 3074). SAN PEDRO: Colonia Primavera (NHMUK 1960.1.3.11); Colonia Río Verde (MNHNP 3067, 3072); Laguna Blanca (CZPLT 112, 128, 130, 150, 223, 371, 417).

Photographic Records: ALTO PARAGUAY: Near Bahía Negra (FPREP 375). BOQUERÓN: Near Teniente Picco (FPREP 596–598). ITAPÚA: Nueva Gambach (FPREP 372–374, 379–382). PRESIDENTE HAYES: Plot 21 Pilcomayo (FPREP 377); Reserva Privada Campo María (FPREP 378). SAN PEDRO: Estancia Cardúz (FPREP 376).

Family Elapidae

Micrurus

For specimens of the *Micrurus frontalis* group (*altirostris*, *baliocoryphus*, *frontalis*, and *pyrrhocryptus*) in the MNHNP collected before 1996, we have used the identifications of Silva and Sites (1999). However, like Giraudo (2002), we experienced some difficulty in unambiguously applying their species concepts to new material and hope that future studies will clarify the situation.

Many of the older names used in the *Micrurus frontalis* group are impossible to assign unequivocally to the new taxa, but we have based our synonymies on what seem to be the most logical allocations.

Micrurus altirostris (Cope, 1860)

Elaps altirostris: Cope (1862d): Paraguay Expedition.

Elaps frontalis: Bertoni (1914): Paraguay.

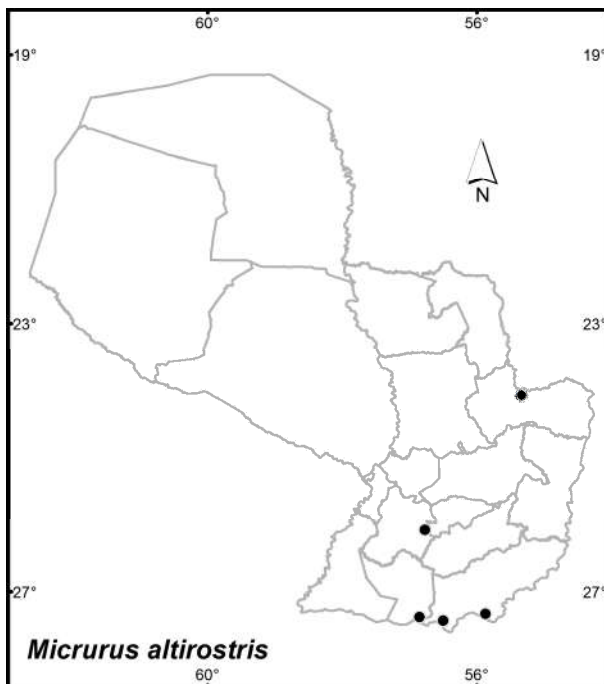
Elaps frontalis: Bertoni (1928a): Paraguay.

Elaps frontalis: Schouten (1931): Paraguay.

Elaps lemniscatus: Schouten (1931): Paraguay.

Micrurus lemniscatus: Schouten (1937): Paraguay.

Micrurus lemniscatus: Gatti (1955): Paraguay.



Micrurus frontalis frontalis [partim]: Roze (1996): Paraguay.

M[icrurus]. frontalis [partim]: Aquino et al. (1996): See Specimens Examined.

Micrurus altirostris: Silva and Sites (1999): ITAPÚA: Encarnación (MNHNP 3478); Yacyretá (MNHNP 4624 through 4626). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 2688, 2496, 2497, 3397).

Micrurus altirostris: Motte et al. (2009): Paraguay.

Micrurus altirostris: Cacciali (2009a:map): Paraguay.

General Distribution: Southern Brazil, Uruguay, eastern Paraguay, and northeastern Argentina (Silva and Sites, 1999).

Local Distribution: Central and southern Paraguay, east of the Río Paraguay, in open formations: Cerrado, Central Forest, and Mesopotamian Grasslands.

Conservation Status: Least Concern.

Comments: Many of the older references are only doubtfully ascribed to *Micrurus altirostris*; they could be one of the other triadal species.

Specimens Examined: Paraguay (MNHNP 9546). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 9184). ITAPÚA: Encarnación (MNHNP 3478); Isla Yacyretá (MNHNP 4624–4626, 6693). MISIONES: Estancia Santa Ana (MNHNP 9202). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 2496, 2497, 2688, 3397).

Photographic Records: ITAPÚA: Isla Yacyretá (FPREP 328–330).

***Micrurus baliocoryphus* (Cope, 1862)**

Micrurus frontalis frontalis [partim]: Roze (1996): Paraguay.

M[icrurus]. frontalis [partim]: Aquino et al. (1996): See Specimens Examined.

Micrurus baliocoryphus: Silva and Sites (1999): CENTRAL: Nueva Italia (MNHNP 2689).

ÑEEMBUCU: Estancia Yacare (MNHNP 5044). PRESIDENTE HAYES: 2 km W Route IX, road to General Díaz (MNHNP 5143); 40 km W Route IX, road to General Díaz (MNHNP 5144); 17 km N Route IX (MNHNP 2500); military road, 23°29'60"S, 58°22'00"W (MNHNP 5222).

Micrurus baliocoryphus: Motte et al. (2004): Paraguay.

Micrurus baliocoryphus: Campbell and Lamar (2004:map): southwestern Paraguay.

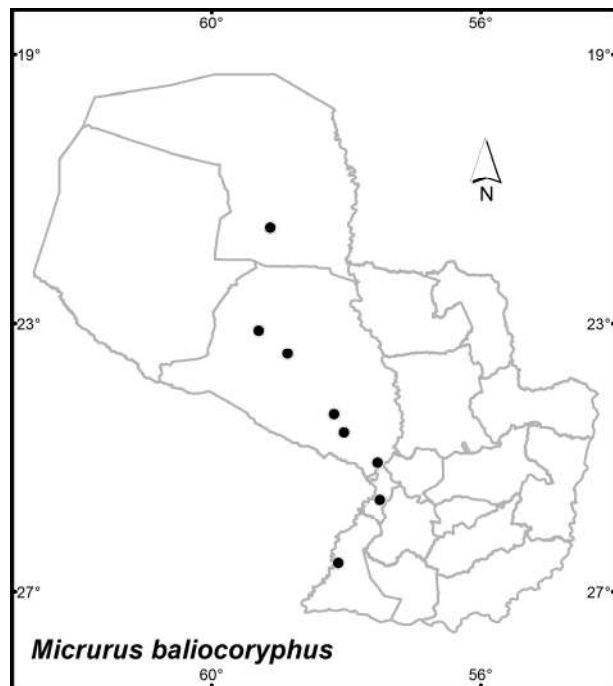
Micrurus baliocoryphus:

Buongermini Palumbo and Cacciali (2005): PRESIDENTE HAYES: 2 km W Route IX, road to Fortín General Díaz (MNHNP 5143).

Micrurus baliocoryphus: Motte et al. (2009): Paraguay.

Micrurus baliocoryphus: Cacciali (2009a:map): Paraguay.

Micrurus baliocoryphus: Cacciali et al. (2011:map): Central Paraguay.



General Distribution: Northeastern Argentina and western Paraguay (Silva and Sites, 1999).

Local Distribution: Wet Chaco on both sides of the Río Paraguay.

Conservation Status: Least Concern.

Comments: After the description by Cope (1860), *Micrurus baliocoryphus* was long considered to be a synonym of *M. f. frontalis* (Peters and Orejas-Miranda 1970). Silva and Sites (1999) and Silva (2001) resurrected it as a full species.

Specimens Examined: ALTO PARAGUAY: Laguna León (MNHNP 11047). CENTRAL: Nueva Italia (MNHNP 2689). ÑEEMBUCÚ: Estancia Yacaré (MNHNP 5044). PRESIDENTE HAYES: Route IX, 17 km of Puente Remanso (MNHNP 2500); Road to Fortín General Díaz, 2 km W Route IX (MNHNP 5143); Road to Fortín General Díaz, 40 km W Route IX (MNHNP 5144); Route IX Km 118 (MNHNP 10707); Route IX Km 157 (MNHNP 10703); Estancia Juan de Zalazar (MNHNP 8327).

***Micrurus corallinus* (Merrem, 1820)**

Elaps corallinus: Koslowsky (1898b): Paraguay.

Elaps corallinus: Bertoni (1913): Paraguay.

Elaps corallinus: Bertoni (1914): Paraguay.

Elaps corallinus: Serié (1915): ITAPÚA: Yaguarazapá (now Capitán Meza).

Micrurus corallinus corallinus: Amaral (1926a): Paraguay.

Elaps corallinus: Migone (1929): Central region.

Elaps corallinus: Schouten (1931): Paraguay.

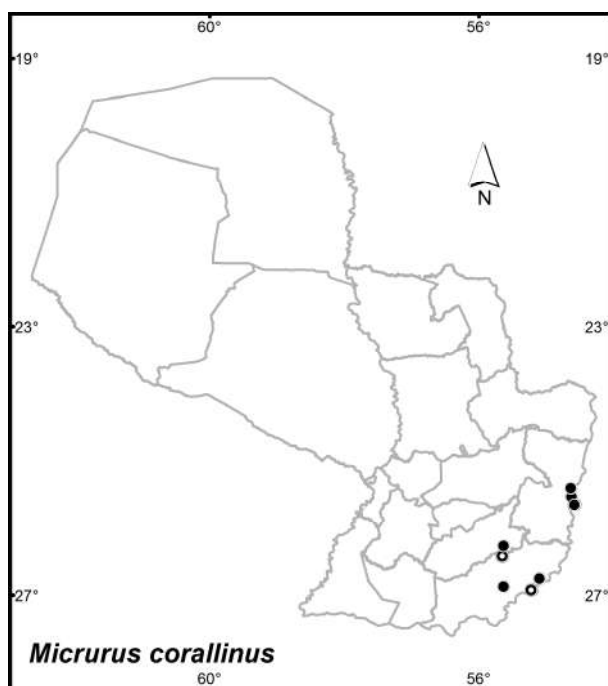
Micrurus corallinus: Schouten (1937): Paraguay.

Micrurus corallinus: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. ITAPÚA: Yaguarasapá (now Capitán Meza).

Micrurus corallinus: Gatti (1955): Paraguay.

Micrurus corallineus [sic]: Canese (1966): Northeastern Paraguay.

Micrurus corallineus [sic]: Canese (1970): Paraguay.



Micrurus corallinus: Talbot (1979): Eastern Paraguay.

Elaps corallinus: Elter (1981): Paraguay (MZUT 2043). ALTO PARANÁ: Puerto Bertoni (MZUT R2826).

Micrurus corallinus: Scrocchi (1990): ITAPÚA: Capitán Meza (MACN 10038 through 10045).

Micrurus corallinus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Micrurus corallinus: Roze (1996): Paraguay.

Micrurus corallinus: Aquino et al. (1996): See Specimens Examined.

Micrurus corallinus: Campbell and Lamar (2004:map): eastern Paraguay.

Micrurus corallinus: Motte et al. (2009): Paraguay.

Micrurus corallinus: Cacciali (2009a:map): Paraguay.

Micrurus corallinus: Núñez (2012): ITAPÚA: Kangüery.

General Distribution: Central and eastern Brazil, eastern Paraguay, and Provincia de Misiones in Argentina (Campbell and Lamar, 2004), but probably not Uruguay (Carreira et al., 2005).

Local Distribution: Southeastern Paraguay in Atlantic Forest.

Conservation Status: Vulnerable.

Specimens Examined: ALTO PARANÁ: Ciudad del Este (MAI 15); Itaipú reserves (MAI 43, 50, 51, 77, 97, 116); Puerto Bertoni (MZUT 2826); Vivero Forestal Itaipú (MAI 78, 89). CAAZAPÁ: Parque Nacional San Rafael (MNHNP 6345). ITAPÚA: (MNHNP 2726); 0.5 km E Triunfo (MNHNP 2727); Centro de Desarrollo Forestal (MNHNP 5559).

Photographic Records: ITAPÚA: Kangüery (FPREP 331–333); Nueva Gambach (FPREP 334–338, 634).

***Micrurus frontalis* (Duméril, Bibron and Duméril, 1854)**

Elaps lemniscatus: Peracca (1895): CENTRAL: Luque.

Elaps lemniscatus: Boulenger (1894a): CENTRAL: Asunción.

Elaps frontalis: Boulenger (1896): CENTRAL: Asunción.

Elaps frontalis: Koslowsky (1898b): Paraguay.

E[laps]. marcgravi: Bertoni (1913): Paraguay.

Elaps frontalis: Bertoni (1914): Paraguay.

Elaps frontalis: Schenkel (1901):Paraguay.

Elaps marcgravi marcgravi:

Bertoni (1914): Paraguay.

Elaps lemniscatus: Bertoni
(1914): Paraguay.

Elaps frontalis: Serié (1915):
Paraguay.

E[laps]. frontalis: Werner (1923):
Paraguay.

Elaps frontalis: Migone (1929):
Central region.

Elaps frontalis: Schouten (1931):
Paraguay.

Micrurus frontalis: Schouten
(1937): Paraguay.

Micrurus frontalis: Bertoni
(1939): CENTRAL: Asunción.

Micrurus lemniscatus: Bertoni (1939): Paraguay.

Micrurus frontalis: Gatti (1955): Paraguay.

Micrurus lemniscatus frontalis: Gatti (1955): Paraguay.

Micrurus frontalis: Canese (1966): Northeastern Paraguay.

M[icrurus]. lemniscatus: Canese (1966): Northeastern Paraguay.

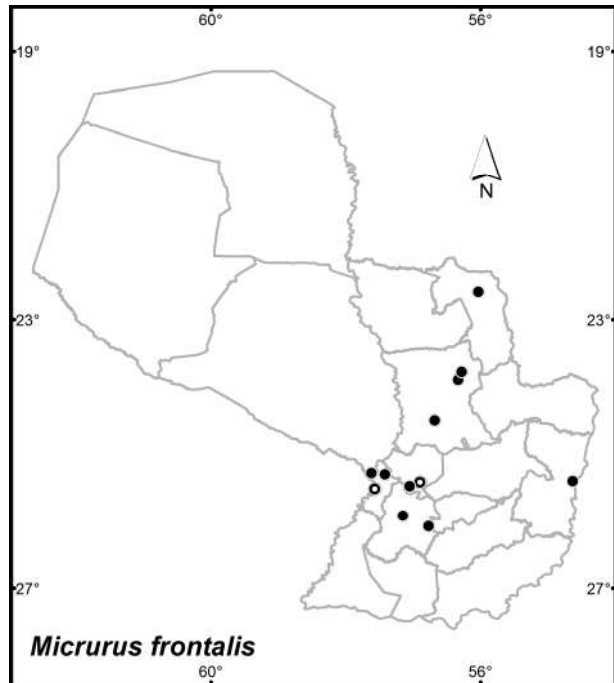
Micrurus frontalis frontalis: Roze (1967): Paraguay.

Micrurus frontalis: Canese (1970): Paraguay.

Micrurus frontalis [partim]: Talbot (1979): Eastern Paraguay.

Elaps frontalis: Elter (1981): Paraguay (MZUT R2042). CENTRAL: Luque (MZUT R2781, R3510).

Micrurus frontalis frontalis: Roze (1983): Paraguay.



Micrurus frontalis frontalis [partim]: Roze (1996): Paraguay.

M[icrurus]. frontalis [partim]: Aquino et al. (1996): See Specimens Examined.

Micrurus frontalis: Silva and Sites (1999): AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2685). CENTRAL: Bahía de Asunción (IB 10110); Asunción (AMNH 76575, 77028, 78988,89, MNHNP 5142); Nueva Italia (MNHNP 2689); San Lorenzo (MNHNP 5141); Areguá (Lago Ypacaraí) (MNHNP 5139). CORDILLERA: Itacurubí (MNHNP 3405). PARAGUARÍ: Acahay (MNHNP 2600). SAN PEDRO: Lima (MNHNP 2599).

Micrurus frontalis: Motte et al. (2004): Paraguay.

Micrurus frontalis: Campbell and Lamar (2004:map): eastern Paraguay.

Micrurus frontalis: Motte et al. (2009): Paraguay.

Micrurus frontalis: Cacciali (2009a:map): Paraguay.

Micrurus frontalis: Cabral and Weiler (2014): CENTRAL: Luque (CZCEN 511); Villeta (CZCEN 194). CORDILLERA: Eusebio Ayala (CZ302).

General Distribution: East-central Brazil and eastern Paraguay (Silva and Sites, 1999). Silva and Sites (1999) and Tipton (2005) list the species from Bolivia, but they cite no Bolivian localities, and Harvey et al. (2003) and Embert (2008) do not include *M. frontalis* in their lists of Bolivian coral snakes.

Local Distribution: Central Paraguay east of the Río Paraguay in Atlantic Forest, Cerrado, Wet Chaco, and Central Forest.

Conservation Status: Least Concern.

Comments: Many of the older references are only doubtfully ascribed to *Micrurus frontalis*; they could be one of the other triadal species.

Specimens Examined: Paraguay (MNHNP 9445, MZUT R2042). ALTO PARANÁ: Itaipú reserves (MAI 99). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2685). CENTRAL: Areguá (MNHNP 5139, USNM 342451); Asunción (MNHNP 5142, NHMUK 94.3.14.74); Luque (MNHNP 5561, MZUT 1018); San Lorenzo (MNHNP 5141). CORDILLERA: Near Piribebuy (LACM 126524). PARAGUARÍ: Acahay (MNHNP 2600); Parque Nacional Ybycuí (MNHNP 2687, USNM 342453,54). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.6.17, 1956.1.3.53, 1956.1.16.48, 1958.1.2.32, 1960.1.3.45, 1962.111, 1967.182); Laguna Blanca (CZPLT 114, 359); Lima (MNHNP 2599).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 526,527).

***Micrurus lemniscatus* (Linnaeus, 1758)**

E[laps]. lemniscatus: Werner (1923): Paraguay.

Micrurus lemniscatus: Amaral (1926a): Paraguay.

Micrurus langsdorffii: Bertoni (1939): AMAMBAY: Pedro Juan Caballero.

Micrurus langsdorffii: Gatti (1955): CONCEPCIÓN: Río Apa.

M[icrurus]. Langsdorffii [sic]: Canese (1970): Northeastern Paraguay.

Micrurus lemniscatus carvalhoi: Roze (1996:map): ?Paraguay.

M[icrurus]. frontalis [partim]: Aquino et al. (1996): See Specimens Examined.

Micrurus lemniscatus carvalhoi: Silva and Sites (1999): AMAMBAY: Estancia Arroyo Blanco, Capitán Bado (MHNCI 4541). CAAGUAZÚ: Campo 9 (MNHNP 5145).

Micrurus lemniscatus carvalhoi: Campbell and Lamar (2004:map): ?eastern Paraguay.

Micrurus lemniscatus: Motte et al. (2009): Paraguay.

Micrurus lemniscatus: Cacciali (2009a): Paraguay.

General Distribution: Provincia de Misiones in Argentina, Mato Grosso do Sul and Paraná in Brazil, and eastern Paraguay (Silva and Sites, 1999).

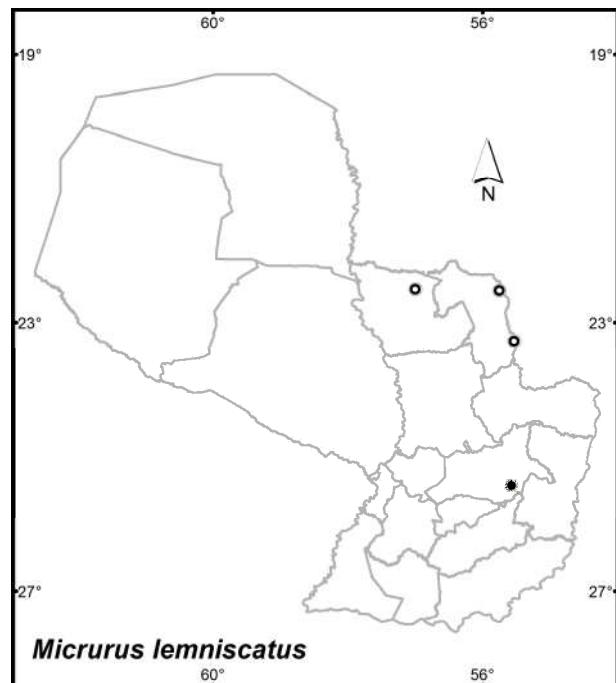
Local Distribution: Two known specimens and two bibliographic records from the Oriental Region of Paraguay in Cerrado and Atlantic Forest (Bertoni, 1914; Gatti, 1955; Silva and Sites, 1999).

Conservation Status: Vulnerable.

Comments: Boulenger (1894a) cited the species for Asunción, but he later corrected it to *M. frontalis* (Boulenger, 1896).

Micrurus lemniscatus carvalhoi Roze is the subspecies in Paraguay (Silva and Sites, 1999).

Specimens Examined: CAAGUAZÚ: Campo 9 (MNHNP 5145).



***Micrurus pyrrhocryptus* (Cope, 1862)**

Elaps pyrrhocryptus Cope (1862d): Paraguay Expedition (type locality; USNM 5395, holotype).

Elaps marcgravi: Boettger (1885a): Paraguay.

Elaps pyrrhocryptus: Peracca (1895): CONCEPCIÓN: Río Apa.

Elaps frontalis: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Elaps marcgravi: Berg (1898): Paraguay.

Elaps marcgravi: Koslowsky (1898b): Paraguay.

Elaps marcgravi pyrrhocryptus: Bertoni (1914): Paraguay.

Elaps macgravi [sic]: Migone (1929): Central region.

Elaps ibibiboca: Schouten (1931): Paraguay.

Elaps ibiboboca pyrrhocryptus: Schouten (1931): Paraguay.

Elaps marcgravi: Schouten (1931): Paraguay.

Elaps marcgravi pyrrhocryptus: Schouten (1931): Paraguay.

Micrurus marcgravi pyrrhocryptus: Schouten (1937): Paraguay.

Micrurus ibiboboca: Bertoni (1939): Río Paraguay.

Micrurus ibiboboca: Gatti (1955): Paraguay.

Micrurus frontalis pyrrhocryptus: Roze (1967): Paraguay.

M[icrurus]. ibiboboca: Canese (1970): Northeastern Paraguay.

Micrurus frontalis: Scott and Lovett (1975): See Specimens Examined.

Micrurus frontalis [partim]: Talbot (1979): Western Paraguay.

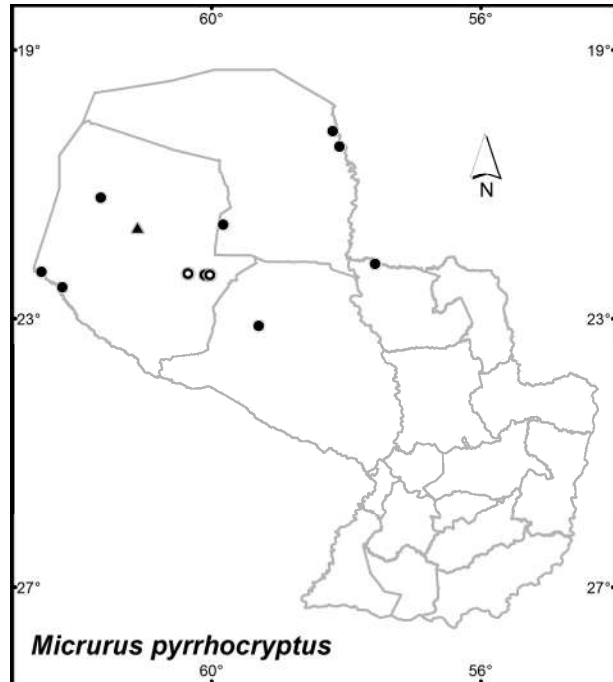
Micrurus pyrrhocryptus: Elter (1981): CONCEPCIÓN: Río Apa (MZUT R2785).

Micrurus frontalis tricolor: Roze (1983): Paraguay.

Micrurus pyrrhocryptus tricolor: Roze (1996): Paraguay.

M[icrurus]. pyrrhocryptus: Aquino et al. (1996): See Specimens Examined.

Micrurus pyrrhocryptus: Leynaud and Bucher (1999:map): Paraguay.



Micrurus pyrrhocryptus: Silva and Sites (1999): BOQUERÓN: Parque Nacional Teniente Enciso (MNHNP 2498, 2499, 3544); Base Aeronaval Pozo Hondo (MNHNP 2686); 10 km SE Pedro P. Peña (MNHNP 4018).

Micrurus pyrrhocryptus: Ziegler et al. (2002b): BOQUERÓN: Filadelfia; Fortín Toledo (MTKD 43455– 43458, without specification about which specimen belongs to which locality).

Micrurus pyrrhocryptus [sic]: Motte et al. (2004): Paraguay.

Micrurus p. tricolor: Campbell and Lamar (2004:map): northeastern Paraguay.

Micrurus p. pyrrhocryptus: Campbell and Lamar (2004:map): western Paraguay.

Micrurus pyrrhocryptus: Motte et al. (2009): Paraguay.

Micrurus pyrrhocryptus: Cacciali (2009a:map): Paraguay.

Micrurus pyrrhocryptus: Cacciali et al. (2011:map): northwestern Paraguay.

Micrurus pyrrhocryptus: Cabral and Weiler (2014): BOQUERÓN: Rodeo Trébol (CZCEN 503).

General Distribution: South-central Brazil, northern Argentina, Paraguay, and Bolivia (Tipton, 2005; Scrocchi et al., 2006; Campbell and Lamar, 2004).

Local Distribution: Northwestern Paraguay in Pantanal and Wet and Dry Chaco (subspecies *pyrrhocryptus*), and northeastern Paraguay in Cerrado (subspecies *tricolor*).

Conservation Status: Least Concern.

Comments: *Micrurus pyrrhocryptus* has often been considered a subspecies of *Micrurus frontalis*, but recent authors have elevated it to specific status (Schmidt, 1936; Roze, 1994; Scrocchi, 1990; Campbell and Lamar, 2004).

Micrurus tricolor Hoge, 1956 has alternately been characterized as a full species (Hoge, 1956; Strüssman and Sazima, 1993; Silva and Sites, 1999) or as a synonym or subspecies of *M. frontalis* or *M. pyrrhocryptus* (Campbell and Lamar, 1989, 2004; Harvey et al., 2003; Roze 1967, 1983, 1994, 1996; Scrocchi, 1990). We accept the latest opinions (Campbell and Lamar, 1989, 2004; Harvey et al., 2003) that it is a subspecies of *M. pyrrhocryptus*, although Alejandro Giraudo (pers. comm. 2012) is working on a different interpretation of *M. tricolor*.

Specimens Examined: “Paraguay” (USNM 5395, holotype). ALTO PARAGUAY: ~90 km N Filadelfia (USNM 342452); Bahía Negra (MNHNP 10160); Puerto 14 de Mayo (NHMUK 98.6.3.10, 98.6.3.11). BOQUERÓN: Lomita (MNHNP 4018); Parque Nacional Teniente Enciso (MNHNP 2498, 2499, 3544, 9227–9229); Pozo Hondo (MNHNP 2686). CONCEPCIÓN: Río Apa (MZUT 1019). PRESIDENTE HAYES: Estancia Juan de Zalazar (UCS 6988); 8 km NE Juan de Zalazar (UMMZ 166853).

Photographic Records: BOQUERÓN: Route IX Km 600 (FPREP 656).

***Micrurus silviae* Di-Bernardo, Borges-Martins and Silva, 2007**

Micrurus silviae: Cacciali et al. (2011): ITAPÚA: Kangüery.

Micrurus silviae: Cabral and Caballero (2013): ?ITAPÚA (CZCEN 836).

Micrurus silviae: Cacciali (2013): ITAPÚA: Kangüery.

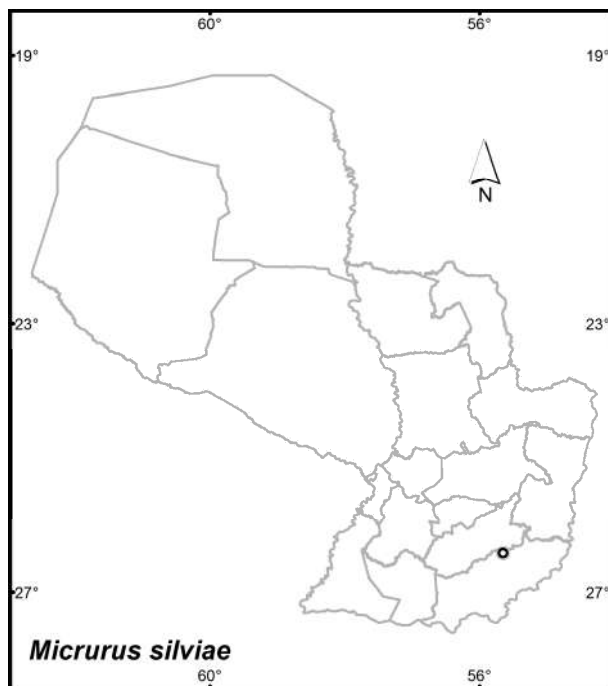
Micrurus silviae: Cabral and Sforza (2014): ITAPÚA: Kangüery.

General Distribution: Southern Brazil, southeastern Paraguay, and northeastern Argentina (Cacciali et al., 2011; Giraudo et al., 2012).

Local Distribution: Known from two localities in southeastern Paraguay in Mesopotamian Grasslands (Cacciali et al., 2011; Cabral and Caballero, 2013).

Specimens Examined: ITAPÚA: Kangüery (MNHNP 11799).

Photographic Records: ITAPÚA: Kangüery (FPREP 635–637).



Family Colubridae

***Chironius bicarinatus* (Wied, 1820)**

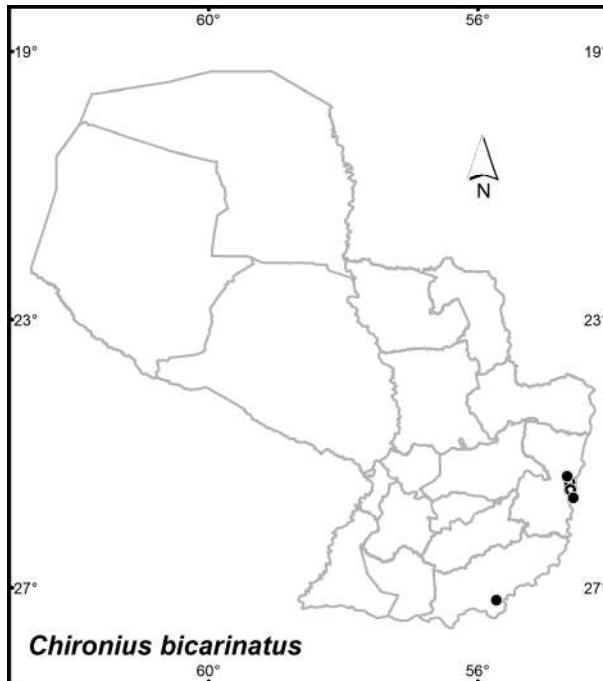
Herpetodryas carinatus: Berg (1898): Paraguay.

Herpetodryas carinatus: Koslowsky (1898b): Paraguay.

Herpetodryas carinatus: Bertoni (1914): Paraguay.

Herpetodryas carinatus: Schouten (1931): Paraguay.

Chironius sexcarinatus: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni.



Chironius bicarinatus: Talbot (1979): Eastern Paraguay.

Herpetodryas carinatus: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT R2824).

Chironius quadricarinatus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Chironius bicarinatus: Giraudo (2002): ALTO PARANÁ: Vicinity of Ciudad del Este.

Chironius bicarinatus: Motte et al. (2004): Paraguay.

Chironius bicarinatus: Cacciali (2009a): Paraguay.

General Distribution: Southeastern coastal Brazil, westward to extreme western Argentina and eastern Paraguay, and Uruguay along the Río Uruguay (Dixon et al., 1993; Elter, 1981).

Local Distribution: Departamentos Alto Paraná and Itapúa in Atlantic Forest.

Conservation Status: Not Evaluated.

Specimens Examined: ALTO PARANÁ: Puerto Bertoni (MZUT R2824); Tati Jupi (MAI 57). ITAPÚA: El Tirol (USNM 253552).

***Chironius exoletus* (Linnaeus, 1758)**

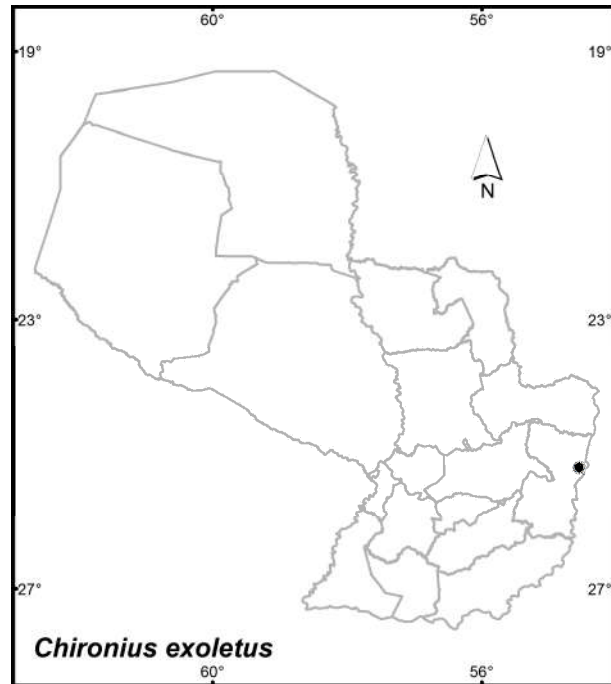
General Distribution: Inhabits wet forests from Ecuador, Colombia, Venezuela and Surinam, through Amazonia, to northeastern Argentina, and southern Brazil.

Local Distribution: Atlantic Forest in Departamento Alto Paraná. Acosta et al. (1994) and Giraudo (2002) have several records from near Iguazú, Argentina, very near the Paraguayan border.

Comments: Only one Paraguayan specimen recorded without more specific locality data.

Conservation Status: Not Evaluated.

Specimens Examined: ALTO PARANÁ: Itaipú Reserves (MAI 86).



***Chironius flavolineatus* (Jan, 1863)**

Herpetodryas flavolineatus: Boettger (1885a): Paraguay.

Chironius flavolineatus: Dixon et al. (1993): Paraguay ("BMNH 85.9.19" in errore; =NHMUK 85.9.1.9).

C[hironius]. flavolineatus: Aquino et al. (1996): See Specimens Examined.

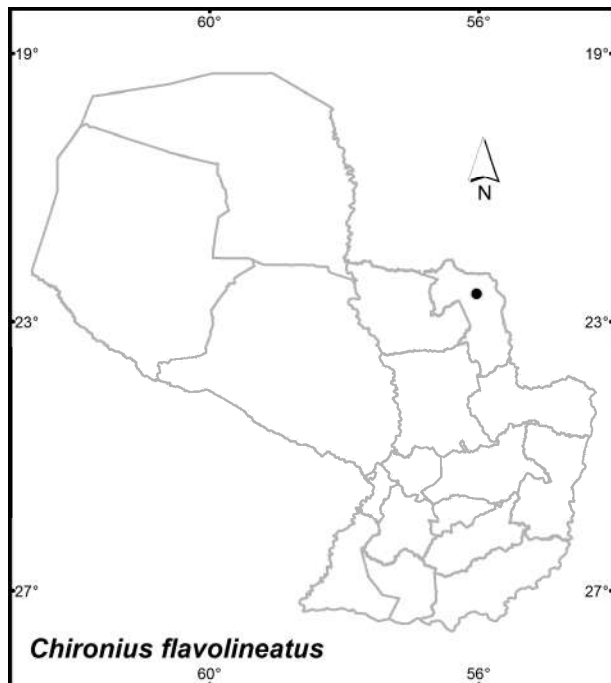
Chironius flavolineatus: Motte et al. (2009): Paraguay.

Chironius flavolineatus: Cacciali (2009a): Paraguay.

General Distribution: Central Bolivia, northeastern Paraguay, and central and western Brazil (Peters and Orejas-Miranda, 1970; Tipton, 2005).

Local Distribution: Departamento Amambay in Cerrado.

Conservation Status: Least Concern.



Comments: Bailey (1955) considered Jan's (1863) use of the name *Herptodryas carinatus* var. *flavolineata*, based on two Brazilian specimens, to be a *nomen nudum* and selected Boettger's (1885a) description of Paraguayan snakes as the type description. Many authors have followed Bailey's suggestion (Peters and Orejas-Miranda, 1970; Cordeiro and Hoge, 1973; Tipton, 2005). However, Dixon et al. (1993) disagreed saying that Boettger (1885a), as first revisor, had selected an illustration in Jan and Sordelli (1869) as the bearer of the name in Jan (1863), thus Jan should be the name's author.

Specimens Examined: Paraguay (NHMUK 85.9.1.9). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 5201, USNM 342095).

Photographic Records: Paraguay (FPREP 452–454).

***Chironius maculoventris* Dixon, Wiest and Cei, 1993**

Chironius quadricarinatus: Scott and Lovett (1975): See Specimens Examined.

Chironius quadricarinatus maculoventris: Dixon et al. (1993): BOQUERÓN: Loma Plata (KU 73449–50). PRESIDENTE HAYES: Route IX, 30 km S Río Verde bridge (UCS 5715).

Chironius quadricarinatus
[partim]: Aquino et al. (1996):
See Specimens Examined.

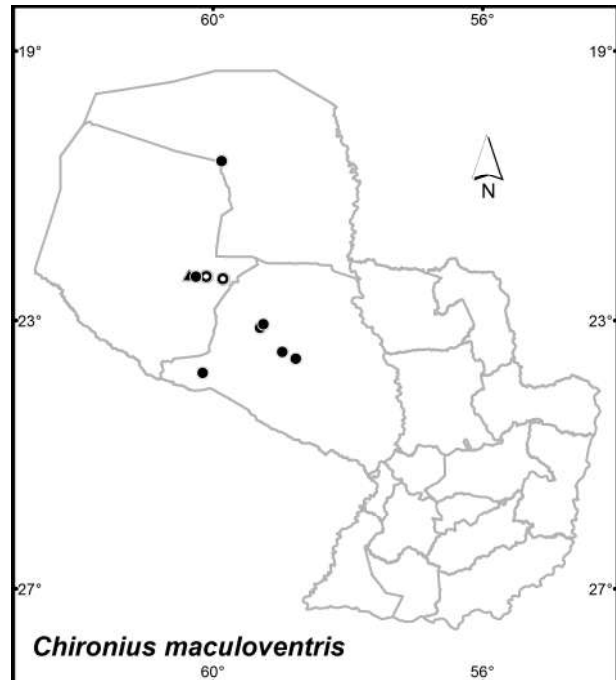
Chironius quadricarinatus: Ziegler
et al. (2002b): BOQUERÓN:
Filadelfia (MTKD 43440).

Chironius quadricarinatus
[partim]: Motte et al. (2004):
Paraguay.

Chironius quadricarinatus
[partim]: Motte et al. (2009):
Paraguay.

Chironius quadricarinatus
[partim]: Cacciali (2009a:map):
Paraguay.

Chironius maculoventris: Cabral
and Weiler (2014): PRESIDENTE HAYES: Rancho Carandá (CZCEN 512).



General Distribution: Chaco of western Paraguay and north-central Argentina (Dixon et al., 1993).

Local Distribution: West of the Río Paraguay in Wet and Dry Chaco.

Conservation Status: Not Evaluated.

Comments: Previously considered to be a subspecies of *C. quadricarinatus*, it was elevated to a full species by Hollis (2006).

Specimens Examined: Paraguay (MNHNP 9252). ALTO PARAGUAY: Madrejón (MNHNP 2504–5). BOQUERÓN: Route IX Km 472 (MNHNP 5226). PRESIDENTE HAYES: Route IX, 30 km S Río Verde bridge (UCS 5715); Hacienda Tinfunqué (MNHNP 3167); Pozo Colorado (MNHNP 10016); Rancho Carandá (MNHNP 5480); Route IX Km 343 (MNHNP 3782).

Photographic Records: BOQUERÓN: Fortín Toledo (FREP 764–768).

***Chironius quadricarinatus* (Boie, 1827)**

Phyllosira flavescens Cope (1862d): Paraguay Expedition (type locality; USNM 5813 holotype).

Herpetodryas carinatus: Boettger (1885a): Paraguay.

Herpetodryas sexcarinatus: Boulenger (1894a): CENTRAL: Asunción.

Herpetodryas sexcarinatus: Boulenger (1894b): CENTRAL: Asunción.

Herpetodryas carinatus: Peracca (1895): CONCEPCIÓN: Río Apa.

Herpetodryas sexcarinatus: Koslowsky (1898b): Paraguay.

Herpetodryas sexcarinatus: Bertoni (1914): Paraguay.

Chironius carinatus: Amaral (1926a): Paraguay expedition (USNM “12402”).

Herpetodryas sexcarinatus: Schouten (1931): Paraguay.

Chironius carinatus: Bertoni (1939): CENTRAL: Asunción.

Chironius sexcarinatus: Bertoni (1939): CENTRAL: Asunción.

Chironius quadricarinatus: Bailey (1955): CENTRAL: Asunción. Type locality restriction. See Comments.

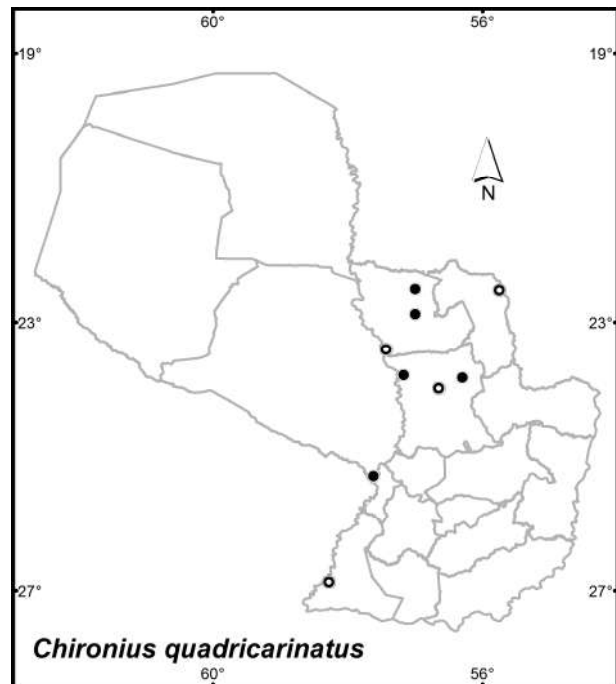
Chironius sexcarinatus: Gatti (1955): Paraguay.

Chironius quadricarinatus: Talbot (1979): Eastern Paraguay.

Herpetodryas carinatus: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT s/n). CONCEPCIÓN: Río Apa (MZUT R1282).

Chironius quadricarinatus quadricarinatus: Dixon et al. (1993): Paraguay (MZUT R1282). AMAMBAY: Pedro Juan Caballero (FMNH 42267, 46993). CENTRAL: Asunción (NHMUK 94.3.14.44, 94.3.14.45, TCWC 22152). CONCEPCIÓN: Concepción (ZMH 666). SAN PEDRO: Carumbe (FML 574).

Chironius quadricarinatus: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.



Chironius quadricarinatus [partim]: Aquino et al. (1996): See Specimens Examined.

Chironius quadricarinatus: Leynaud and Bucher (1999:map): Paraguay.

Chironius quadricarinatus [partim]: Motte et al. (2004): Paraguay.

Chironius quadricarinatus [partim]: Motte et al. (2009): Paraguay.

Chironius quadricarinatus [partim]: Cacciali (2009a:map): Paraguay.

General Distribution: Central Brazil, eastern Bolivia, and Paraguay (Dixon et al., 1993; Tipton, 2005).

Local Distribution: East of the Río Paraguay in Wet Chaco and Central Forest.

Conservation Status: Least Concern.

Comments: Dixon et al. (1993) separated Paraguayan specimens into two subspecies: *C. q. maculiventris* west of the Río Paraguay, and *C. q. quadricarinatus* east of the river. However, south of the Río Paraná in Argentina, both Dixon et al. (1993) and Giraudo (2002) list specimens of *C. q. maculiventris* east of the Río Paraguay.

Bailey (1955) examined the Andrés Barbero collection in Asunción, but we cannot find any evidence that the collection still exists. Bailey recorded specimens of *C. quadricarinatus* from “Asuncion: (Barbero, 3 specimens)” (Bailey [1955:17]). We assume that these specimens were from Asunción, although they could have come from the Barbero estancia “Remancito,” some 40 km N of Asunción (see Comments under *Mussurana bicolor*).

The type locality of *Chironius quadricarinatus* was not specified in the original description; based on the Barbero specimens, Bailey (1955) restricted it to Asunción, Departamento Central.

Specimens Examined: Paraguay Expedition (USNM 5813). CENTRAL: Asunción (EBD 30435, MNHNP 2503, NHMUK 94.3.14.44, 94.3.14.45, 1930.11.27.212). CONCEPCIÓN: Rancho Z (MNHNP 5479); Río Apa (MZUT 987). SAN PEDRO: Estancia Pedernal (MNHNP 10900); Laguna Blanca (CZPLT 165, 349, 354).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 212–214).

***Drymarchon corais* (Boie, 1827)**

Drymarchon corais: Scott and Lovett (1975): See Specimens Examined.

Drymarchon corais: Talbot (1979): Western Paraguay.

Drymarchon corais: Aquino-Shuster et al. (1991): See Specimens Examined.

Drymarchon corais: Aquino et al. (1996): See Specimens Examined.

Drymarchon corais: Leynaud and Bucher (1999:map): Paraguay.

Drymarchon corais: Motte et al. (2004): Paraguay.

Drymarchon corais: Motte et al. (2009): Paraguay.

Drymarchon corais: Cacciali (2009a:map): Paraguay.

General Distribution: From the southern United States (Texas) to northern Argentina and Paraguay (Peters and Orejas-Miranda, 1970; Tipton, 2005; Scrocchi et al., 2006).

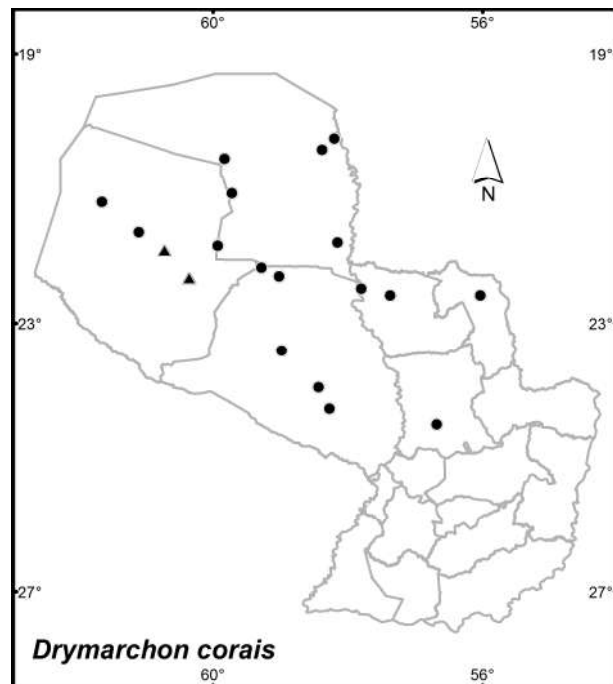
Local Distribution: The northern half of Paraguay in Dry and Wet Chaco, Pantanal, and Cerrado.

Conservation Status: Least Concern.

Comments: According to Tipton (2005), the subspecies present in Paraguay would be *D. c. corais*.

Specimens Examined: Paraguay (MNHNP 9462). ALTO PARAGUAY: Bahía Negra (MNHNP 3086); Colonia Potrerito (MNHNP 6517); 50 km SE Madrejón (MNHNP 7943); Cerro Siete Cabezas (MNHNP 9527); 11 km NE Madrejón (MNHNP 9791); 3 km S Route IX Km 607 (UCS 8025). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2502). BOQUERÓN: Comunidad Ayoreo Jesudi (MNHNP 11116); Fortín General Díaz (MNHNP 9504); Parque Nacional Teniente Enciso (MNHNP 9435). CONCEPCIÓN: 3 km NNW Puerto Fonciere (MNHNP 1814); Parque Nacional Serranía San Luís (MNHNP 6341). PRESIDENTE HAYES: Estancia Juan de Zalazar (UCS 5720); Route IX Km 171 (MNHNP 6531); Route IX Km 209 (MNHNP 10488); Route IX Km 297.5 (MNHNP 8366). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.16.36, 1960.1.3.13).

Photographic Records: BOQUERÓN: Fortín Toledo (FREP 747); Route IX Km 550 (FPREP 552–556).



***Drymoluber brazili* (Gomes, 1918)**

Drymoluber brazili: Cacciali et al. (2007d): CANINDEYÚ: Horqueta-Mi, Reserva Natural del Bosque Mbaracayú (MNHNP 11025).

Drymoluber brazili: Motte et al. (2009): Paraguay.

Drymoluber brazili: Cacciali (2009a): Paraguay.

Drymoluber brazili: Costa et al. (2013): CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 11025).

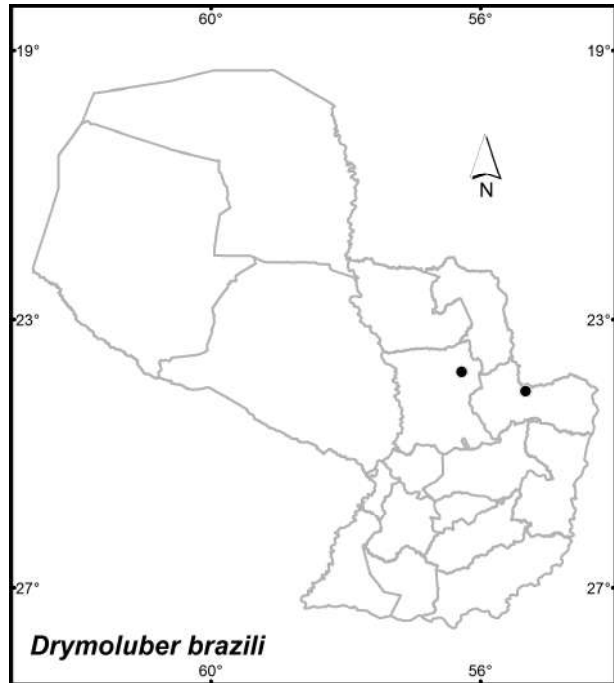
General Distribution: Central Brazil and northeastern Paraguay in Caatinga, Cerrado, Atlantic Forest, and transitional areas (Costa et al., 2013).

Local Distribution: In Paraguay, known from Atlantic Forest in departamentos Canindeyú and San Pedro.

Conservation Status: Vulnerable.

Specimens Examined: CANINDEYÚ: Horqueta-Mi, Reserva Natural del Bosque Mbaracayú (MNHNP 11025). SAN PEDRO: Santa Barbara (CZPLT 347).

Photographic Records: SAN PEDRO: Santa Barbara (FPREP 661–667).



***Leptophis ahaetulla* (Linnaeus, 1758)**

Thrasops marginatus Cope, 1862d: Paraguay Expedition (USNM 4667).

Ahaetulla ahaetulla var. *marginata*: Boettger (1885a): Paraguay.

Leptophis liocercus: Boulenger (1894a): CENTRAL: Asunción.

Leptophis liocercus: Boulenger (1894b): CENTRAL: Asunción.

Leptophis liocercus: Peracca (1895): CENTRAL: Luque.

Leptophis liocercus: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Leptophis liocercus: Berg (1898): Paraguay.

Leptophis liocercus: Koslowsky (1898b): Paraguay.

Leptophis liocercus: Bertoni (1914): Paraguay.

Leptophis liocercus: Serié (1915): Paraguay.

Leptophis liocercus: Schouten (1931): Paraguay.

Leptophis ahaetulia: Bertoni (1939): Paraguay.

Leptophis ahaetulia [sic]: Gatti (1955): Paraguay.

Leptophis liocercus: Canese (1966): Paraguay.

Thrasops marginatus: Malnate (1971): "Paraguay" (ANSP 5514).

Leptophis ahaetulla: Talbot (1979): Eastern Paraguay.

Leptophis liocercus: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT R2827). CENTRAL: Luque (MZUT R1499).

Leptophis ahaetulla: Aquino-Shuster et al. (1991): See Specimens Examined.

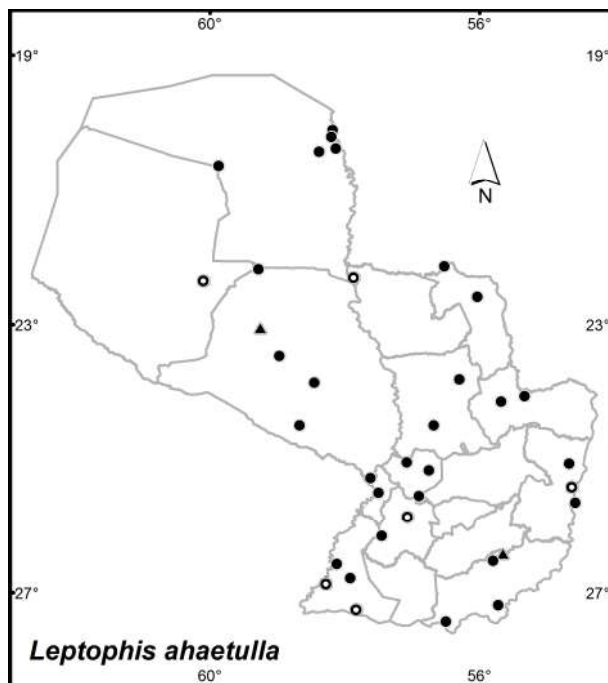
Leptophis ahaetulla marginatus: Giraudo and Contreras (1994): ÑEEMBUCÚ: Caí Mbocá; Curuzú Abá.

Leptophis ahaetulla: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Leptophis ahaetulla: Aquino et al. (1996): See Specimens Examined.

Leptophis ahaetulla: Leynaud and Bucher (1999:map): Paraguay.

Leptophis ahaetulla: Ziegler et al. (2002b): BOQUERÓN: Filadelfia (MTKD 43426).



Leptophis ahaetulla: Motte et al. (2004): Paraguay.

Leptophis ahaetulla: Motte et al. (2009): Paraguay.

Leptophis ahaetulla: Cacciali (2009a:map): Paraguay.

Leptophis ahaetulla: Cabral and Weiler (2014): CONCEPCIÓN: Caverna Risso (CZCEN 713). PARAGUARÍ: Acahay (CZCEN 381).

General Distribution: From México (Veracruz) to Paraguay, northern Argentina, southern Brazil, and Uruguay (Peters and Orejas-Miranda, 1970; Cei, 1993; Carreira et al., 2005; Tipton, 2005; Scrocchi et al., 2006).

Local Distribution: Throughout Paraguay in all ecoregions.

Conservation Status: Least Concern.

Comments: The subspecies present in Paraguay is *L. a. marginata* (Cope, 1862d).

Specimens Examined: Paraguay Expedition (ANSP 34855, USNM 4667). Paraguay (MNHN 7396, MNHNP 9270, 9428, 9591, 11067). ALTO PARAGUAY: Colonia Potrerito (MNHNP 3132, 6532); Estancia Doña Julia (MNHNP 2516); Estancia Carmelo Peralta (MNHNP 3429); Fortín Madrejón (MNHNP 2517); Puerto 14 de Mayo (NHMUK 98.6.3.4). ALTO PARANÁ: Pikyry (MAI 110); Puerto Bertoni (MZUT R2827). AMAMBAY: 2 km W Bella Vista (MNHNP 2524); Parque Nacional Cerro Corá (MNHNP 2526, 5200). BOQUERÓN: 5 km W Fortín Madrejón (MNHNP 2519). CANINDEYÚ: Colonia Chupa Pou (AMNH 143298); Reserva Natural del Bosque Mbaracayú (MNHNP 9441, 10820). CENTRAL: Asunción (NHMUK 94.3.14.46, 1930.11.27.211); Luque (MZUT 988); San Lorenzo (MNHNP 8463, 11013, 11043); Villeta (MNHNP 2520, 2525). CORDILLERA: Arroyos y Esteros (MNHNP 2521); Estancia Saladillo (LACM 126509); Pira-retá (MNHNP 6715). ITAPÚA: El Tirol (USNM 253553); Isla Guazú'i (MNHNP 4765–4779); Isla Modesto (MNHNP 4755–4764); Isla Yacyretá (MNHNP 4663–4665, 4780, 4896, 97, 4941, 4947–4949, 4959, 60, 7946); San Pedro Mí (MNHNP 10675). ÑEEMBUCÚ: Estancia San Antonio (MNHNP 6676); Estancia Yacaré (MNHNP 6688). PARAGUARÍ: Laguna Verá (MNHNP 8497). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 5050, 8329); Estancia La Golondrina (MNHNP 2522, 23); Route IX Km 220 (MNHNP 331); Río Verde (MNHNP 2518). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.5.94, 1955.1.5.95, 1962.42–1962.44, 1971.430); Laguna Blanca (CZPLT 309, 410, 415, 420).

Photographic Records: ITAPÚA: Kangüery (FPREP 231–232); Parque Nacional San Rafael (FPREP 229, 230). PRESIDENTE HAYES: Route IX Km 350 (FPREP 233–237).

***Mastigodryas bifossatus* (Raddi, 1820)**

Ptyas pantherinus: Boettger (1885a): Paraguay.

Drymobius bifossatus: Boulenger (1894a): CENTRAL: Asunción.

Drymobius bifossatus: Boulenger (1894b): CENTRAL: Asunción.

Drymobius bifossatus: Peracca (1895): CENTRAL: Luque.

Drymobius bifossatus: Berg (1898): Paraguay.

Drymobius bifossatus: Koslowsky (1898b): Paraguay.

Drymobius boddaertii: Schenkel (1901): Paraguay.

Drymobius bifossatus: Bertoni (1914): Paraguay.

Drymobius bifossatus: Serié (1915): Paraguay.

Drymobius boddaertii: Serié (1915): Paraguay.

Drymobius boddaerti: Bertoni (1918): Paraguay.

Drymobius bifossatus: Amaral (1926a): Paraguay Expedition (USNM "12401").

Drymobius boddaerti: Schouten (1931): Paraguay.

Drymobius bifossatus: Schouten (1931): CENTRAL: Bahía de Asunción.

Drymobius boddaerti: Schouten (1937): Paraguay.

Drymobius bifossatus: Schouten (1937): Paraguay.

Drymobius bifossatus: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. CENTRAL: Asunción.

Drymobius boddaerti: Bertoni (1939): Paraguay.

Drymobius bifossatus: Gatti (1955): Paraguay.

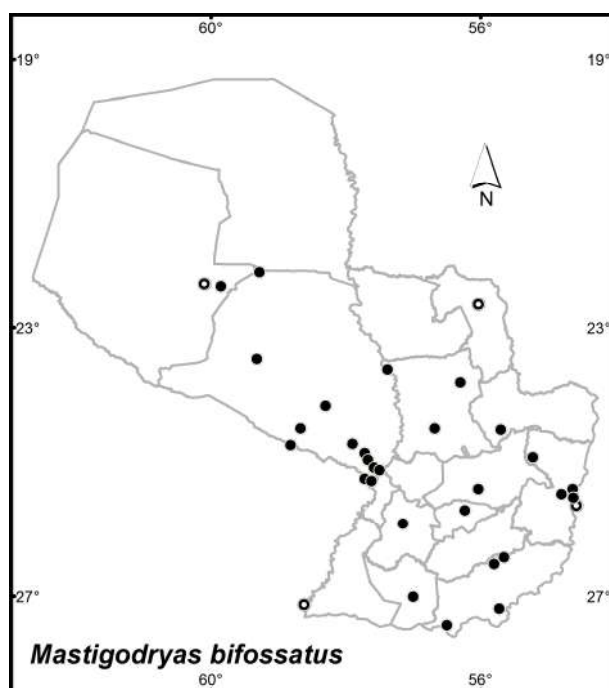
Drymobius boddaerti: Gatti (1955): Paraguay.

Drimobius [sic] *bifossatus*: Canese (1966): Paraguay.

Mastigodryas bifossatus: Talbot (1979): Eastern Paraguay.

Mastigodryas boddaerti: Talbot (1979): Western Paraguay. Paraguay.

Drymobius bifossatus: Elter (1981): CENTRAL: Luque (R1149).



Mastigodryas bifossatus triseriatus: Giraudo and Contreras (1994): ÑEEMBUCÚ: Curupayty.

Mastigodryas bifossatus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Mastigodryas bifossatus: Aquino et al. (1996): See Specimens Examined.

Mastigodryas bifossatus: Leynaud and Bucher (1999:map): Paraguay.

Mastigodryas bifossatus: Ziegler et al. (2002b): BOQUERÓN: Filadelfia (MTKD 43444).

Mastigodryas bifossatus: Motte et al. (2004): Paraguay.

Mastigodryas bifossatus: Motte et al. (2009): Paraguay.

Mastigodryas bifossatus: Cacciali (2009a:map): Paraguay.

Mastigodryas bifossatus: Cacciali (2013): ITAPÚA: Kangüery.

Mastigodryas bifossatus: Cabral and Weiler (2014): AMAMBAY: Cerro Corá (CZCEN 211).

General Distribution: Venezuela and Colombia south into southern Brazil, Bolivia, Paraguay, and northern Argentina (Tipton, 2005).

Local Distribution: *Mastigodryas bifossatus* is present in almost the entire country except the driest part of the Dry Chaco and the Pantanal.

Conservation Status: Least Concern.

Comments: The subspecies *Mastigodryas b. bifossatus* is distributed in southern Brazil and northern Argentina (Peters and Orejas-Miranda, 1970; Ceí, 1993; Tipton, 2005; Scrocchi et al., 2006); whereas *M. b. triseriatus* is present in northern Argentina, Paraguayan Chaco, Bolivia, and northeastern and central Brazil (Peters and Orejas-Miranda, 1970; Ceí, 1993; Leynaud and Bucher, 1999; Tipton, 2005). Specimens from Paraguay cannot be differentiated because they exhibit characters of both subspecies.

Specimens Examined: Paraguay (MNHNP 9297, 9461, 9513, 9701, 9771, 9772, ZVC-R 2926). ALTO PARANÁ: Itakyry (MAI 119); Itaipú reserves (MAI 41, 65, 67, 121, 123, 125); 6 km from Monday (MAI 122); 12 km W Ciudad del Este (MAI n/n). BOQUERÓN: Loma Plata (MNHNP 10728). CAAGUAZÚ: Colonia 1° de Mayo (MNHNP 3089). CANINDEYÚ: Santa Rosa (MNHNP 3088). CENTRAL: Asunción (AMNH 75504, MNHNP 3095, NHMUK 94.3.14.43, 1930.11.27.190); Luque (MZUT 926); San Lorenzo (MNHNP 3838); Río Paraguay, 7 km NNE Piquete Cué (MNHNP 9439). GUAIRÁ: Salto Pai (MNHNP 11036). ITAPÚA: El Tirol (USNM 253567); Isla Guazú'i (MNHNP 4834); Isla Talavera (MNHNP 4903); Isla Yacyertá (MNHNP 7546, 9425); Kangüery (Cacciali, 2013); Parque Nacional San Rafael (MNHNP 11066); San Pedro Mi (MNHNP 8790). MISIONES: San Ignacio (MNHNP 3092). PARAGUARÍ: Arroyo Verde (MNHNP 226, 3094). PRESIDENTE HAYES: No more data (MNHNP 3087, 10398); Estancia Juan de Zalazar (MNHNP 8328); Estancia La Golondrina (MNHNP 3093); Estancia La Rural (MNHNP 9988, 9989); Villa Hayes (UMMZ 166874); Route IX Km 68 (MNHNP 3091); Route IX Km 76 (MNHNP 3090); Route IX Km 95 (MNHNP 10397); Route IX Km 182 (MNHNP 9995); Route IX Km 192 (MNHNP 11184,85);

Road to Fortín General Díaz, 49 km W from Route IX (MNHNP 6523); 12.2 km W Benjamín Aceval (MNHNP 8418); Chaco'i, road to General Bruguez (MNHNP 10078). SAN PEDRO: 4 km S Ybapobo (MNHNP 9438); Colonia Primavera (NHMUK 1956.1.3.42, 1956.1.3.43, 1960.1.2.74, 1960.1.2.75, 1962.38, 1962.39); Laguna Blanca (CZPLT 116, 142).

Photographic Records: ITAPÚA: Kangüery (FPREP 315, 316, 318); Colonia Santa Ana, Parque Nacional San Rafael (FPREP 317). ÑEEMBUCÚ: (FPREP 319).

***Simophis rhinostoma* (Schlegel, 1837)**

Rhinaspis rohdei Boettger (1885a): Paraguay (type locality).

Simophis rhinostoma: Bertoni (1914): Paraguay.

Simophis rohdei: Bertoni (1914): Paraguay.

S[imophis]. rohdei: Werner (1929): Paraguay.

Simophis rhinostoma: Schouten (1931): Paraguay.

Simophis rohdei: Schouten (1931): CENTRAL: Bahía de Asunción.

Simophis rhinostoma: Schouten (1937): Paraguay.

Simophis rhodei: Schouten (1937): Paraguay.

Simophis rhinostoma: Bertoni (1939): Paraguay.

Simophis rohdei: Bertoni (1939): Paraguay.

Simophis rhinostoma: Gatti (1955): Paraguay.

Simophis rohdei: Gatti (1955): Paraguay.

Simophis rohdei: Talbot (1979): Eastern Paraguay.

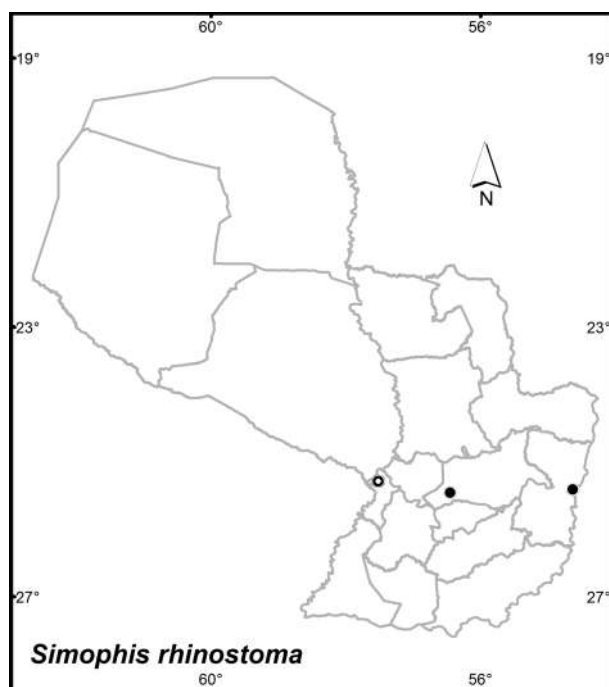
Lystrophis semicinctus: Aquino et al. (1996): CAAGUAZÚ: Coronel Oviedo.

Simophis rhinostoma: Cacciali et al. (2005): ALTO PARANÁ. CAAGUAZÚ.

Simophis rohdei: Motte et al. (2009): Paraguay.

Simophis rohdei: Cacciali (2009a): Paraguay.

Simophis rhinostoma: Cacciali et al. (2009): Paraguay: (ZIN 6658, holotype of *Rhinaspis rohdei*). Alto Parana: (MAI n/n); CAAGUAZÚ: Coronel Oviedo (MNHNP 3451).



General Distribution: Central Brazil and eastern Paraguay (Cacciali et al., 2009).

Local Distribution: There are only three reliable records in Paraguay for this species; in Wet Chaco, Central Forest, and Atlantic Forest.

Conservation Status: Data Deficient.

Comments: Cacciali et al. (2009) show that *Rhinaspis rohdei* Boettger is a synonym of *S. rhinostoma*. An Asunción record (Schouten, 1931) is probably based on a misidentification.

Specimens Examined: Paraguay: (ZIN 6658, holotype of *Rhinaspis rohdei*). ALTO PARANÁ: (MAI n/n). CAAGUAZÚ: Coronel Oviedo (MNHNP 3451).

***Spilotes pullatus* (Linnaeus, 1758)**

Spilotes pullatus: Koslowsky (1898b): Paraguay.

Spilotes pullatus: Bertoni (1914): ALTO PARANÁ.

Psilotes [sic] *pullatus*: Schouten (1931): Paraguay.

Spilotes pullatus: Schouten (1937): Paraguay.

Spilotes pullatus: Bertoni (1939): ALTO PARANÁ.

Spilotes pullatus: Gatti (1955): Paraguay.

Spillotes [sic] *pullatus*: Canese (1966): Paraguay.

Spilotes pullatus: Talbot (1979): Eastern Paraguay.

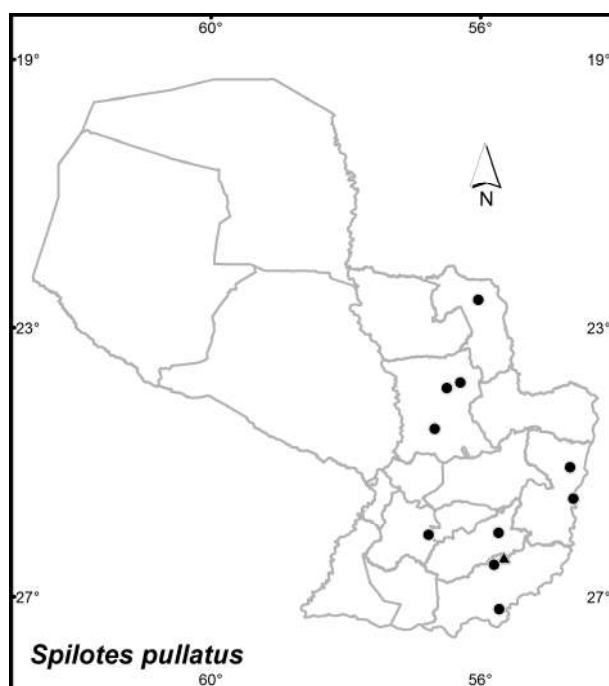
Spilotes pullatus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Spilotes pullatus: Aquino et al. (1996): See Specimens Examined.

Spilotes pullatus: Motte et al. (2009): Paraguay.

Spilotes pullatus: Cacciali (2009a:map): Paraguay.

Spilotes pullatus: Cacciali (2013): ITAPÚA: Kangüery.



General Distribution: From México to Argentina and Paraguay (Tipton, 2005).

Local Distribution: Widespread east of the Río Paraguay on the edge of Wet Chaco and in Cerrado, Central Forest, Atlantic Forest, and Mesopotamian Grasslands.

Comments: The subspecies in Paraguay is *S. p. pullatus* (Peters and Orejas-Miranda, 1970).

Specimens Examined: ALTO PARANÁ: Pikyry (MAI 6); 12 km W Ciudad del Este (MNHNP 3055). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 3842). CAAZAPÁ: Parque Nacional Caaguazú (MNHNP 6526). ITAPÚA: El Tirol (USNM 253575–253577, 259326); Estancia Cuatro Puentes (MNHNP 9097); Kangüery (Cacciali, 2013). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 3053, 3054, 3056). SAN PEDRO: 25 km N Jejuí (MNHNP 3057); Colonia Primavera (NHMUK 1962.40, 1962.41); Laguna Blanca (CZPLT 113, 127, 446).

Photographic Records: CANINDEYÚ: Reserva Bosque Mbaracayú (FPREP 808). ITAPÚA: Nueva Gambach (FPREP 287–296). SAN PEDRO: Laguna Blanca (FPREP 528, 529).

***Tantilla melanocephala* (Linnaeus, 1758)**

Homalocranium melanocephalum: Boulenger (1894a): CENTRAL: Asunción.

Homolocranium melanocephalum: Peracca (1895): CENTRAL: Luque.

Homolocranium melanocephalum: Koslowsky (1898b): Paraguay.

Homalocranium melanocephalum: Bertoni (1914): Paraguay.

Homalocranium melanocephalum: Serié (1915): Paraguay.

Homalocranium melanocephalum: Schouten (1931): Paraguay.

Tantilla melanocephala: Bertoni (1939): Chaco.

Tantilla melanocephala: Gatti (1955): Paraguay.

Tantilla melanocephala: Talbot (1979): Western Paraguay.

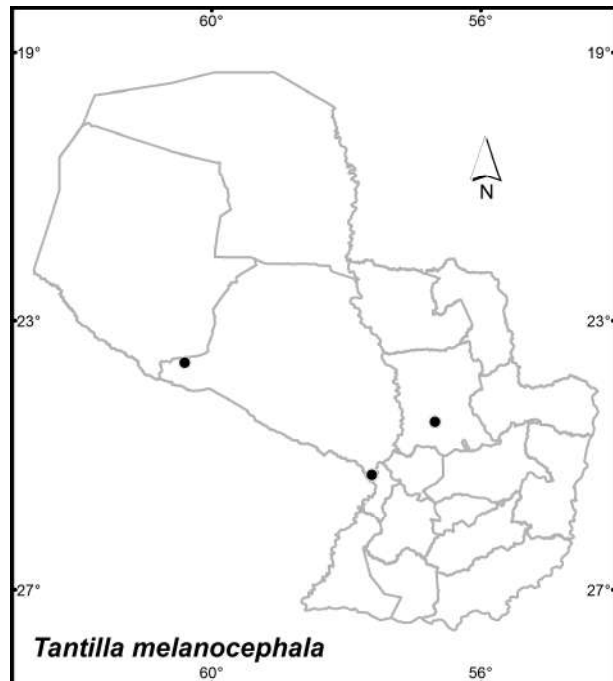
Tantilla melanocephala: Elter (1981): CENTRAL: Luque (MZUT R1406).

Tantilla melanocephala: Motte et al. (2004): Paraguay.

Tantilla melanocephala: Cacciali and Brusquetti (2005b): PRESIDENTE HAYES: Estancia Toro Mocho (MNHNP 10627).

Tantilla melanocephala: Motte et al. (2009): Paraguay.

Tantilla melanocephala: Cacciali (2009a): Paraguay.



General Distribution: From Guatemala southward to southern Peru, Bolivia, northern Argentina, and Uruguay (Peters and Orejas-Miranda, 1970; Carreira et al., 2005; Tipton, 2005).

Local Distribution: Known from scattered localities in Wet Chaco.

Conservation Status: Data Deficient.

Comments: Just six specimens are known from Paraguay.

Specimens Examined: CENTRAL: Asunción (NHMUK 94.3.14.69); Luque (MZUT 1406). PRESIDENTE HAYES: Estancia Toro Mocho (MNHNP 10627). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.16.42, 1962.107,8).

Family Dipsadidae
Dipsadinae–Unamed Clade

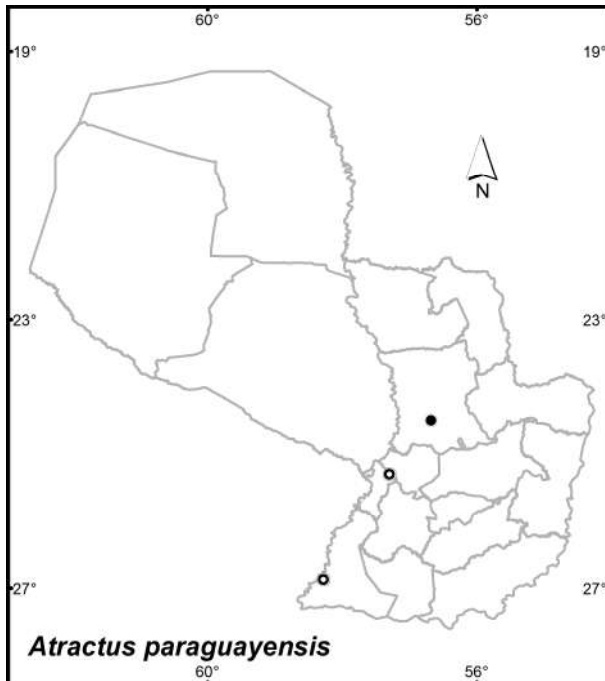
***Atractus paraguayensis* Werner, 1924**

Atractus paraguayensis: Werner (1924): Paraguay (type locality; NMW 23443, holotype).

A[tractus]. paraguayensis: Werner (1929): Paraguay.

Atractus reticulatus paraguayensis: Amaral (1929): Paraguay.

Atractus reticulatus: Talbot (1979): Eastern Paraguay.



Atractus reticulatus paraguayensis: Tiedemann and Häupl (1980): Paraguay (type locality; NMW 23443, holotype of *Atractus paraguayensis*).

Atractus reticulatus paraguayensis: Tiedemann et al. (1994): Paraguay (type locality; NMW 23443, holotype of *Atractus paraguayensis*).

Atractus aff. *reticulatus*: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Atractus paraguayensis: Fernandes (1996): Paraguay.

Atractus reticulatus paraguayensis: Vanzolini (2000): Paraguay.

Atractus paraguayensis: Giraudo and Scrocchi (2000): ÑEEMBUCÚ: Pilar (FML 6221, 6228).

Atractus paraguayensis: Motte et al. (2004): Paraguay.

Atractus paraguayensis: Motte et al. (2009): Paraguay.

Atractus paraguayensis: Cacciali (2009a): Paraguay.

Atractus paraguayensis: Passos et al. (2010): Paraguay (NMW 23443, holotype).

Atractus paraguayensis: Entiauspe-Neto and Abegg (2013:map): Paraguay.
See Comments.

Atractus paraguayensis: Cabral and Weiler (2014): CORDILLERA: San Bernardino (CZCEN 740).

General Distribution: Southern Paraguay, northeastern Argentina, and southern Brazil (Entiauspe-Neto and Abegg, 2013).

Local Distribution: Three localities in Wet Chaco. The holotype probably came from Central Forest.

Conservation Status: Data Deficient.

Comments: The first country record is in the original description (Werner, 1924) based on a specimen (NMW 23443) from the Wiener collection. According to Vanzolini (2000), the collections of Wiener all came from the vicinity of Asunción, Departamento Central, including specimens that came from Altos in the neighboring Departamento Cordillera.

Although *A. paraguayensis* was described as a full species, it was considered a subspecies of *A. reticulatus* by many authors (Amaral, 1929; Tiedemann et al., 1994; Álvarez et al., 1992). Fernandes (1996) returned it to full species status. Records of “*A. taeniatus*” from Argentina and Brazil are referred instead to *A. paraguayensis* by Passos et al. (2010).

Specimens Examined: SAN PEDRO: Colonia Primavera (NHMUK 1956.1.3.40, 1956.1.16.37, 1958.1.2.26, 1958.1.2.27, 1960.1.2.88–1960.1.2.91, 1962.133–1962.140).

***Atractus reticulatus* (Boulenger, 1885)**

Atractus reticulatus: Serié (1915): Paraguay.

Atractus reticulatus: Bertoni (1918): Paraguay.

Atractus reticulatus: Schouten (1931): Paraguay.

Atractus reticulatus: Schouten (1937): Paraguay.

Atractus reticulatus: Bertoni (1939): Paraguay.

Atractus reticulatus: Gatti (1955): Paraguay.

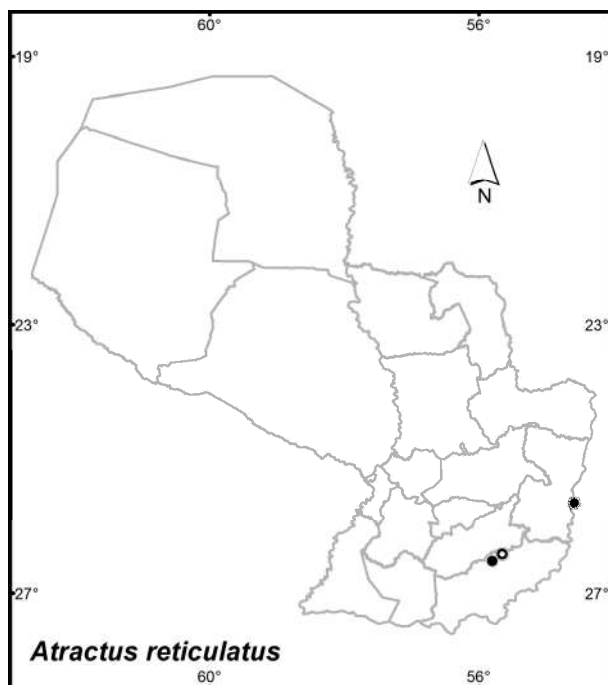
Atractus reticulatus: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT R2825).

Atractus reticulatus scrocchii: Álvarez et al. (1992): ALTO PARANÁ: Puerto Bertoni (MZUT R2825).

Atractus reticulatus: Motte et al. (2009): Paraguay.

Atractus reticulatus: Cacciali (2009a): Paraguay.

Atractus reticulatus: Núñez (2012): ITAPÚA: Kangüery.



General Distribution: Southern Brazil, northeastern Argentina, Paraguay, and northeastern Uruguay (Ceí, 1993; Carreira et al., 2005; Passos et al., 2010).

Local Distribution: Atlantic Forest in southeastern Paraguay.

Conservation Status: Data Deficient.

Comments: We examined only two Paraguayan specimens with precise locality data.

Specimens Examined: Paraguay (MNHNP 9582); “Paraguay River” (NHMUK 1923.12.5.6, 1923.12.5.7). ALTO PARANÁ: Puerto Bertoni (MZUT R2825). ITAPÚA: Estancia San Isidro (MNHNP 9663).

***Atractus thalesdelemai* Passos, Fernandes and Zanella, 2005**

Atractus kangueryensis Cacciali et al. (2007e): Itapúa: Kangüery (type locality, MNHNP 11117, holotype). See Specimens Examined.

Atractus kangueryensis: Cacciali (2009a): Paraguay.

Atractus thalesdelemai: Núñez (2012): ITAPÚA: Kangüery.

Atractus thalesdelemai: Cacciali (2013): ITAPÚA: Kangüery.

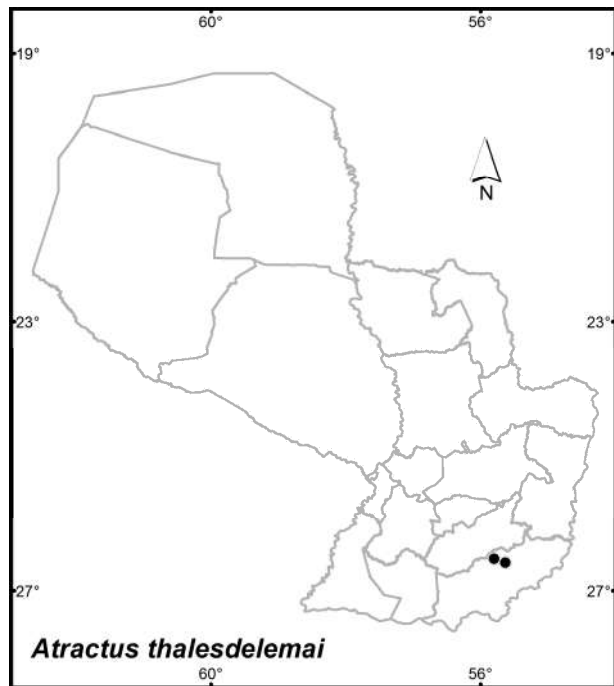
General Distribution: Southeastern Paraguay and northern Rio Grande do Sul, southern Brazil.

Local Distribution: Known only from the Serranía San Rafael, Itapúa, in Mesopotamian Grasslands.

Conservation Status: Not Evaluated.

Comments: *Atractus kangueryensis* was placed in the synonymy of *Atractus thalesdelemai* by Passos et al. (2010).

Specimens Examined: ITAPÚA: Alto Verá, San Pedro Mí (MNHNP 8743); Parque Nacional San Rafael, Kangüery (MNHNP 11117, holotype of *A. kangueryensis*; 11159, paratype; Cacciali, 2013); Estancia San Isidro (MNHNP 9670, paratype).



Dipsadinae–Imantodini

***Imantodes cenchoa* (Linnaeus, 1758)**

Himantodes cenchoa: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Himantodes cenchoa: Bertoni (1914): ALTO PARAGUAY: Bahía Negra.

Himantodes cenchoa: Schouten (1931): Paraguay.

Himantodes centhroa [sic]: Schouten (1937): Paraguay.

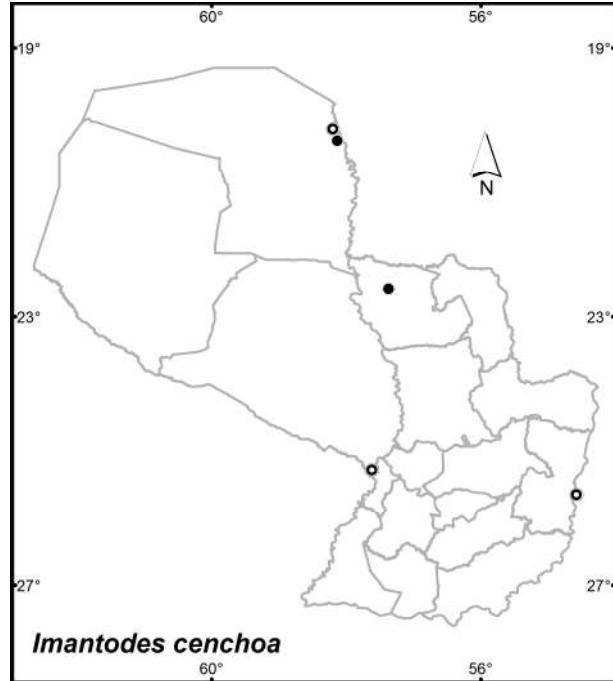
Himantodes cenchoa: Bertoni (1939): ALTO PARAGUAY: Bahía Negra. ALTO PARANÁ: Puerto Bertoni. CENTRAL: Asunción.

Himantodes cenchoa: Gatti (1955): Paraguay.

Imantodes cenchoa: Talbot (1979): Eastern Paraguay.

Imantodes cenchoa: Motte et al. (2009): Paraguay.

Imantodes cenchoa: Cacciali (2009a): Paraguay.



General Distribution: From Panama southward to Brazil, Bolivia, Paraguay, and Argentina (Peters and Orejas-Miranda, 1970; Cei, 1993; Tipton, 2005; Giraudo and Scrocchi, 2002).

Local Distribution: A widespread species (like *Iguana* and *Anolis*) that is characteristic of Neotropical forests, which barely enters Paraguay in Pantanal and Cerrado.

Conservation Status: Endangered.

Comments: The subspecies in Paraguay is *Imantodes c. cenchoa* (Peters and Orejas-Miranda, 1970).

Specimens Examined: ALTO PARAGUAY: Puerto 14 de Mayo (NHMUK 98.6.3.9). CONCEPCIÓN: Parque Nacional Serranía San Luís (MNHNP 7673).

***Leptodeira annulata* (Linnaeus, 1758)**

Leptodira annulata: Boettger (1885a): Paraguay.

Leptodira annulata: Boulenger (1894a): CENTRAL: Asunción.

Leptodira anulata [sic]: Bertoni (1914): Paraguay.

Leptodira albofusca: Bertoni (1914): Paraguay.

Leptodira albofusca: Werner (1925): Paraguay.

L[eptodira]. anulata [sic]: Schouten (1931): Paraguay.

Leptodira albofusca: Schouten (1931): Paraguay.

Leptodira anulata [sic]: Schouten (1937): Paraguay.

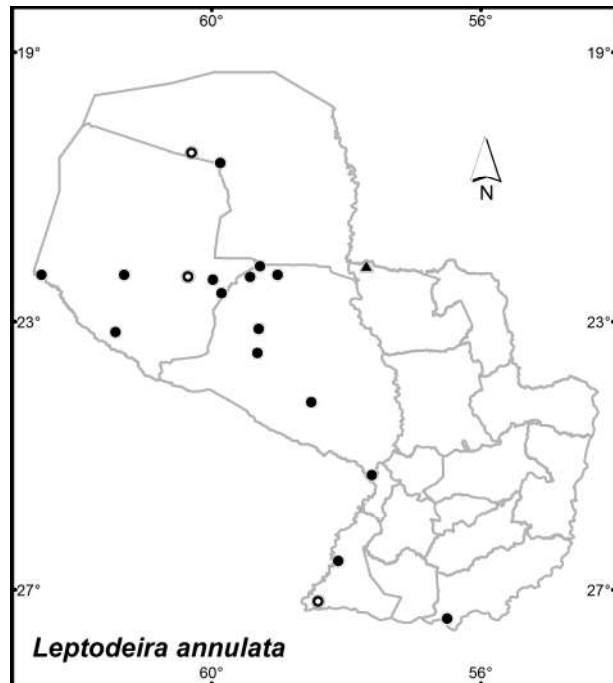
Leptodira albofusca: Schouten (1937): Paraguay.

Leptodeira anulata [sic]: Bertoni (1939): Río Paraguay.

Leptodeira anulata [sic]: Gatti (1955): Paraguay.

Leptodeira annulata: Talbot (1979): Eastern and western Paraguay.

Leptodeira annulata pulchriceps: Giraudo and Contreras (1994): ÑEEMBUCÚ: General E. Díaz.



Leptodeira annulata: Aquino et al. (1996): See Specimens Examined.

Leptodeira annulata: Leynaud and Bucher (1999:map): Paraguay.

Leptodeira annulata: Ziegler et al. (2002b): ALTO PARAGUAY: Vicinity of 20°29'S, 60°18'W. BOQUERÓN: Fortín Toledo, specimens MTKD 43441, 43442 without specifying which specimen belongs to which locality.

Leptodeira annulata: Motte et al. (2004): Paraguay.

Leptodeira annulata: Motte et al. (2009): Paraguay.

Leptodeira annulata: Cacciali (2009a:map): Paraguay.

General Distribution: México to Paraguay and northern Argentina (Peters and Orejas-Miranda, 1970; Cei, 1993; Leynaud and Bucher, 1999; Tipton, 2005; Scrocchi et al., 2006).

Local Distribution: Widespread west of the Río Paraguay in Wet and Dry Chaco, absent only from the driest parts of the latter; east of the river along the east bank in Wet Chaco to Mesopotamian Grasslands.

Conservation Status: Least Concern.

Comments: The subspecies present in Paraguay is *L. a. pulchriceps*.

Specimens Examined: Paraguay (MNHNP 9249, 9253, 9260). ALTO PARAGUAY: Estancia General Díaz (MNHNP 3396); Fortín Madrejón (MNHNP 2513–2515, 3592, 3595, 3776, 5213, USNM 342105, 342106). BOQUERÓN: 36 km S Filadelfia (MNHNP 9733); vicinity of Virgen del Rosario (MNHNP 10769); Estancia La Gama (MNHNP 4138, 4139); Estancia Mbutú Retã (MNHNP 3392); Parque Trébol (MNHNP 5212); Río Pilcomayo, 8 km NW Pozo Hondo (USNM 342103, 342104). CENTRAL: Asunción (NHMUK 94.3.14.63). ITAPÚA: Isla Yacyretá (UNNEC 7024). ÑEEMBUCÚ: Estancia Yacaré (MNHNP 6690). PRESIDENTE HAYES: 8 km NE Estancia Juan de Zalazar (UMMZ 166844); Estancia La Victoria (MNHNP 2511, 2512); Estancia Loma Porã (MNHNP 9182, 9200); Rancho Carandá (MNHNP 5190); Road to General Díaz, 49 km W Route IX (MNHNP 5211).

Photographic Records: CONCEPCIÓN: Estancia Estrella (FPREP 228).

Dipsadinae–Dipsadini

Dipsas bucephala (Shaw, 1802)

Dipsas indica: Bertoni (1914): ALTO PARANÁ: Puerto Bertoni.

Cochliophagus (Leptognathus) albifrons: Serié (1915): ALTO PARANÁ: Puerto Bertoni.

Cochliophagus albifrons: Bertoni (1918): ALTO PARANÁ: Puerto Bertoni.

Dipsas indica: Schouten (1931): Paraguay.

Cochliophagus albifrons: Schouten (1931): Paraguay.

Dipsas indica: Schouten (1937): Paraguay.

Sybynomorphus [sic] *albifrons*: Schouten (1937): Paraguay.

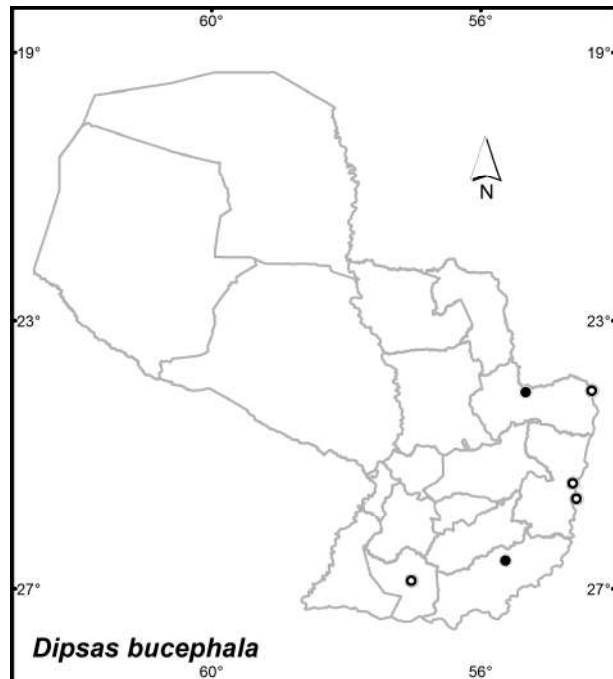
Dipsas indica: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. MISIONES: San Ignacio.

Dipsas indica: Gatti (1955): Paraguay.

Dipsas albifrons: Talbot (1979): Eastern Paraguay.

Dipsas indica [partim]: Talbot (1979): Eastern Paraguay.

Dipsas indica bucephala [sic]: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.



Dipsas indica bucephala: Giraudo (2002): CANINDEYÚ: Saltos de Guayrá (MAI ad17).

Dipsas indica bucephala: Cacciali and Carreira (2005): Eastern and southern Paraguay.

Dipsas indica bucephala: Cacciali (2006): ALTO PARANÁ: (MAI n/n). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (CEBM n/n). ITAPÚA: Alto Verá, Yataí (MNHNP 8739).

Dipsas indica bucephala: Motte et al. (2009): Paraguay.

Dipsas cisticeps [partim]: Cacciali (2009a:map): Paraguay.

General Distribution: East-central Brazil, west to eastern Paraguay and Provincia de Misiones in Argentina (Peters, 1960; Giraudo, 2002).

Local Distribution: Eastern Paraguay in departamentos Alto Paraná, Canindeyú, Misiones, and Itapúa in Atlantic Forest and Mesopotamian Grasslands.

Conservation Status: Endangered.

Comments: This species is poorly known and scarce in scientific collections from Paraguay and Argentina (Giraudo, 2002). Long known as a subspecies of *Dipsas indica*, Harvey and Embert (2008) separated *D. bucephala* as a valid species with two subspecies, *cisticeps* and *bucephala*. However, their concept of *D. b. bucephala* is based entirely upon the literature; they did not see true *D. b. bucephala*; they only examined *D. b. cisticeps*.

Given the color pattern differences and considerable (200 km+) range-gap between the taxa *bucephala* and *cisticeps* in Brazil, Argentina, and Paraguay (Peters, 1960; Giraudo, 2002; Giraudo and Scrocchi, 2002; Cacciali, 2006), it is probable that Bertoni (1914, 1939), Schouten (1931), and Gatti (1955) were correct in considering them to be separate species in Paraguay. Whether or not they actually comprise distinct species (using any of the definitions of “species” currently in vogue) will only be resolved if specimens from the range-gap become available. Until further evidence proves us wrong, we recognize two species: *D. bucephala*, found in Atlantic Forest and Mesopotamian Grasslands, and *D. cisticeps* in the Chaco and Central Forest ecoregions.

The *Dipsas cisticeps/bucephala* biogeographic pattern in many ways parallels the situations in *Epicrates alvarezi/crassus* and *Boa occidentalis/amarali*, with distinct but related forms; one in the western Dry Chaco/Central Forest and one in the eastern Atlantic Forest.

There is a *Dipsas catesbyi* in the Museo di Zoologia della Università di Torino catalogued as coming from Asunción (MZUT R1481). However, it is the only specimen supposedly from Paraguay in a sizeable G. Balzan collection from Bolivia. Boulenger (1898b) reported two Bolivian specimens of *Leptognathus catesbyi* in this collection; MZUT R1481 is probably one of these.

Specimens Examined: CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (CEBM n/n, MAI 92). ITAPÚA: Alto Verá (MNHNP 8739).

***Dipsas cisticeps* (Boettger, 1885)**

Leptognathus (*Dipsadomorphus*) *cisticeps* Boettger (1885a): Paraguay (type locality).

Dipsas cisticeps: Bertoni (1914): Paraguay.

Cochliophagus albifrons: Bertoni (1918): CENTRAL: Asunción.

Dipsas cisticeps: Schouten (1931): Paraguay.

Dipsas cisticeps: Schouten (1937): Paraguay.

Dipsas cisticeps: Bertoni (1939): CENTRAL: Asunción.

Dipsas cisticeps: Gatti (1955): Paraguay.

Dipsas indica cisticeps: Peters (1965): Paraguay.

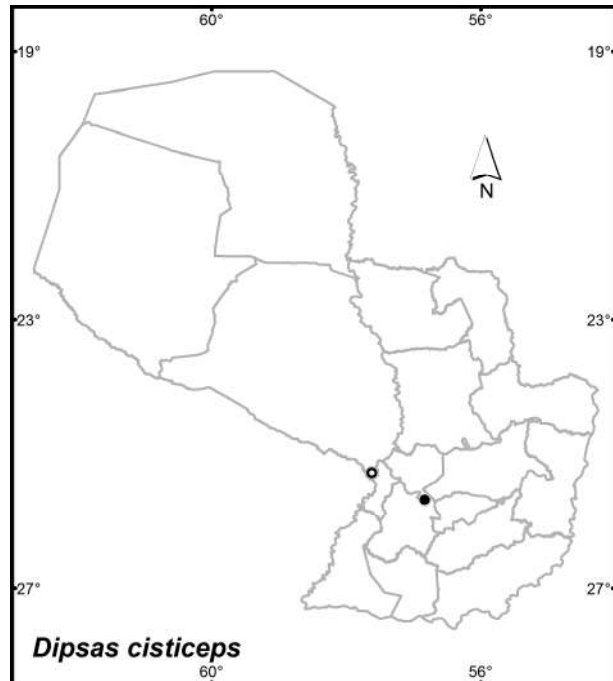
Dipsas indica cisticeps: Motte et al. (2004): Paraguay.

Dipsas indica cisticeps: Cacciali and Carreira (2005): Paraguay (ZVC-R 1857).

Dipsas indica cisticeps: Cacciali (2006): PARAGUARÍ: Sapucái (ZVC-R 1857).

Dipsas indica cisticeps: Motte et al. (2009): Paraguay.

Dipsas cisticeps [*partim*]: Cacciali (2009a:map): Paraguay.



General Distribution: Eastern Bolivia (and probably extreme western Brazil), northwestern Argentina, and western Paraguay (Álvarez et al., 1996; Cacciali, 2006; Harvey and Embert, 2008).

Local Distribution: Departamentos Paraguairí and Central in the Central Forest ecoregion (Cacciali, 2006).

Conservation Status: Data Deficient.

Comments: See Comments under *Dipsas bucephala*.

Specimens Examined: PARAGUARÍ: Sapucái (ZVC-R 1857).

***Sibynomorphus lavillai* Scrocchi, Puerto and Rey, 1993**

Sibynomorphus lavillai: Scrocchi et al. (1993): Paraguay (MACN 2729, paratype).

Sibynomorphus lavillai: Cacciali (2006): See Specimen Examined.

Sibynomorphus lavillai: Motte et al. (2009): Paraguay.

Sibynomorphus lavillai: Ferreira and Ávila (2009): Northern Paraguay.

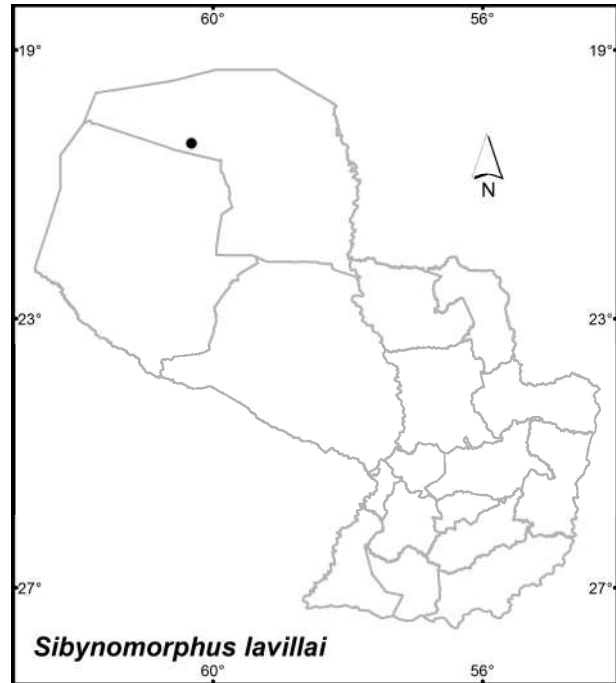
Sibynomorphus lavillai: Cacciali (2009a): Paraguay.

General Distribution: Endemic to the Dry Chaco of northern Argentina, eastern Bolivia, western Brazil, and northern Paraguay (Ferreira and Ávila, 2009).

Local Distribution: Known from a single locality in the Dry Chaco of Departamento Alto Paraguay.

Conservation Status: Data Deficient.

Specimen Examined: ALTO PARAGUAY: Cerro León (MNHNP 6601).



***Sibynomorphus mikanii* (Schlegel, 1837)**

Sibynomorphus mikani [partim]: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni.

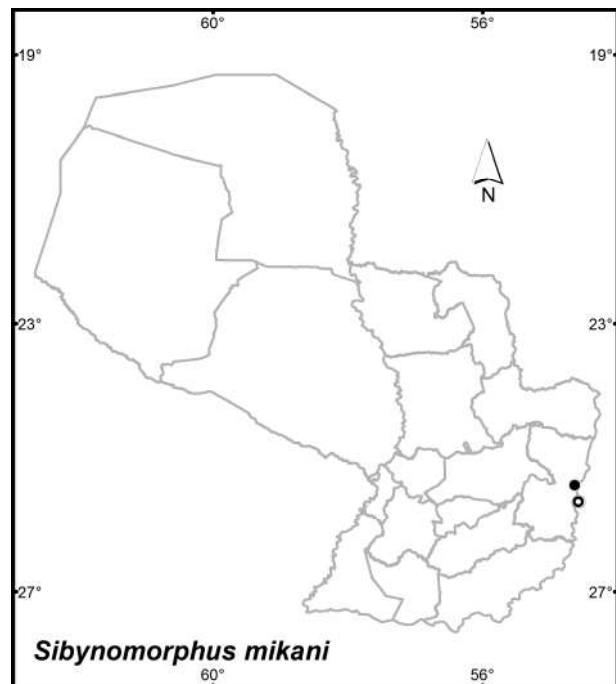
Sibynomorphus mikanii: Talbot (1979): Eastern Paraguay.

Sibynomorphus mikanii: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Sibynomorphus mikani: Cacciali (2006): See Specimens Examined.

Sibynomorphus mikani: Motte et al. (2009): Paraguay.

Sibynomorphus mikani: Cacciali (2009a:map): Paraguay.



General Distribution: Coastal Brazil and interior southeastern Brazil to extreme eastern Paraguay and Provincia de Misiones, Argentina (Peters, 1960; Duré Rodas, 1995; Giraudo, 2002).

Local Distribution: Found only in extreme eastern Paraguay in Atlantic Forest.

Conservation Status: Endangered.

Comments: Peracca (1895) cites *Sibynomorphus mikani* for “Río Apa” based on a specimen of *S. turgidus*. Boettger (1885a) and Schouten (1931) probably made similar errors in identification, and Bertoni’s (1914, 1939) Asunción records are probably *S. turgidus* (Cacciali, 2006).

The subspecies in Paraguay is *S. m. mikani* (Peters, 1960).

Specimens Examined: Paraguay (MNHN 1532). Itaipú reserves (MAI 79, 80, 86–88, 95, 96, 106, 107).

***Sibynomorphus turgidus* (Cope, 1868)**

Cochliophagus inaequifasciatus: Cope (1862d): Paraguay Expedition (USNM 5815).

Leptognathus turgida Cope (1868): “Northern part of the Paraguay River” (type locality).

Leptognathus mikani: Boettger (1885a): Paraguay.

Leptognathus mikani: Peracca (1895): CONCEPCIÓN: Río Apa.

Leptognathus turgida: Boulenger (1896): CENTRAL: Asunción.

Leptognathus turgida: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Leptognathus turgida: Berg (1898): Paraguay.

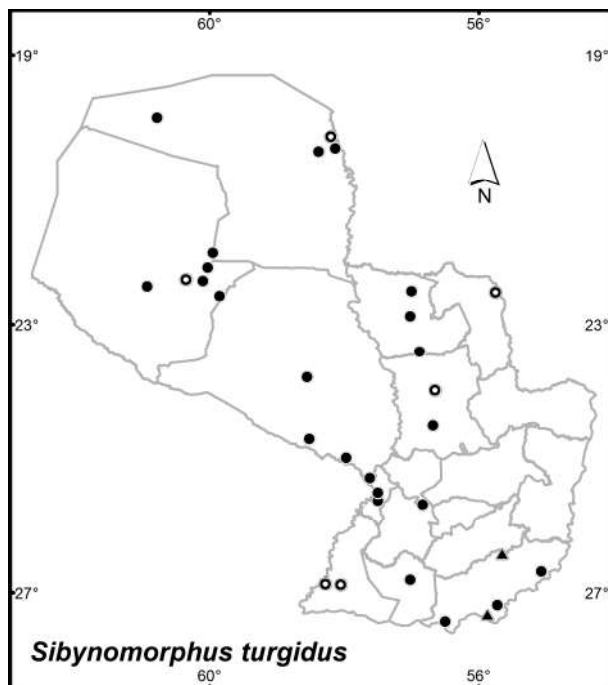
Leptognathus turgida: Koslowsky (1898b): Paraguay.

Leptognathus turgida: Schenkel (1901): Paraguay.

Leptognathus turgida: Werner (1909): Paraguay.

Cochliophagus catesbyi: Bertoni (1914): CENTRAL: Asunción. See Comments.

Cochliophagus mikani: Bertoni (1914): CENTRAL: Asunción.



- Cochliophagus turgidas* [sic]: Bertoni (1914): CENTRAL: Asunción.
- Cochliophagus intermedius*: Bertoni (1914): ALTO PARAGUAY.
- Cochliophagus turgida*: Serié (1915): Paraguay.
- Leptognathus turgida*: Werner (1922): Paraguay.
- Cochliophagus catesbyi*: Schouten (1931): Paraguay.
- Cochliophagus intermedius*: Schouten (1931): Paraguay.
- Cochliophagus mikani*: Schouten (1931): Paraguay.
- Cochliophagus turgidus*: Schouten (1931): Paraguay.
- Sybynomorphus castebytii* [sic]: Schouten (1937): Paraguay.
- Sybynomorphus intermedius*: Schouten (1937): Paraguay.
- Sybynomorphus mikani*: Schouten (1937): Paraguay.
- Sybynomorphus turgidus*: Schouten (1937): Paraguay.
- Sibynomorphus catesbyi*: Bertoni (1939): CENTRAL: Asunción. See Comments.
- Sibynomorphus intermedius*: Bertoni (1939): ALTO PARAGUAY.
- Sibynomorphus mikani* [partim]: Bertoni (1939): CENTRAL: Asunción.
- Sibynomorphus turgidus*: Bertoni (1939): CENTRAL: Asunción.
- Sibynomorphus catesbyi*: Gatti (1955): Paraguay.
- Sibynomorphus turgidus*: Gatti (1955): Paraguay.
- Sibynomorphus mikani*: Gatti (1955): Paraguay.
- Sibynomorphus turgidus*: Orejas Miranda (1958): SAN PEDRO: Primavera (CMNH 92, 550).
- Sibynomorphus turgidus*: Peters (1960): Northern part of Paraguay River (type locality, USNM 5815, 2 cotypes). ALTO PARAGUAY: "Depto. Bahía Negra." AMAMBAY: Pedro Juan Caballero (FMNH 42264, 42273–42275). CENTRAL: "Dept. Villeta" (MCZ 47027).
- Sibynomorphus turgidus*: Cochran (1961): Northern part of Paraguay River (boundary of Brazil and Paraguay), T. J. Page (USNM 5815, 2 cotypes of *Leptognathus turgida*).
- Sibynomorphus turgidus*: Peters (1965): Northern Paraguay.
- Sibynomorphus inaequifasciatus*: Peters (1965): Paraguay?.
- Sibynomorphus turgidus*: Campbell and Murphy (1984): CENTRAL: Vicinity of Asunción.
- Sibynomorphus turgidus*: Talbot (1979): Eastern Paraguay.
- Leptognathus turgida*: Elter (1981): Paraguay (MZUT R2048). CONCEPCIÓN: Río Apa (MZUT R1881).

Sibynomorphus turgidus: Scrocchi et al. (1993): Paraguay (MACN 2730–2737). ALTO PARAGUAY: Cerro León (MNHNP 6601); “ALTO PARAGUAY: Madrejón” (*en errore*: IBN 128397 =MNHNP 3338 is from CENTRAL: Asunción). CENTRAL: Asunción (IBN 128477, 128478 =MNHNP 3340, 3341, MACN 5808–5816); vicinity of Nueva Italia (IBN 128234 =MNHNP 3346); Villeta (IBN 128396 =MNHNP 3337). ITAPÚA: Yatyta’y, km 16 (IBN 128479 =MNHNP 3342). PARAGUARÍ: Caballero (IBN 128168 =MNHNP 3344). PRESIDENTE HAYES: Route IX Km 234 (IBN 129016 =MNHNP 3343). SAN PEDRO: Carumbé (FML 00639).

Sibynomorphus turgidus: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar; Guazú Cuá.

S[ibynomorphus]. turgidus: Aquino et al. (1996): See Specimens Examined.

Sibynomorphus turgidus: Ziegler et al. (2002b): BOQUERÓN: Filadelfia; Fortín Toledo (MTKD 43448, 43449; not specified as to which specimen pertained to which locality).

Sibynomorphus turgidus: Motte et al. (2004): Paraguay.

Sibynomorphus turgidus: Cacciali (2006): See Specimens Examined.

Sibynomorphus turgidus: Motte et al. (2009): Paraguay.

Sibynomorphus turgidus: Cacciali (2009a:map): Paraguay.

Sibynomorphus turgidus: Cabral and Weiler (2014): BOQUERÓN: Filadelfia (CZCEN 747,48). CENTRAL: San Lorenzo (CZCEN 299). SAN PEDRO: Choré (CZCEN 200).

Sibynomorphus turgidus: Cacciali (2013): ITAPÚA: Kangüery.

General Distribution: Paraguay, southeastern Bolivia, Mato Grosso in Brazil, central and northern Argentina, and Uruguay (Peters and Orejas-Miranda, 1970; Ceí, 1993; Leynaud and Bucher, 1999; Carreira et al., 2005; Scrocchi et al., 2006).

Local Distribution: This species inhabits open formations in all ecoregions.

Conservation Status: Least Concern.

Comments: This species has often been misidentified in the literature as *S. mikani*. See Comments under that species for additional details. Specimens referred by Scrocchi et al. (1993) as “IBN” are currently catalogued in the MNHNP with different numbers.

Bertoni (1914, 1939) wrote that the specimens he listed as *Cochliophagus/Sibynomorphus catesbyi* were identified as *S. turgidus*. Schouten’s (1931, 1937) and Gatti’s (1955) records are probably copies of Bertoni.

Cope (1862d) assigned the name *Cochliophagus inaequifasciatus* to specimens from the Paraguay Expedition. He later used these as cotypes for the description of *Leptognathus turgida* (Cope, 1868).

Peters (1960) assigned Bertoni's (1914) Asunción record of "*Cochliophagus turgidas*" to *Sibynomorphus ventrimaculatus* because he believed that *S. turgidus* did not occur there. However, both species are found in Asunción.

Specimens Examined: Paraguay Expedition (USNM 5815, 2 cotypes). Paraguay (CZCEN n/n [2], MNHN 1890–1912, MNHNP 11234, MZUT R2048). ALTO PARAGUAY: Colonia Potrerito (MNHNP 3394); Parque Nacional Defensores del Chaco (MNHNP 3345); Puerto 14 de Mayo (NHMUK 98.6.3.12). BOQUERÓN: 9 km S Filadelfia (MNHNP 5169); 31 km S Filadelfia (MNHNP 5170); 52 km N Filadelfia (MNHNP 5171); 23 km N Filadelfia (MNHNP 5172); 14 km S Filadelfia (MNHNP 10013); 15.6 km S Filadelfia (MNHNP 10021); Filadelfia (MNHNP 5127). CAAZAPÁ: Compañía Viscaíno Cué (MNHNP 4046). CENTRAL: Asunción (MNHNP 33, 3339–3341, NHMUK 1930.11.27.229–1930.11.27.248); Luque (MNHNP 5167); Nueva Italia (MNHNP 3346); San Antonio (EBD 30417–30419); San Lorenzo (LACM 126519, MNHNP 3393, 4047, 4052, 4169, 6589, 7055, 7672); Villeta (MNHNP 3337, 3338). CONCEPCIÓN: 22°51'58"S, 57°00'40"W (MNHNP 5178); Horqueta (MNHNP 2682); Río Apa (MZUT 1026). ITAPÚA: Complejo Yacyretá (MNHNP 8192, 8358); Isla Modesto (MNHNP 4830); Isla Yacyretá (MNHNP 4829, 5174); El Tirol (USNM 253570); Kangüery (Cacciali, 2013); Yatayty, km 16 (MNHNP 3342). MISIONES: 10.2 km N San Ignacio (MNHNP 10017). PARAGUARÍ: Caballero (MNHNP 3344). PRESIDENTE HAYES: Route to General Bruguez, 41.5 km from route to Falcón (MNHNP 5168); Route IX Km 234 (MNHNP 3343); 25°11'43"S, 57°36'24"W (MNHNP 5173); 15 km E Río Negro on the road to General Bruguez (MNHNP 5176); 24 km E Río Negro on the road to General Bruguez (MNHNP 5175). SAN PEDRO: Colonia Primavera (NHMUK 1954.1.3.61, 1955.1.6.4, 1955.1.6.5, 1956.1.3.45–1956.1.3.47, 1956.1.16.44–1956.1.16.47, 1958.1.2.24, 1958.1.2.25, 1960.1.3.10, 1962.112–1962.129, 1971.431).

Photographic Records: ITAPÚA: Kangüery (FPREP 202, 203); Encarnación (FPREP 393–399).

***Sibynomorphus ventrimaculatus* (Boulenger, 1885)**

Leptognathus ventrimaculatus: Boulenger (1894a): CENTRAL: Asunción.

Leptognathus ventrimaculata: Boulenger (1896): CENTRAL: Asunción.

Leptognathus ventrimaculata: Koslowsky (1898b): Paraguay.

Leptognathus ventrimaculatus: Peracca (1895): CENTRAL: Luque.

Leptognathus intermedia Steindachner (1903): CORDILLERA: Altos (type locality; NMW 23444, holotype).

Cochliophagus ventrimaculatus: Ihering (1911): ITAPÚA: Villa Encarnación (MP 1549).

Cochliophagus ventrimaculatus:
Bertoni (1914): ALTO PARANÁ.

Cochliophagus ventrimaculatus:
Serié (1915): CENTRAL: Trinidad.

Leptognathus ventrimaculata:
Werner (1922): Paraguay.

Cochliophagus intermedius:
Schouten (1931): Paraguay.

Cochliophagus ventrimaculatus:
Schouten (1931): Paraguay.

Sibynomorphus ventrimaculatus:
Schouten (1937): Paraguay.

Sibynomorphus ventrimaculatus:
Bertoni (1939): ALTO PARANÁ.

Sibynomorphus intermedieu [sic]:
Gatti (1955): Paraguay.

Sibynomorphus ventrimaculatus: Gatti (1955): Paraguay.

Sibynomorphus ventrimaculatus: Peters (1960): CENTRAL: Asunción (MNRJ 705–6). ITAPÚA: Encarnación (MZUSP 1549).

Sibynomorphus ventrimaculatus: Peters (1964): Paraguay.

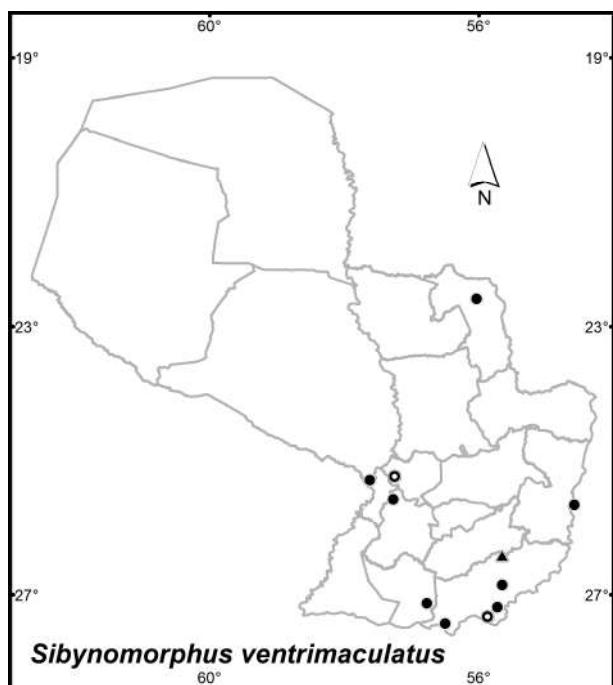
Sibynomorphus ventrimaculatus: Peters (1965): Southern Paraguay.

Sibynomorphus ventrimaculatus: Talbot (1979): Eastern Paraguay.

Sibynomorphus ventrimaculatus: Tiedemann and Häupl (1980): CORDILLERA: Altos (NMW 23444, holotype of *Leptognathus intermedia*).

Leptognathus ventrimaculatus: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT R2821). CENTRAL: Luque (MZUT R1484).

Sibynomorphus ventrimaculatus: Scrocchi et al. (1993): AMAMBAY (IBN 128759 =MNHNP 3347). CENTRAL: Asunción (MNRJ 705).



Sibynomorphus ventrimaculatus: Aquino et al. (1996): See Specimens Examined.

Sibynomorphus ventrimaculatus: Motte et al. (2004): Paraguay.

Sibynomorphus ventrimaculatus: Cacciali (2006): See Specimens Examined.

Sibynomorphus ventrimaculatus: Motte et al. (2009): Paraguay.

Sibynomorphus ventrimaculatus: Cacciali (2009a:map): Paraguay.

Sibynomorphus ventrimaculatus: Cabral and Weiler (2014): CENTRAL: Asunción (CZCEN 195).

General Distribution: Southern Paraguay, southern Brazil, and northeastern Argentina (Peters, 1960; Giraudo, 2002).

Local Distribution: Widespread east of the Río Paraguay in Central Forest, Cerrado, Atlantic Forest, and Mesopotamian Grasslands.

Conservation Status: Least Concern.

Comments: IBN specimens referred to in Scrocchi et al. (1993) are Inventario Biológico National field numbers and are currently in the MNHNP with different numbers.

Specimens Examined: ALTO PARANÁ: Puerto Bertoni (MZUT R2821). AMAMBAY: 1 km S Parque Nacional Cerro Corá (MNHNP 3347). CENTRAL: Asunción (LACM 126516–18, NHMUK 1930.11.27.249–1930.11.27.252); Colonia Thompson (EBD 30415, 30416); Luque (MZUT 1027); San Antonio (EBD 30119); San Lorenzo (LACM 126515, MNHNP 2684). ITAPÚA: 2 km W Centro de Desarrollo Forestal (MNHNP 2683); El Tirol (USNM 253571–253574); Isla Yacyretá (MNHNP 4905, 4906). MISIONES: Santiago (MNHNP 3774). PARAGUARÍ: Cerro Yaguarón (EBD 30424, 30425).

Photographic Records: ITAPÚA: Nueva Gambach (FPREP 204–211).

Xenodontinae–Psomophiini

***Psomophis genimaculatus* (Boettger, 1885)**

Liophis (*Lygophis*) *genimaculata* Boettger (1885a): Paraguay (type locality).

Rhadinæa genimaculata: Boulenger (1894a): CENTRAL: Asunción.

Rhadinæa genimaculata: Boulenger (1894b): Paraguay. CENTRAL: Asunción.

Rhadinaea genimaculata:
Koslowsky (1898b): Paraguay.

Rhadinaea genimaculata: Bertoni
(1914): Paraguay.

Rh[adinaea]. genimaculata:
Werner (1929): Paraguay.

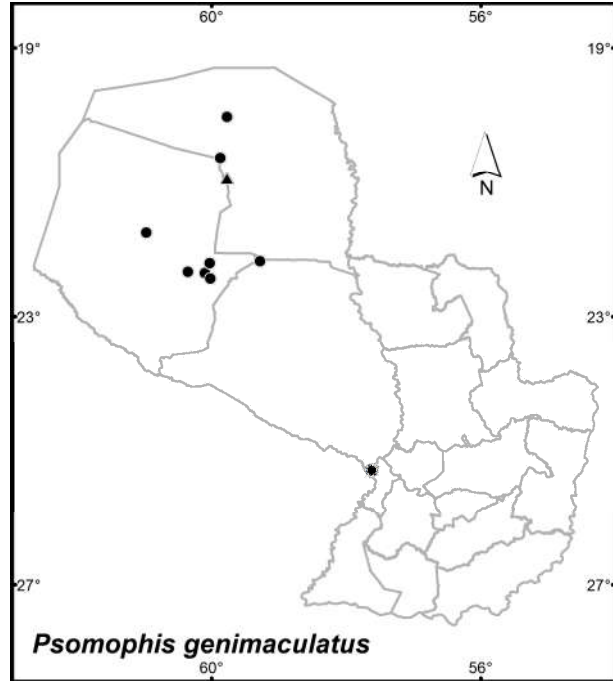
Rhadinaea genimaculata:
Schouten (1931): Paraguay.

Rhadinaea genimaculata:
Schouten (1937): Paraguay.

Liophis genimaculatus: Bertoni
(1939): Paraguay.

Liophis genimaculatus: Gatti
(1955): Paraguay.

Liophis joberti: Talbot (1979):
Eastern Paraguay.



Psomophis genimaculatus: Myers and Cadle (1994): Paraguay (NHMUK 1946.1.5.83, lectotype). BOQUERÓN: Filadelfia (CM 94228). CENTRAL: Asunción.

Psomophis joberti: Aquino et al. (1996): See Specimens Examined.

Psomophis genimaculatus: Leynaud and Bucher (1999:map): Paraguay.

Psomophis genimaculatus: Ziegler et al. (2001): BOQUERÓN: Filadelfia (MTKD 43420–22).

Psomophis genimaculatus: Ziegler et al. (2002b): BOQUERÓN: Filadelfia (MTKD 43420–22).

Psomophis genimaculatus: Motte et al. (2009): Paraguay.

Psomophis genimaculatus: Cacciali (2009a): Paraguay.

General Distribution: Southern and eastern Bolivia, southwestern Brazil, northern Paraguay, and northern Argentina (Myers and Cadle, 1994; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: Except for the Asunción specimen, this species has only been recorded from Paraguay in Dry and Wet Chaco west of the Río Paraguay.

Conservation Status: Least Concern.

Specimens Examined: Paraguay (NHMUK 85.9.1.11, MNHNP 9576). ALTO PARAGUAY: Agua Dulce (USNM 342113); Madrejón (MNHNP 5186, USNM 342114); 3 km S Madrejón (MNHNP 5184); 8 km N Madrejón (MNHNP 5187, USNM 342115). BOQUERÓN: Filadelfia (MNHNP 5183, 5185, USNM 342112); 10 km S Filadelfia (MNHNP 5182); 16 km N Filadelfia (USNM 342112); Fortín Toledo (MNHNP 5563); Teniente Ochoa (USNM 342116). CENTRAL: Asunción (NHMUK 94.3.14.58). PRESIDENTE HAYES: (MNHNP 4199); Estancia Palo Santo (MNHNP 4198, 4200).

Photographic Records: BOQUERÓN: Teniente Martinez (FPREP 459, 460); Fortín Toledo (FPREP 461–464).

***Psomophis obtusus* (Cope, 1864)**

Rhadinaea obtusa: Koslowsky (1898b): Paraguay.

Rhadinaea obtusa: Bertoni (1914): Paraguay.

Rhadinaea obtusa: Schouten (1931): Paraguay.

Rhadinaea obtusa: Schouten (1937): Paraguay.

Liophis obtusus: Bertoni (1939): Paraguay.

Liophis obtusus: Gatti (1955): Paraguay.

Liophis obtusus: Talbot (1979): Eastern Paraguay.

Rhadinaea obtusa: Giraudo and Contreras (1994): ÑEEMBUCÚ: Caí Mbocá.

Psomophis obtusus: Myers and Cadle (1994): Paraguay. CENTRAL: Near Asunción.

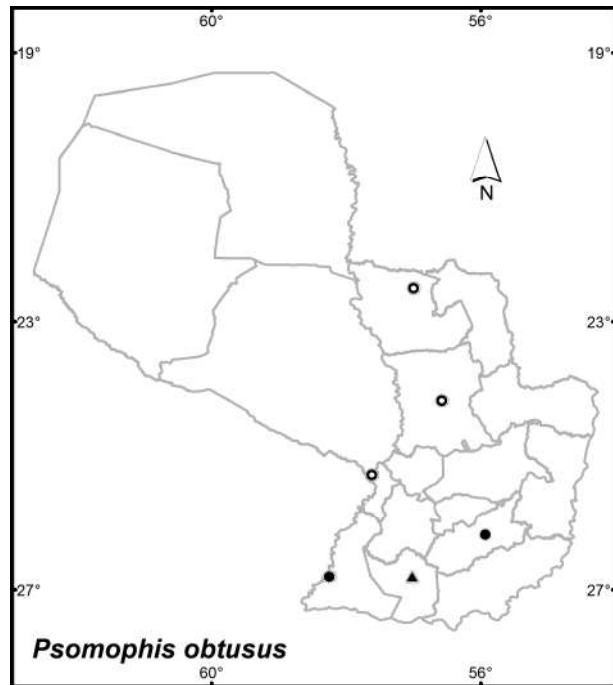
Psomophis obtusus: Scrocchi and Giraudo (1997): ÑEEMBUCÚ: Caí Mbocá, 10 km N Pilar (CFA 138).

Psomophis obtusus: Scrocchi and Giraudo (1997): ÑEEMBUCÚ: Caí Mbocá, 10 km N Pilar (CFA 138).

Phimophis [sic] *obtus*: Motte et al. (2004): Paraguay.

Phomophis [sic] *obtus*: Motte et al. (2009): Paraguay.

Psomophis obtusus: Cacciali (2009a): Paraguay.



General Distribution: Southern Brazil, southern Paraguay, Uruguay, and northern Argentina (Ceí, 1993; Myers and Cadle, 1994; Leynaud and Bucher, 1999; Carreira et al., 2005; Tipton, 2005).

Local Distribution: Records from Wet Chaco and Mesopotamian Grasslands in southern Paraguay.

Conservation Status: Least Concern.

Specimens Examined: None.

Photographic Records: MISIONES: 20 km from San Ignacio (FPREP 809–812).

Xenodontinae–Elapomorphini

Apostolepis ambiniger (Peters, 1869)

Rhynchonyx ambiniger: Peters (1869): Paraguay (type locality).

Apostolepis dorbignyi: Boulenger (1894a): CENTRAL: Asunción.

Apostolepis ambinigra: Boulenger (1896): CENTRAL: Asunción.

Apostolepis ambinigra: Schenkel (1901): Paraguay.

Apostolepis ambinigra: Serié (1915): “Mbeitaté” (not located).

Apostolepis d'orbignyi: Serié (1915): Paraguay.

Apostolepis d'orbignyi: Bertoni (1918): Paraguay.

Apostolepis ambinigra: Bertoni (1918): Paraguay.

A[postolepis]. ambinigra: Werner (1925): Paraguay.

Apostolepis ambinigra: Schouten (1931): Paraguay.

Apostolepis d'orbignyi: Schouten (1931): Paraguay.

Apostolepis ambinigra: Schouten (1937): Paraguay.

Apostolepis d'orbignyi: Schouten (1937): Paraguay.

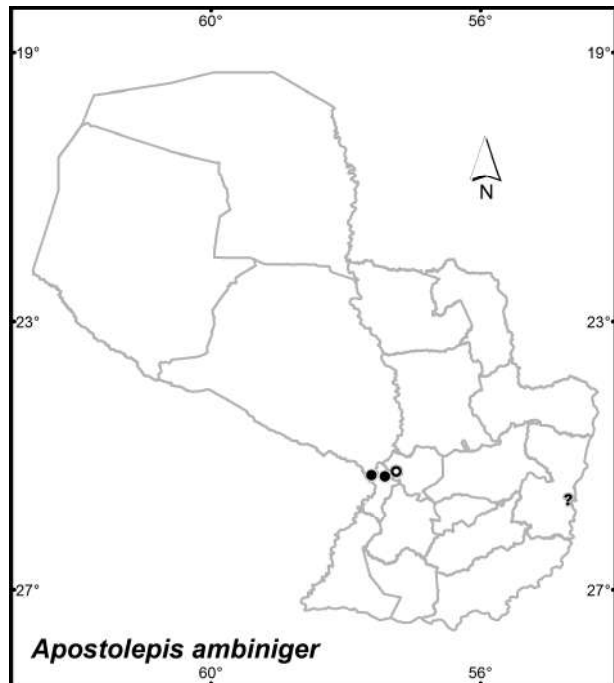
Apostolepis ambinigra: Bertoni (1939): CENTRAL: Asunción.

Apostolepis dorbignyi: Bertoni (1939): CENTRAL: Asunción.

Apostolepis ambinigra: Gatti (1955): Paraguay.

Apostolepis dorbignyi: Gatti (1955): Paraguay.

Apostolepis ambiniger: Lema (1978): ALTO PARANÁ: Puerto Bertoni (MZUT n/n). CENTRAL: Asunción (MZUT n/n); Trinidad (UMMZ 108809). CORDILLERA: “b. Alto” [=Altos; see Comments (NMW 20721)].



Apostolepis ambiniger: Talbot (1979): Eastern and northwestern Paraguay.

Apostolepis dorbignyi: Talbot (1979): Eastern Paraguay.

Apostolepis ambinigra: Elter (1981): Paraguay: (MZUT R2822). ALTO PARANÁ: Puerto Bertoni (MZUT R2049). CENTRAL: Asunción (MZUT R961).

Apostolepis ambiniger: Aquino et al. (1996): See Specimens Examined.

Apostolepis ambiniger: Harvey (1999): Paraguay (MCZ 47002, MVZ 11099, UMMZ 108809).

Apostolepis ambiniger: Lema (2001): Paraguay.

Apostolepis ambiniger: Motte et al. (2004): Paraguay.

Apostolepis ambinigra: Motte et al. (2009): Paraguay.

Apostolepis ambinigra: Cacciali (2009a): Paraguay.

General Distribution: Argentina, western Brazil, Bolivia, and Paraguay (Peters and Orejas-Miranda, 1970; Harvey et al., 2001; Tipton, 2005).

Local Distribution: Known from near Asunción and Departamento Cordillera (Central Forest); the eastern Paraguay Puerto Bertoni records need to be reexamined.

Conservation Status: Data Deficient.

Comments: Boulenger (1894a) first applied the name *Apostolepis dorbignyi* to Dr. Bohls's specimens from Asunción. Two years later, he changed his mind and called them *A. ambinigra* (Boulenger, 1896). Serié's (1915), Bertoni's (1918), and Schouten's (1931) listings of *Apostolepis d'orbignyi* for Paraguay are explicitly based on Boulenger's (1894a) misidentification, and later records (Schouten, 1937; Bertoni, 1939; Gatti, 1955) seem to be copies. Evidently, Boulenger's correction in his 1896 catalogue did not reach Paraguayan scientists.

Many authors cite this species as *A. ambinigra*, but this is an unjustified emendation, and the proper name is *A. ambiniger* (Peters and Donoso-Barros, 1970).

The enigmatic locality "b. Alto" (NMW 20721) cited by Lema (1978) is certainly "bei Altos" [Cordillera], as seen in several other specimens in the Vienna Museum, e. g., the type locality of *Epicrates wieningeri*, "Paraguay bei Altos" (Steindachner, 1903).

Specimens Examined: Paraguay (MNHNP 9450, 9455). ?ALTO PARANÁ: Puerto Bertoni (MZUT R2049, R2822). CENTRAL: Areguá (MNHNP 5163); Asunción (LACM 126520, 126521, MNHNP 8152, MZUT 1023, NHMUK 94.3.14.70–94.3.14.73); San Lorenzo (MNHNP 3493); Trinidad (UMMZ 108809).

Photographic Records: CENTRAL: Asunción (FPREP 497–500).

***Apostolepis assimilis* (Reinhardt, 1861)**

Apostolepis assimilis: Lema (2001): Paraguay.

Apostolepis assimilis: Giraudo (2002): ALTO PARANÁ: Reserva Tatí Yupí (MAI 61).

Apostolepis assimilis: Motte et al. (2009): Paraguay.

Apostolepis assimilis: Cacciali (2009a): Paraguay.

General Distribution: Central and southwestern Brazil, northern Argentina, and eastern Paraguay (Ferrarezzi, 1993; Giraudo and Scrocchi, 1998).

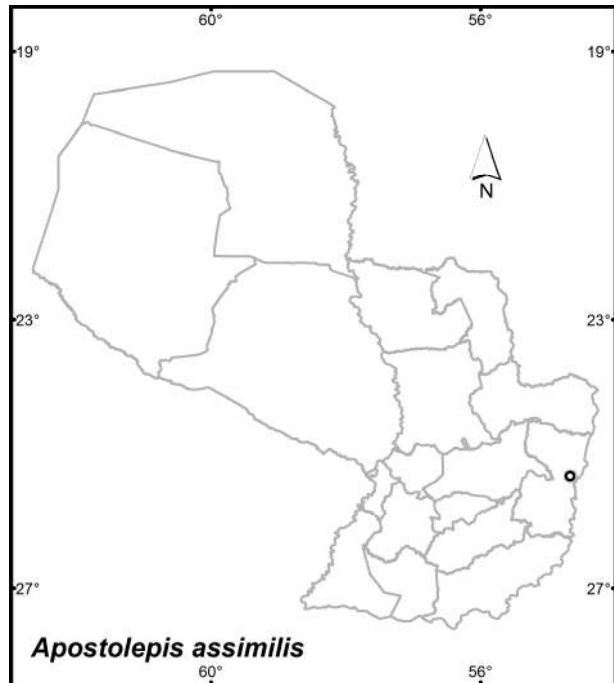
Local Distribution: A single record from Alto Paraná in Atlantic Forest.

Conservation Status: Data Deficient.

Comments: Because both species have a uniform, unstriped dorsum and a white nuchal collar, *A. assimilis* has often been confused with *A. dorbignyi*, a species endemic to the Bolivian Chaco (Lema, 2001; Harvey, 1999).

The single Argentine (“Chaco”) and Paraguayan records for *A. assimilis* are a long way from the Brazilian localities. The only Paraguayan specimen with precise locality data is from Alto Paraná (MAI 61; Giraudo, 2002) in the Atlantic Forest ecoregion. This is surprising for a species that is otherwise found in Cerrado or possibly Chaco vegetation (Lema, 2001).

Specimens Examined: None.



***Apostolepis dimidiata* (Jan, 1862)**

Elapomorphus erythronotus: Peracca (1895): CENTRAL: Asunción.

Elapomoius dimidiatus: Koslowsky (1898b): Paraguay.

Elapomoius dimidiatus: Bertoni (1914): Paraguay.

Elapomorphus erythronotus: Bertoni (1914): Paraguay.

Elapomoius dimidiatus: Schouten (1931): Paraguay.

Elapomorphus erythronotus: Schouten (1931): Paraguay.

Elapomoius dimidiatus: Schouten (1937): Paraguay.

Elapomorphus erythronotus: Schouten (1937): Paraguay.

Elapomoius dimidiatus: Bertoni (1939): Paraguay.

Apostolepis erythronota: Bertoni (1939): CENTRAL: Asunción.

Elapomoius dimidiatus: Gatti (1955): Paraguay.

Apostolepis erythronota: Gatti (1955): Paraguay.

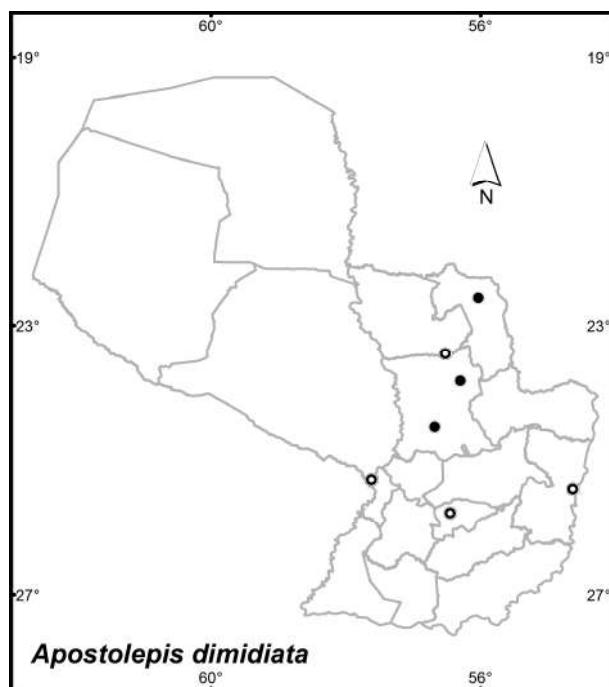
Elapomorphus erythronotus: Canese (1966): Paraguay.

Elapomorphus dimidiatus: Canese (1966): Paraguay.

Apostolepis barrioi Lema (1978): SAN PEDRO: Cororó, Río Ypané (type locality; CHINM 3309, holotype).

Apostolepis ventrimaculatus Lema (1978): Paraguay (type locality; MLP 89A, holotype).

Apostolepis villaricae Lema (1978): GUAIRÁ: "Villa Rica" (=Villarrica; type locality; NMW 20720, holotype).



Apostolepis erythronota: Talbot (1979): Eastern Paraguay.

Apostolepis dimidiata: Lema (1993): CONCEPCIÓN: Cororó, Río Ypané (CHINM 3309, holotype of *A. barrioi*). GUAIRÁ: "Villa Rica" (=Villarrica; NMW 20720, holotype of *A. villaricae*).

Apostolepis villaricae: Tiedemann et al. (1994): GUAIRÁ: "Villa Rica" (=Villarrica; NMW 20720).

Apostolepis dimidiatas [sic]: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

A[postolepis]. dimidiata: Aquino et al. (1996): See Specimens Examined.

Apostolepis dimidiata: Giraudo and Scrocchi (1998): ALTO PARANÁ: Hernandarias (MAI ad5).

Apostolepis villaricae: Vanzolini (2000): “Villa Rica, Procedencia, Paraguay” = GUAIRÁ: Villarrica (NMW 20720).

Apostolepis dimidiata: Lema (2001): Paraguay.

Apostolepis dimidiata: Lema (2002a): Paraguay.

Apostolepis dimidiata: Motte et al. (2009): Paraguay.

Apostolepis dimidiata: Cacciali (2009a): Paraguay

Apostolepis dimidiata: Cabral and Weiler (2014): GUAIRÁ: Ybytyruzu (CZCEN 741).

General Distribution: Paraguay, provinces Misiones, Corrientes, and Formosa in Argentina, and central and southern Brazil (CeI, 1993; Giraudo and Scrocchi, 1998; Tipton, 2005).

Local Distribution: Scattered localities in eastern Paraguay but no records west of the Río Paraguay; found in Cerrado, Atlantic Forest, Mesopotamian Grasslands, and Central Forest ecoregions.

Conservation Status: Data Deficient.

Comments: The recent discovery of *A. intermedia* in Paraguay raises the possibility that some of the literature records may refer instead to that species or others (Albuquerque and Lema, 2012). Further study will be necessary to resolve the taxonomy of Paraguayan material, especially the specimen from Alto Paraná (Duré Rodas, 1995).

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 5162). SAN PEDRO: Colonia Primavera (NHMUK 1954.1.3.56, 1955.1.6.1, 1960.1.3.3, 1962.109); Laguna Blanca (CZPLT 357).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 825–830).

***Apostolepis intermedia* Koslowsky, 1898**

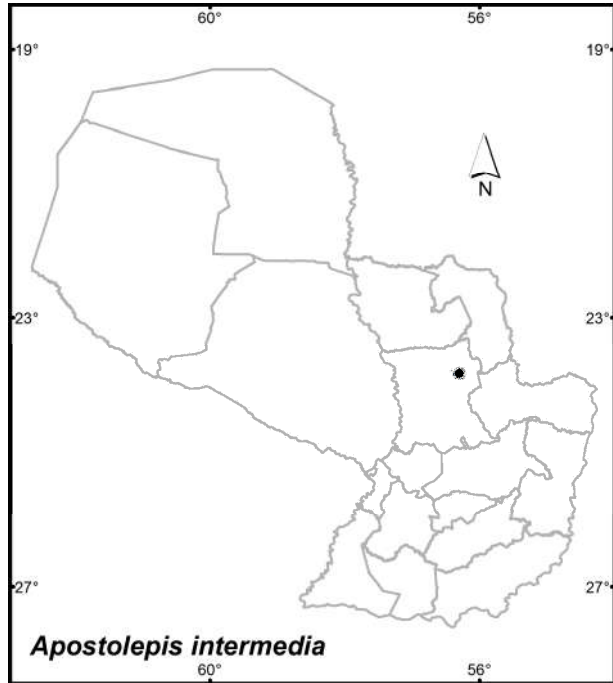
Apostolepis intermedia: Entiauspe-Neto et al. (2014): SAN PEDRO: Laguna Blanca.

General Distribution: Two localities in Mato Grosso do Sul, Brazil (Koslowsky, 1898a; Albuquerque and de Lema, 2012), and one in Paraguay.

Local Distribution: One locality in Cerrado.

Conservation Status: Not Evaluated, but common at the single known Paraguayan locality.

Comments: Bertoni (1914) put this species in his Paraguay list, but with the note “M. Grosso” referring to Koslowsky’s type locality, the State of Mato Grosso (now in Mato Grosso do Sul), Brazil. He dropped the name from his 1939 list. However, Schouten (1931, 1937) kept the species in his lists as a member of the Paraguayan fauna but, until recently, the Brazilian holotype was the only known specimen. Albuquerque and de Lema (2012) applied the name *A. intermedia* to a new specimen, also from Mato Grosso do Sul, and state that the holotype is missing. Their specimen closely resembles those that we call *A. intermedia* here, but further study is needed.



Specimens Examined: SAN PEDRO: Laguna Blanca (CZPLT 257, 388, 389, 395, 466, 467).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 622–628, 918).

***Phalotris lemniscatus* (Duméril, Bibron and Duméril, 1854)**

Elapomorphus lemniscatus: Koslowsky (1898b): Paraguay.

Elapomorphus bilineatus: Bertoni (1914): Paraguay.

Elapomorphus lemniscatus: Bertoni (1914): Paraguay.

Elapomorphus bilineatus: Schouten (1931): Paraguay.

Elapomorphus lemniscatus: Schouten (1931): Paraguay.

Elapomorphus bilineatus: Schouten (1937): Paraguay.

Elapomorphus lemniscatus: Schouten (1937): Paraguay.

Elapomorphus bilineatus: Bertoni (1939): CENTRAL: Asunción.

Elapomorphus bilineatus: Gatti (1955): Paraguay.

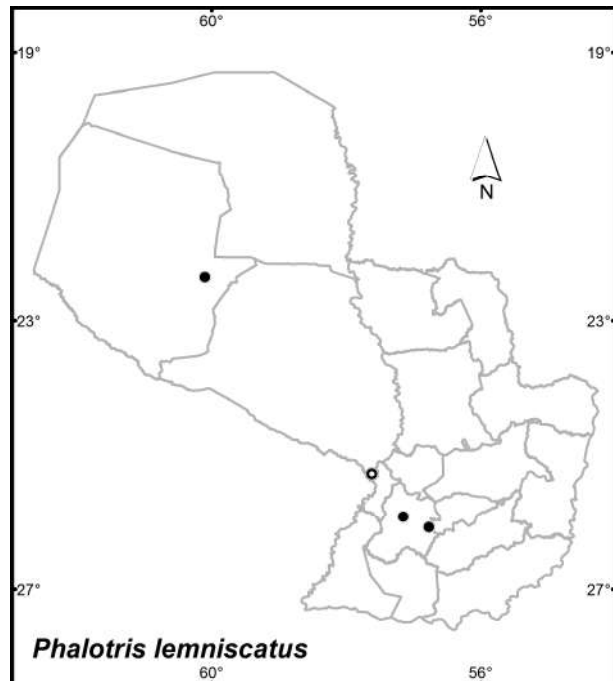
Elapomorphus bilineatus: Talbot (1979): Eastern Paraguay.

Elapomorphus (P.) lemniscatus lemniscatus: Lema (1984): Western Paraguay.

Elapomorphus spegazzinii: Aquino et al. (1996): See Specimens Examined.

Phalotris bilineatus: Motte et al. (2009): Paraguay.

Phalotris bilineatus: Cacciali (2009a): Paraguay.



General Distribution: Southern Brazil, Uruguay, Argentina, and Paraguay (Peters and Orejas-Miranda, 1970; Puerto and Ferrarezzi, 1993; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: Known from three widely separated localities in Wet and Dry Chaco and Central Forest.

Conservation Status: Least Concern.

Comments: The color pattern of the specimen from west of the Río Paraguay differs substantially from those east of the river. Gustavo Scrocchi (*in litt.*) believes that several species are within the current *P. bilineatus* (including *P. lemniscatus*) complex, and he and colleagues are describing them.

Specimens Examined: PARAGUARÍ: Cerro Acahay (MNHNP 5128); Parque Nacional Ybycuí (MNHNP 5156, USNM 342101).

***Phalotris matogrossensis* Lema, D'Agostini and Cappellari, 2005**

Elapomorphus tricolor: Peracca (1895): CENTRAL: Asunción.

Elapomorphus tricolor: Koslowsky (1898b): Paraguay.

Elapomorphus tricolor: Bertoni (1914): ALTO PARANÁ: Puerto Bertoni.

Elapomorphus tricolor: Bertoni (1928b): SAN PEDRO: Villa del Rosario.

Elapomorphus tricolor: Schouten (1931): CENTRAL: Bahía de Asunción.

Elapomorphus tricolor: Schouten (1937): Paraguay.

Elapomorphus tricolor: Bertoni (1939): CENTRAL: Asunción. ALTO PARANÁ: Puerto Bertoni.

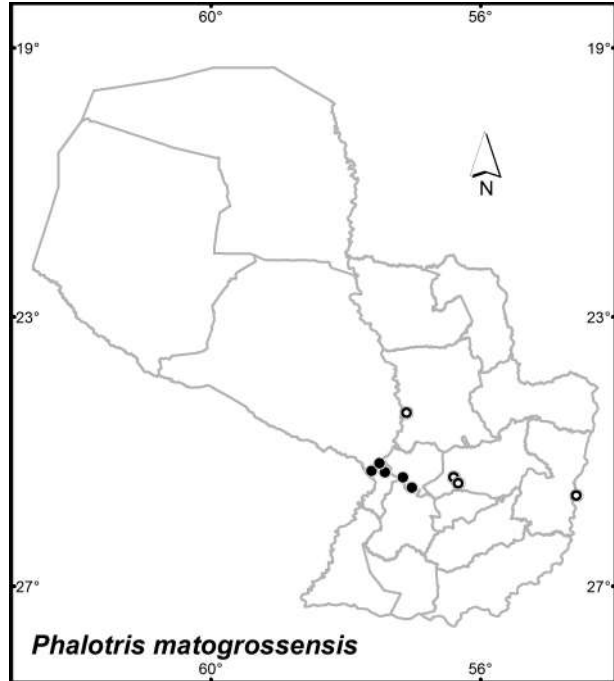
Elapomorphus tricolor: Gatti (1955): Paraguay.

Elapomorphus tricolor: Talbot (1979): Eastern Paraguay.

Elapomorphus tricolor: Elter (1981): CENTRAL: Asunción (MZUT R1229).

E[lapomorphus]. punctatus: Aquino et al. (1996): See Specimens Examined.

E[lapomorphus]. tricolor: Aquino et al. (1996): See Specimens Examined.



Phalotris tricolor: Leynaud and Bucher (1999:map): Paraguay.

Phalotris tricolor: Lema et al. (2005): "BOQUERÓN" (MNHNP 2628; *en errore* =Cordillera: Caacupé). CENTRAL: Areguá (MNHNP 2627); Asunción (MZUT 1024); Bahía de Asunción (IB 10109). CAAGUAZÚ: 5 km N Coronel Oviedo (MNHNP n/n).

Phalotris matogrossensis: Lema et al. (2005): CAAGUAZÚ: Route VII, near 25°28'S, 56°20'W (ANSP 5816).

Phalotris matogrossensis: Cacciali and Motte (2007): See Specimens Examined.

Phalotris matogrossensis: Jansen and Köhler (2008): CENTRAL: Asunción (MZUT 1229).

Phalotris matogrossensis: Cacciali (2009a): Paraguay.

Phalotris mattogrossensis [sic]: Cabral and Weiler (2014): CORDILLERA: Caacupé (CZCEN 399). PARAGUARÍ: 10 km S Piribebuy (CZCEN 204).

General Distribution: Central Brazil from Goiás, Minas Gerais, and Mato Grosso south to eastern Paraguay and Rio Grande do Sul (Lema et al., 2005).

Local Distribution: Known from a belt across the middle of the eastern part of Paraguay, from Alto Paraná to Asunción in Atlantic Forest, Central Forest, and Wet Chaco ecoregions (Lema et al., 2005; Cacciali and Motte, 2007; Cabral and Weiler, 2014).

Conservation Status: Not Evaluated.

Comments: Cacciali and Motte (2007) showed that the primary diagnostic characters used in the type description of *P. matogrossensis* (Lema et al., 2005) to differentiate it from *P. tricolor* are quite variable in Paraguay and do not reliably distinguish the two taxa. They suggested other characters that are more useful and reidentified MNHNP 2627 and 2628 as *P. matogrossensis*. We assume that pre-2005 *P. tricolor* records from eastern Paraguay refer to this species.

In the distribution map in Lema et al. (2005:76), the *P. tricolor* symbol in Brazil on the border between the states of Mato Grosso do Sul and Paraná seems to be an error. Lema et al. (2005) do not cite a *P. tricolor* specimen from Brazil, and the apparent locality (Brazil, Mato Grosso do Sul: Bela Vista) is listed as *P. matogrossensis*.

One of the "*P. tricolor*" skulls (MNHNP 2628) used for comparison by Lema et al. (2005) is actually a *P. matogrossensis* with incorrect data (Cacciali and Motte, 2007).

Specimens Examined: CENTRAL: Areguá (MNHNP 2627); Asunción (MNHNP 9279, MZUT 1024); Mariano Roque Alonso (CZCEN 192, 198, MNHNP 10085). CORDILLERA: Caacupé (MNHNP 2628). PARAGUARÍ: 10 km S Piribebuy (CZCEN 204).

Photographic Records: Lema et al. (2005) locality unknown.

***Phalotris nigrilatus* Ferrarezzi, 1993**

Elapomorphus nasutus: Laurent (1974): SAN PEDRO: Carumbé (FML 0709).

Elapomorphus (*P.*) *nasutus*: Lema (1984): Eastern Paraguay.

Phalotris nigrilatus: Ferrarezzi (1993): SAN PEDRO: Carumbé (type locality; FML 0709, holotype).

Phalotris nigrilatus: Lema (2002a): Paraguay.

Phalotris nigrilatus: Lema (2002b): SAN PEDRO: Carumbé (type locality; FML 0709, holotype).

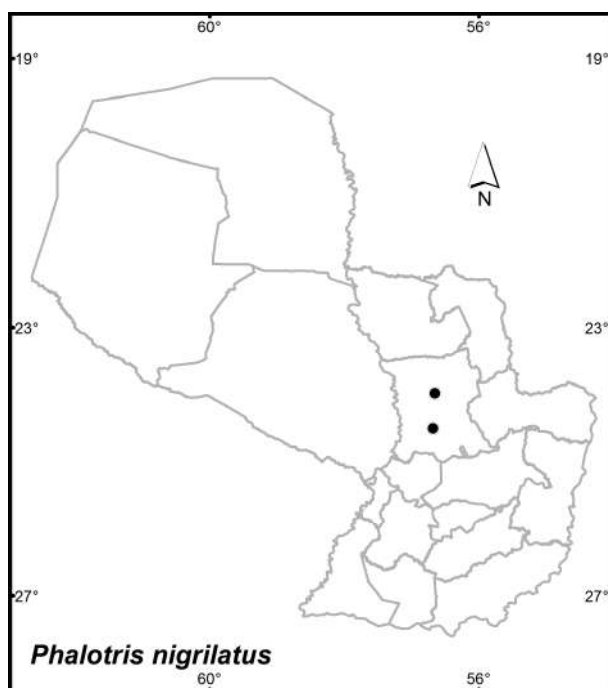
Phalotris nigrilatus: Motte et al. (2004): Paraguay.

Phalotris nigrilatus: Cacciali et al. (2007c): SAN PEDRO: Carumbé (FML 0709); Colonia Primavera ("MNHN" [= MUHINA] 89, 91, see Comments).

Phalotris nigrilatus: Motte et al. (2009): Paraguay.

Phalotris nigrilatus: Cacciali (2009a): Paraguay.

Phalotris nigrilatus: Moura et al. (2013): Eastern Paraguay.



General Distribution: Endemic to Paraguay (Tipton, 2005; Scrocchi et al., 2006).

Local Distribution: Only known from two localities in Departamento San Pedro in a mix of Wet Chaco and Central Forest (Cacciali et al., 2007c).

Conservation Status: Vulnerable.

Comments: The museum acronym "MNHN" used by Cacciali et al. (2007c) refers to MUHINA (Uruguay), not MNHN (Paris).

Specimens Examined: SAN PEDRO: Estancia Carumbé (FML 0709); Colonia Primavera (MUHINA 89, 91; NHMUK 1955.1.5.99, 1955.1.6.2, 1955.1.6.3, 1956.1.3.48–1956.1.3.51, 1956.1.16.39, 1956.1.16.40, 1958.1.2.31, 1960.1.3.5–1960.1.3.8, 1962.110).

***Phalotris normanscotti* Cabral and Cacciali, 2015**

Phalotris sp.: Cabral and Weiler (2014): BOQUERÓN: Cruce Filadelfia, 22°29'43"S, 59°59'57"W (CZCEN 0423).

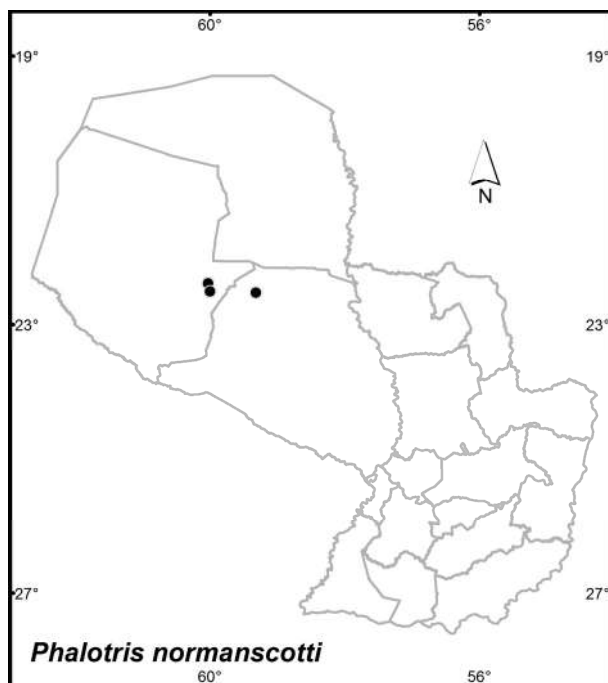
Phalotris normanscotti: Cabral and Cacciali (2015): See Specimens Examined.

General Distribution: Endemic to Paraguay (Cabral and Cacciali, 2015).

Local Distribution: Only known from three localities in Dry Chaco (Cabral and Cacciali, 2015).

Conservation Status: Not Evaluated.

Specimens Examined: BOQUERÓN: 3 km S Filadelfia (holotype, MNHNP 5160), Cruce Filadelfia (CZCEN 0423). PRESIDENTE HAYES: Reserva Privada Chaco Lodge (MNHNP 11844).



***Phalotris tricolor* (Duméril, Bibron and Duméril, 1854)**

Phalotris tricolor: Cope (1862a): Paraguay Expedition.

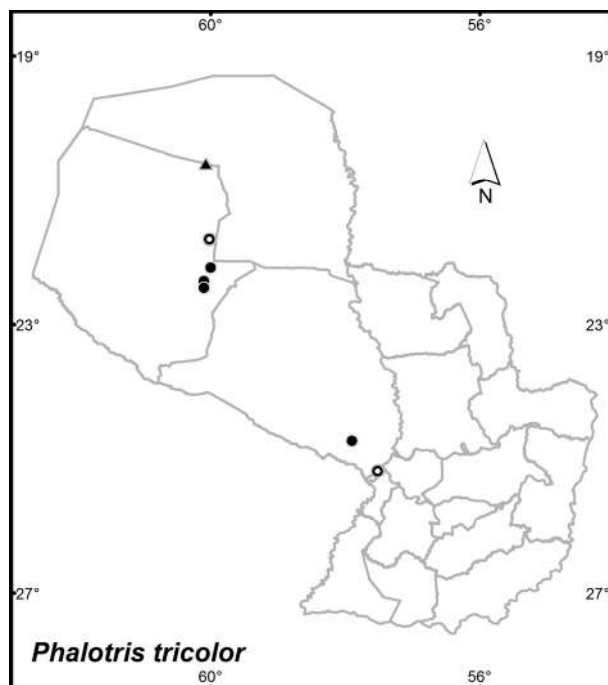
E[lapomorphus]. punctatus: Aquino et al. (1996): See Specimens Examined.

Phalotris punctatus: Leynaud and Bucher (1999:map): Paraguay.

Phalotris tricolor: Motte et al. (2004): Paraguay.

Phalotris tricolor: Lema et al. (2005): Paraguay (ANSP 3307, IB 19605, NMW 13804, 21991). BOQUERÓN: 7 km S Filadelfia (MNHNP 5158); 28 km N Filadelfia (MNHNP 5161); 60 km SW Filadelfia (MNHNP 5159).

Phalotris tricolor: Leynaud et al. (2005): BOQUERÓN: Estancia Faro Moro.



Phalotris tricolor: Cacciali and Motte (2007): See Specimens Examined.

Phalotris tricolor: Jansen and Köhler (2008:map): Paraguay.

Phalotris punctatus: Motte et al. (2009): Paraguay.

Phalotris tricolor: Motte et al. (2009): Paraguay.

Phalotris tricolor: Cacciali (2009a:map): Paraguay.

Phalotris tricolor: Cabral and Weiler (2014): BOQUERÓN: Filadelfia (CZCEN 418). CENTRAL: Surubi'i (CZCEN 192, 198).

General Distribution: Southeastern Bolivia and western Paraguay through Argentina to 35°S (Leynaud and Bucher, 1999; Lema et al., 2005).

Local Distribution: Present west of the Río Paraguay in Wet and Dry Chaco, and east of the river in Departamento Central.

Conservation Status: Data Deficient.

Comments: A solution to the long-standing confusion between *P. punctatus* and *P. tricolor* (e. g., the differing interpretations by Argentine workers Ceí, 1993; Leynaud and Bucher, 1999; Giraudo, 2002; Giraudo and Scrocchi, 2002) has been suggested by Lema et al. (2005), who synonymized *P. punctatus* with *P. tricolor* and described the new species, *P. matogrossensis*, for eastern populations that earlier were considered to be a part of *P. tricolor*. Whether or not the work of Lema et al. (2005) clarifies or further confuses the taxonomy of this difficult and variable group remains to be seen. See Comments under *Phalotris matogrossensis*.

Specimens Examined: Paraguay Expedition (ANSP 3307). BOQUERÓN: 7 km S Filadelfia (MNHNP 5158); 12.3 km S Filadelfia (MNHNP 10099); 15.6 km S Filadelfia (MNHNP 10029); 28 km N Filadelfia (MNHNP 5161); Filadelfia (MNHNP 10574); Route IX Km 462 (MNHNP 5159). PRESIDENTE HAYES: Route IX Km 100.2 (MNHNP 10715).

Photographic Records: BOQUERÓN: 20 km W Madrejón (FPREP 479–481).

Xenodontinae–Tachymenini***Thamnodynastes***

Comments: *Thamnodynastes* is probably in more need of revision than any other Paraguayan reptilian genus. For instance, Bertoni (1914, 1939) and Schouten (1931, 1937) list two species in Paraguay, Talbot (1979) lists two plus another possible, and Aquino et al. (1996) include two species. However, one of the premier experts on the genus, Robert Thomas (University of New Orleans, Louisiana, USA), identified four unnamed species in part of the early NHMUK and MNHNP collections. Two of these have been subsequently described and a large series of a fifth species have been added to the MNHNP collection. Given the paucity of data associated with many previous reports, it is impossible to synonymize many of these with current species names.

Reports that we are not able to assign to a current species:

Thamnodynastes nattereri: Cope (1862d): CENTRAL: Asunción.

Thamnodynastes nattereri: Boettger (1885a): Paraguay.

Thamnodynastes Nattereri [sic]: Peracca (1895): CONCEPCIÓN: Río Apa.

Thamnodynastes Nattereri [sic]: Berg (1898): Paraguay.

Thamnodynastes Nattereri [sic]: Koslowsky (1898b): Paraguay.

Thamnodynastes nattereri: Bertoni (1914): Paraguay.

Thamnodynastes Nattereri [sic]: Serié (1915): CENTRAL: Trinidad.

Th[amnodynastes]. nattereri: Werner (1925): Paraguay.

Thamnodynastes nattereri: Bertoni (1928a): Paraguay.

Thamnodynastes nattereri: Schouten (1931): Paraguay.

Thamnodynastes pallidus: Schouten (1931): Paraguay.

Thamnodynastes punctatissimus: Schouten (1931): Paraguay.

Thamnodynastes uattereri [sic]: Schouten (1931): Paraguay.

Thamnodynastes nattereri: Schouten (1937): Paraguay.

Thamnodynastes punctatissimus: Schouten (1937): Paraguay.

Dryophylax pallidus: Bertoni (1939): CENTRAL: Asunción.

Dryophylax punctatissimus?: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. ITAPÚA: Yaguarasapá (now Capitán Meza).

Dryophylax pallidus: Gatti (1955): Paraguay.

Dryophylax punctatissimus: Gatti (1955): Paraguay.

Thamnodynastes nattereri: Elter (1981): Paraguay (MZUT R2047). CONCEPCIÓN: Río Apa (MZUT R1717).

***Thamnodynastes chaquensis* Bergna and Álvarez, 1993**

Thamnodynastes sp.: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Thamnodynastes chaquensis:
Giraudo (1996b): ÑEEMBUCÚ:
Pilar.

T[hamnodynastes]. hypoconia
[partim]: Aquino et al. (1996):
See Specimens Examined.

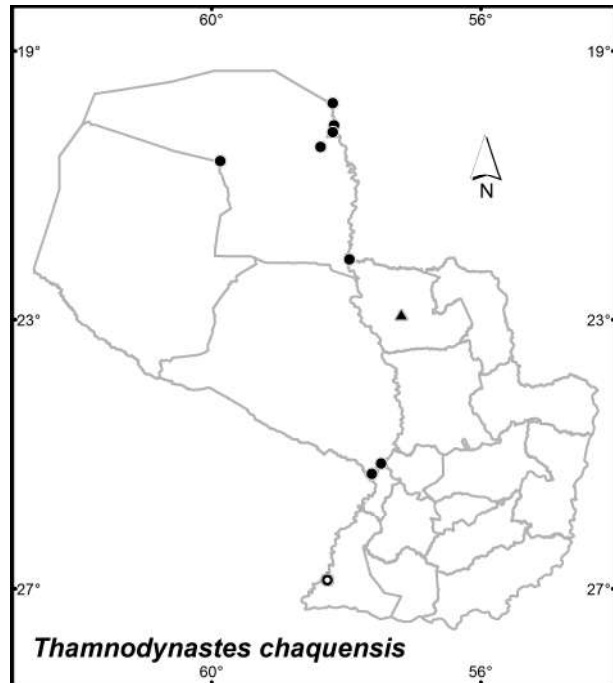
Thamnodynastes chaquensis:
Leynaud and Bucher (1999:map):
Paraguay.

Thamnodynastes chaquensis:
Motte et al. (2004): Paraguay.

Thamnodynastes chaquensis:
Motte et al. (2009): Paraguay.

Thamnodynastes chaquensis:
Cacciali (2009a:map): Paraguay.

Thamnodynastes chaquensis:
Cabral and Weiler (2014): CENTRAL: Surubi'i (CZCEN 312).



General Distribution: Western and southeastern Paraguay and northern Argentina (Giraudo, 1996b; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: Widely distributed in Pantanal and Wet and Dry Chaco west of the Río Paraguay and near the river in three departamentos in the Oriental Region.

Conservation Status: Least Concern.

Comments: Many of the previous reports of *Thamnodynastes nattereri* are probably *T. chaquensis*.

Specimens Examined: Paraguay (MNHNP 9259, 9275). ALTO PARAGUAY: Colonia Potrerito (MNHNP 3352–53); Estancia Cerrito (MNHNP 3931); Estancia Doña Julia (MNHNP 3350, 8482–8485); Estancia Inmaculada Concepción (MNHNP 3929); Fortín Madrejón (MNHNP 7387, 7390); Puerto Ramos (MNHNP 3928). BOQUERÓN: 34 km NW Pozo Hondo (MNHNP 7388). CENTRAL: Asunción (MNHNP 7389, 11051, 11162, NHMUK 1930.11.27.213–1930.11.27.222); Loma Pytã (MNHNP 8423); Luque (MNHNP 7303). CONCEPCIÓN: 1 km S Vallemí (MNHNP 3927).

Photographic Records: ALTO PARAGUAY: Bahía Negra (FPREP 302,303). CONCEPCIÓN (FPREP 304).

***Thamnodynastes hypoconia* (Cope, 1860)**

Thamnodynastes strigilis: Talbot (1979): Eastern Paraguay.

Thamnodynastes hypoconia: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

T[hamnodynastes]. hypoconia
[partim]: Aquino et al. (1996):
See Specimens Examined.

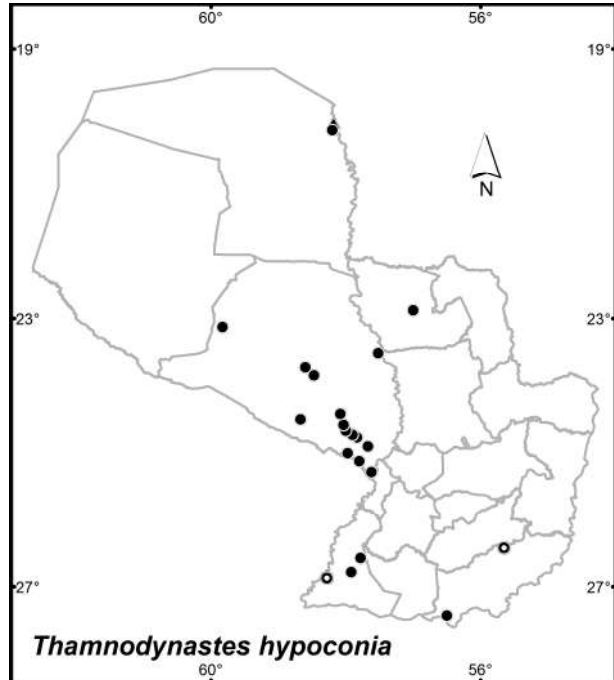
Thamnodynastes hypoconia:
Leynaud and Bucher (1999:map):
Paraguay.

Thamnodynastes hypoconia:
Motte et al. (2004): Paraguay.

Thamnodynastes hypoconia:
Motte et al. (2009): Paraguay.

Thamnodynastes hypoconia:
Cacciali (2009a:map): Paraguay.

Thamnodynastes hypoconia:
Núñez (2012): ITAPÚA:
Kangüery.



General Distribution: Pernambuco, Brazil, south through Paraguay, eastern Argentina, and Uruguay (Cei, 1993; Carreira et al., 2005; Scrocchi et al., 2006).

Local Distribution: Along the Paraguay and Paraná rivers in Pantanal, Wet Chaco, Mesopotamian Grasslands, and Atlantic Forest.

Conservation Status: Least Concern.

Comments: Previously known as *Thamnodynastes strigilis* (Cei et al., 1992). Bailey et al. (2005) showed that *T. strigilis* is a synonym of *T. pallidus* of the Amazon/Orinoco river drainages.

Franco and Ferreira (2003a) described, but did not name, a *Thamnodynastes* sp.1 that is probably part of what is now known as *T. hypoconia* (Carreira et al. 2005).

The record of *T. hypoconia* (Duré Rodas, 1995) in Alto Paraná Atlantic Forest is probably *T. strigatus*. Giraudo (2002) records *T. hypoconia* from that area, probably based on the Duré Rodas specimen; nevertheless he states concerning *T. hypoconia* (p. 183) “No se la registra [en] la selva Paranense de Misiones [Argentina], donde es característica *T. strigatus*.”

Specimens Examined: Paraguay (MNHNP 9243, 9250, 51, 9265, 9530). Paraguayan Chaco (MNHNP 7590–91). ALTO PARAGUAY: Estancia Doña Julia (MNHNP 9174). CENTRAL: Asunción (NHMUK 94.13.14.67, 94.13.14.68). CONCEPCIÓN: Rancho Z (MNHNP 6559). ITAPÚA: Isla Cururú (MNHNP 3642–3649, 4587, 4635–4637, 4639, 4640); Isla Modesto (MNHNP 4813, 4815, 4816); Isla Paloma (MNHNP 5129, 8345);

Isla Yacyretá (MNHNP 4588–4590, 4873–4876). ÑEEMBUCÚ: Estancia Purity (MNHNP 6691); Estancia San Antonio (MNHNP 6692, 9165). PRESIDENTE HAYES: (MNHNP 6564); 30 km NW Villa Hayes (MNHNP 7585, 7586); Estancia La Golondrina (MNHNP 6569, 6570; UMMZ 166860); Estancia Loma Porá (MNHNP 11231); Road to General Bruguez, 14.7 km NNW of detour to Falcón (MNHNP 6560, 6561); Road to General Bruguez, 21.2 km NNW of detour to Falcón (MNHNP 6562); Road to General Bruguez, 38 km from detour to Falcón (MNHNP 6827–6829); Road to General Bruguez, 41.5 km from detour to Falcón (MNHNP 6830); Route IX (MNHNP 10648); Route IX 8 km N Puente Remanso (MNHNP 7587); Route IX Km 92 (MNHNP 7583); Route IX Km 95 (MNHNP 6563, 7551); Route IX, near Km 100 (MNHNP 7563–7582); Route IX Km 105 (MNHNP 5229, 8853–8856); Route IX Km 113 (MNHNP 6571); Route IX Km 122 (MNHNP 7584); Route IX Km 145 (MNHNP 8852, 8857); Route IX Km 219 (MNHNP 7589); Route IX Km 225 (MNHNP 7588); Route IX Km 242 (MNHNP 3591); Ruta Militar (MNHNP 5228); Route to Falcón (MNHNP 6565); Route to General Bruguez (MNHNP 6566, 6567).

Photographic Records: ALTO PARAGUAY: Tres Gigantes (FREP 717–720).

***Thamnodynastes lanei* Bailey, Thomas and da Silva Jr., 2005**

Thamnodynastes lanei: Bailey et al. (2005): SAN PEDRO: Río Tapiricuay (24°26'S, 56°41'W) (NHMUK 1962.86).

Thamnodynastes lanei: Cacciali (2009a): Paraguay.

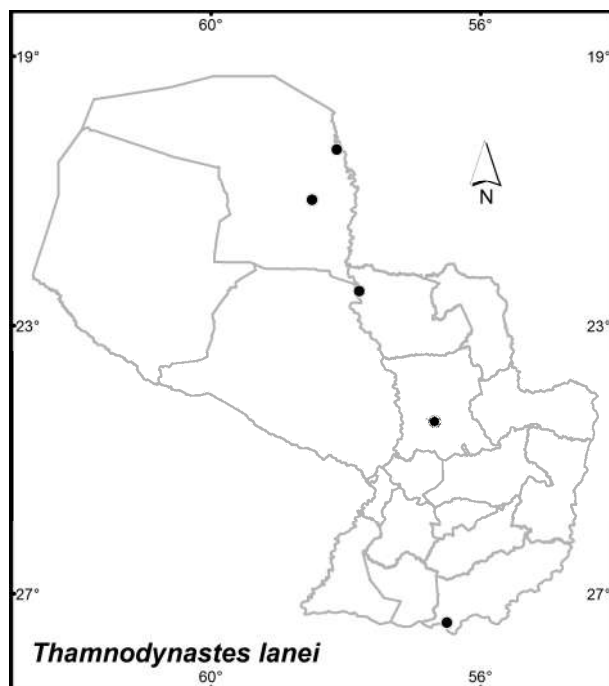
General Distribution: Two apparently disjunct populations, one in northern Brazil and the other in Mato Grosso and Mato Grosso do Sul, eastern Bolivia, Paraguay, and northeastern Argentina (Bailey et al., 2005).

Local Distribution: Central Paraguay in Wet Chaco, Mesopotamian Grasslands, and Central Forest on both sides of the Río Paraguay.

Conservation Status: Not Evaluated.

Comments: Specimens of *T. lanei* have been called *T. nattereri*, *T. pallidus*, and *T. strigilis* in the past (Bailey et al., 2005).

Specimens Examined: Paraguay (MNHNP 4007, 9255). ALTO PARAGUAY: Estancia General Díaz (MNHNP 3351); Puerto 14 de Mayo (MNHNP 6568). ITAPÚA: Isla Cururú (MNHNP 4638, 4641); Isla Modesto (MNHNP 4814, 4817, 4818, 4944); Isla Paloma (MNHNP 6703, 6704); Isla Talavera (MNHNP 4586); Isla Yacyretá (MNHNP 5130, 8346). PRESIDENTE HAYES: 4 km NW Puerto Fonciere (MNHNP 3930). SAN PEDRO: Colonia Primavera, Río Tapiricuay (NHMUK 1962.86).



***Thamnodynastes strigatus* (Günther, 1858)**

Thamnodynastes pallidus: Amaral (1926a): Paraguay (USNM 11260).

Thamnodynastes strigatus: Talbot (1979): Eastern and western Paraguay.

?*Thamnodynastes hypoconia*:

Duré Rodas (1995): ALTO
PARANÁ: Vicinity of Itaipú.

Thamnodynastes strigatus:

Aquino et al. (1996): See
Specimens Examined.

Tomodon ocellatus: Aquino et al.
(1996). See Specimens Examined.

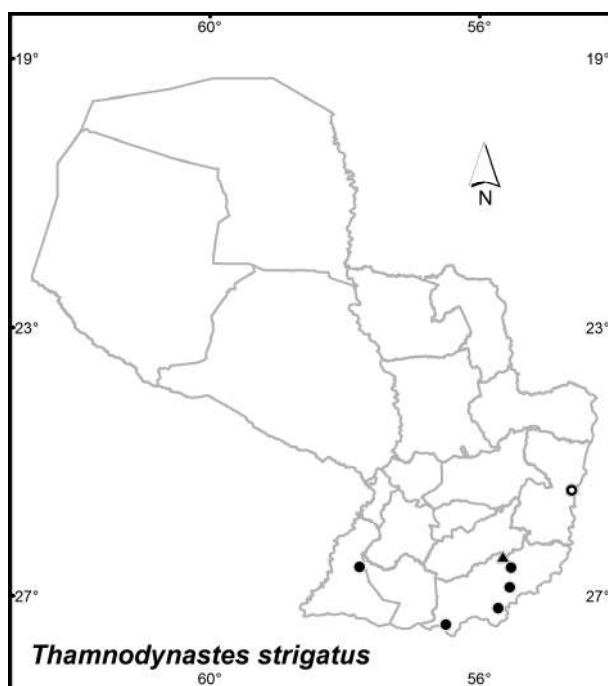
Thamnodynastes strigatus:

Harvey and Muñoz (2004):
ITAPÚA: 19.5 km NNE
Encarnación, on Route VI, near
“El Tirol” (USNM 253578,
253579).

Thamnodynastes strigatus: Motte
et al. (2009): Paraguay.

Thamnodynastes strigatus:
Cacciali (2009a:map): Paraguay.

Thamnodynastes strigatus: Cabral and Weiler (2014): ITAPÚA: Kangüery
(CZCEN 290).



General Distribution: The states of Pará and Roraima, Brazil, south to Uruguay and west through southern Paraguay, eastern Argentina, and Uruguay (Ceí, 1993; Giraudo, 2002; Franco and Ferreira, 2003a, 2003b; Carreira et al., 2005).

Local Distribution: Southern Paraguay in Wet Chaco, Mesopotamian Grasslands, and Atlantic Forest.

Conservation Status: Least Concern.

Comments: The record of *Thamnodynastes hypoconia* (Duré Rodas, 1995) in Alto Paraná Atlantic Forest is suspect. Giraudo (2002) records *Thamnodynastes hypoconia* from that area, probably based on the Duré Rodas specimen; nevertheless he states concerning *Thamnodynastes hypoconia* (p. 183) “No se la registra [en] la selva Paranense de Misiones [Argentina], donde es característica *T. strigatus*.”

Specimens Examined: Paraguay (MNHNP 9261, 9263,64, 9272,73, 9277, 9433; 9518,19, 9536, 9552, 9573–9575, 9587–9590). ITAPÚA: Colonia Tarumá (MNHNP 3539); El Tirol (USNM 253578, 253579); Isla Cururú (MNHNP 4594–4597, 4650, 4659); Isla Guazú’i (MNHNP 4803–4807); Isla Modesto (MNHNP 4591–4593, 4598–4604, 4781–4787, 4798–4802, 4934); Isla Paloma (MNHNP 4977, 8333, 8347, 8348, 8372); Isla Talavera (MNHNP 4797, 4872); Isla Yacyretá (MNHNP 4788–4796,

4867–4871, 4933, 4935, 4942, 4955, 4981, 6701, 6707, 7547, 8332, 8335, 8371); Pirapó (MNHNP 7685). ÑEEMBUCÚ: Estancia Purity (MNHNP 8196).

Photographic Records: ITAPÚA: Nueva Gambach (FPREP 310–314).

Thamnodynastes spp.

Thamnodynastes nattereri: Boulenger (1894a): CENTRAL: Asunción.

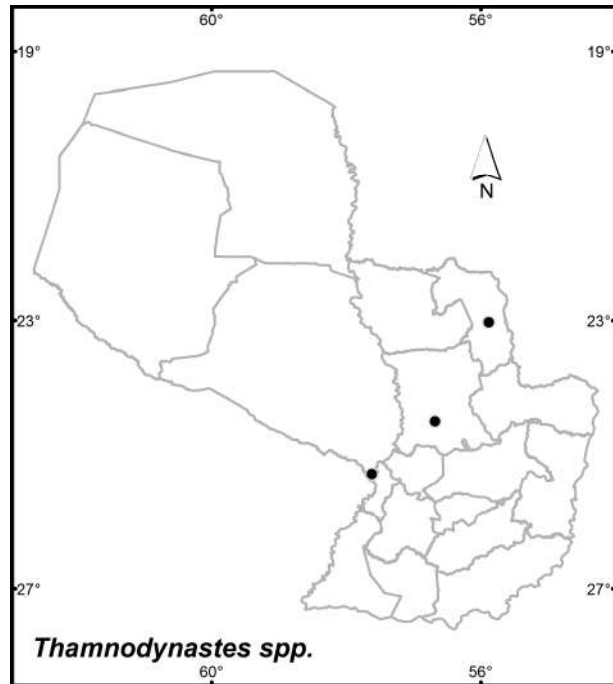
Thamnodynastes nattereri:
Boulenger (1896): CENTRAL:
Asunción.

Thamnodynastes strigilis:
Aquino-Shuster et al. (1991):
See Specimens Examined.

Local Distribution: East of Río Paraguay in areas of mixed of Cerrado, Wet Chaco, and Central Forest.

Comments: These are two distinct, unnamed species identified by Thomas and are listed as such in the catalogue of the British Museum.

Specimens Examined: “Paraguay River” (NHMUK 1923.12.5.3). AMAMBAY: Estancia Paicuará (MNHNP 7459, 7450). CENTRAL: Asunción (NHMUK 94.3.14.67, 94.3.14.68). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.3.44, 1960.1.2.99).



***Tomodon dorsatus* Duméril, Bibron and Duméril, 1854**

Tomodon dorsatum: Bertoni (1914): ALTO PARANÁ: Puerto Bertoni.

Tomodon dorsatum: Schouten (1931): CENTRAL: Bahía de Asunción.

Tomodon dorsatum: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. ITAPÚA: Yaguarasapá (now Capitán Meza). MISIONES: Yabebyry.

Tomodon dorsatum: Gatti (1955): Paraguay.

Tomodon dorsatus: Talbot (1979): Eastern Paraguay.

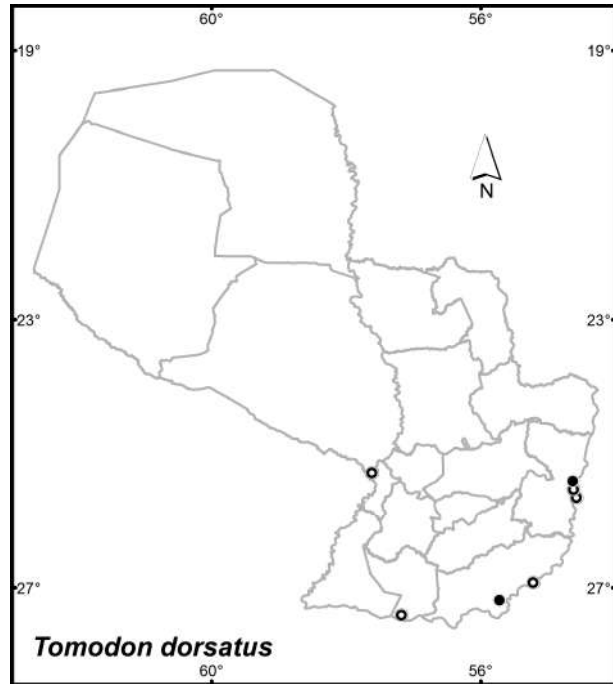
Tomodon dorsatus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Tomodon dorsatus: Giraudo (2002): ALTO PARANÁ: Ciudad del Este.

Tomodon dorsatus: Harvey and Muñoz (2004): ITAPÚA: Near El Tirol (USNM 253580–253587).

Tomodon dorsatus: Motte et al. (2009): Paraguay.

Tomodon dorsatus: Cacciali (2009a): Paraguay.



General Distribution: Central and southeastern Brazil, eastern Paraguay, and northeastern Argentina (Peters and Orejas-Miranda, 1970; Cei, 1993). See Comments.

Local Distribution: Along the Río Paraná in departamentos Alto Paraná, Itapúa, and Misiones in Mesopotamian Grasslands and Atlantic Forest.

Conservation Status: Not Evaluated.

Comments: Chippaux (1986) cites a specimen of *Tomodon dorsatus* from French Guiana. This is the only record north of the Rio Amazonas (Tipton, 2005), and we believe it to be incorrect. Cunha and Nascimento (1993) do not list the species from the northern Brazilian states of Amazonas and Pará.

Specimens Examined: ALTO PARANÁ: Vivero Forestal Itaipú (MAI 64, 74). ITAPÚA: El Tirol (USNM 253580–253587).

***Tomodon ocellatus* Duméril, Bibron and Duméril, 1854**

Tomodon ocellatus: Schouten (1931, 1937): Paraguay.

Tomodon ocellatus: Bertoni (1939): CENTRAL: Asunción.

Tomodon ocellatus: Gatti (1955): Paraguay.

Tomodon ocellatus: Talbot (1979): Eastern Paraguay.

Tomodon ocellatus: Cabral and Caballero (2013): ?ITAPÚA: CZCEN 805.

General Distribution: Southern Brazil and Paraguay, northeastern Argentina, and Uruguay (Peters and Orejas-Miranda, 1970; Cei, 1993).

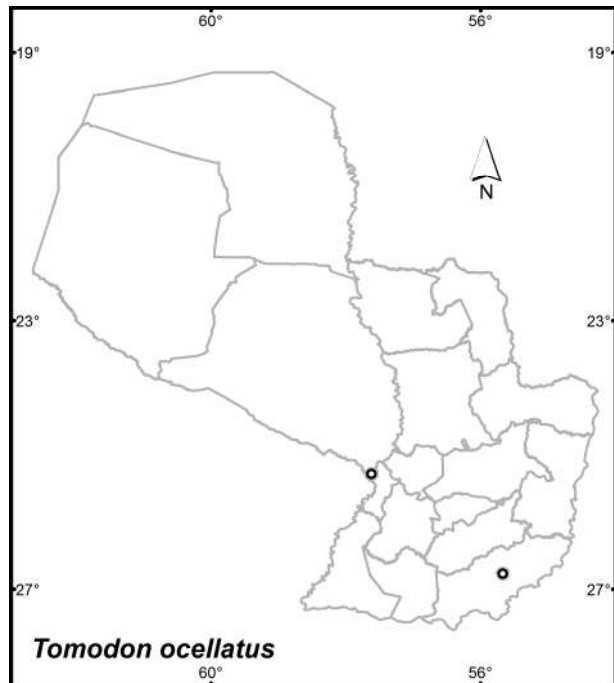
Local Distribution: Asunción (Bertoni, 1939) and probably Itapúa in Mesopotamian Grasslands (Cabral and Caballero, 2013).

Conservation Status: Not Evaluated.

Comments: Boulenger (1894) attributed this species to Paraguay, based on a collection that is probably from Uruguay (see details of the Grant collection in the Introduction). This record seems to have been copied by numerous subsequent authors (Berg, 1898; Bertoni, 1918; Koslowsky, 1898b; Serié, 1915; and Werner, 1929), and Schouten (1931) probably has the first reliable Paraguayan record.

The Aquino et al. (1996) citation of *Tomodon ocellatus* was based on a misidentified *Thamnodynastes strigatus*.

Specimens Examined: None.



Xenodontinae–Echinantherini

***Taeniophallus occipitalis* (Jan, 1863)**

Rhadinæa occipitalis: Boulenger (1894a): CENTRAL: Asunción.

Rhadinæa occipitalis: Boulenger (1894b): CENTRAL: Asunción.

Rhadinaea occipitalis: Koslowsky (1898b): Paraguay.

Rhadinaea occipitalis: Peracca (1904): CENTRAL: Asunción.

Rhadinaea occipitalis: Bertoni (1914): Paraguay.

Rh[adinaea]. occipitalis: Werner (1929): Paraguay.

Rhadinaea occipitalis: Schouten (1931): Paraguay.

Rhadinaea occipitalis: Schouten (1937): Paraguay.

Liophis occipitalis: Bertoni (1939): Paraguay.

Liophis occipitalis: Gatti (1955): Paraguay.

Liophis peocilopogon: Gatti (1955): CENTRAL: Vicinity of Asuncion.

Liophis occipitalis: Elter (1981): CENTRAL: Asunción (MZUT R815).

Taeniophallus occipitalis: Ziegler et al. (2002b): BOQUERÓN: Fortín Toledo (MTKD 43462).

Taeniophallus occipitalis: Santos et al. (2008): AMAMBAY: Cerro Corá (MNHNP 5189).

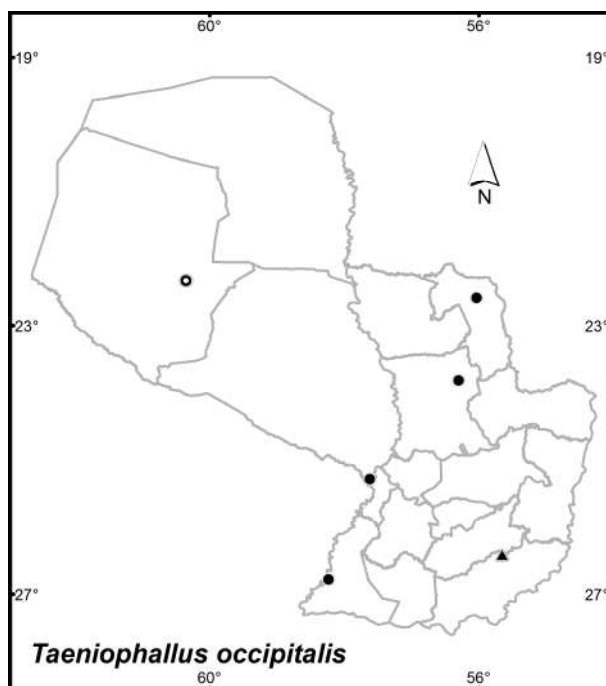
BOQUERÓN: Route IX, 59 km WNW Filadelfia (MNHNP 5188).

ÑEEMBUCÚ: 9.4 km NE Pilar (MNHNP 10010).

Echinantera [sic] *occipitalis*: Motte et al. (2009): Paraguay.

Echinanthera occipitalis: Motte et al. (2009): Paraguay.

Taeniophallus occipitalis: Cacciali (2009a:map): Paraguay.



General Distribution: Northeastern Peru, Bolivia, southern Brazil, Paraguay, northern Argentina, and Uruguay (Myers, 1974; Myers and Cadle, 1994; Leynaud and Bucher, 1999; Carreira et al., 2005; Scrocchi et al., 2006).

Local Distribution: The species is known only from widely scattered localities in Wet and Dry Chaco and Cerrado.

Conservation Status: Least Concern.

Comments: Formerly listed in the genus *Rhadinaea*, Di-Bernardo (1992) included this species in the resurrected genus *Echinanthera*. However, Myers and Cadle (1994) went further, splitting *Echinanthera* and placing *T. occipitalis* in another resurrected genus, *Taeniophallus*. Schargel et al. (2005), Vidal et al. (2010), and Grazziotin et al. (2012) gave additional evidence that this placement is probably correct, given the present state of our knowledge (Zaher et al., 2009).

Many recent authors have misspelled *Echinanthera* as “*Echinantera*” (e.g., Giraudo and Scrocchi, 2002; Motte et al., 2004; Schargel et al., 2005 [in the Spanish abstract]; Vidal et al., 2010).

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 5189). BOQUERÓN: 59 km WNW Filadelfia (MNHNP 5188). CENTRAL: Asunción (MZUT 2766, NHMUK 94.3.14.59, 1956.1.16.41). ÑEEMBUCÚ: 9 km NE Pilar (MNHNP 10010). SAN PEDRO: Laguna Blanca (CZPLT 182, 335, 456).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 792–800).

Xenodontinae–Pseudoboini

Boiruna maculata (Boulenger, 1896)

Oxyrhopus plumbeus: Boulenger (1894a): CENTRAL: Asunción.

Oxyrhopus occipitoluteus Boulenger (1896): CENTRAL: Asunción.

Oxyrhopus occipitolutens [sic]: Koslowsky (1898b): Paraguay.

Oxyrhopus occipitoluteus: Bertoni (1914): Paraguay.

Oxyrhopus Cloelia [sic] [partim]: Serié (1915): Paraguay. CENTRAL.

O[xyrhopus]. occipitoluteus: Werner (1925): Paraguay.

Pseudoboa occipitoluteus: Schouten (1931): Paraguay.

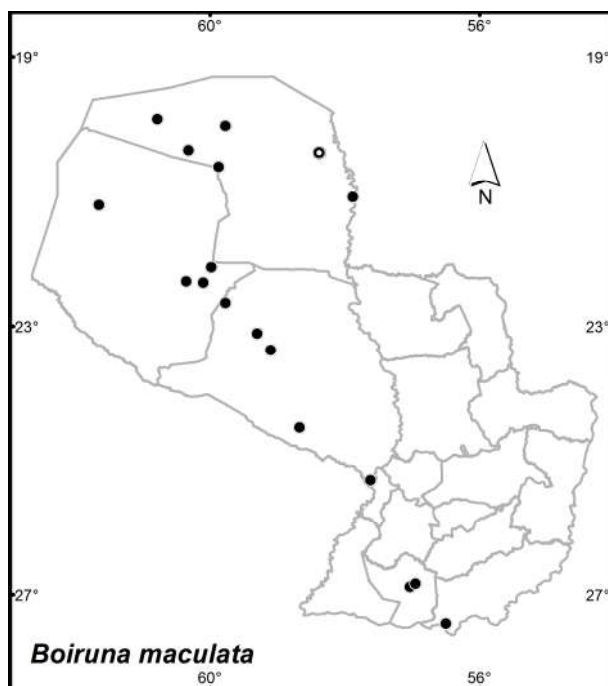
Pseudoboa rusticus: Schouten (1931): Paraguay.

Pseudoboa occipitoluteus: Schouten (1937): Paraguay.

Pseudoboa rusticus: Schouten (1937): Paraguay.

Pseudoboa occipitolutea: Bertoni (1939): Chaco.

Pseudoboa occipitolutea: Gatti (1955): Paraguay.



Pseudoboa rustica: Gatti (1955): Paraguay.

Clelia occipitolutea: Scott and Lovett (1975): See Specimens Examined.

Clelia occipitolutea: Talbot (1979): Western Paraguay.

Clelia clelia: Álvarez et al. (1995): ITAPÚA: Isla Talavera (UNNEC 453).

Clelia bicolor [partim]: Aquino et al. (1996): See Specimens Examined.

C[lelia]. clelia [partim]: Aquino et al. (1996): See Specimens Examined.

C[lelia]. rustica: Aquino et al. (1996): See Specimens Examined.

Boiruna maculata: Leynaud and Bucher (1999:map): Paraguay.

Clelia rustica: Leynaud and Bucher (1999:map): Paraguay.

Clelia clelia: Ziegler et al. (2002b): BOQUERÓN: Filadelfia; Fortín Toledo (MTKD 43423, 43424 [without specifying which specimen belongs to which locality]).

Boiruna maculata: Motte et al. (2004): Paraguay.

Boiruna maculata: Scott et al. (2006): See Specimens Examined.

Boiruna maculata: Motte et al. (2009): Paraguay.

Boiruna maculata: Cacciali (2009a:map): Paraguay.

General Distribution: Southeastern Bolivia, southern Brazil, Uruguay, western Paraguay, and central and northern Argentina (Achaval Elena, 2001; Carreira et al., 2005; Scott et al., 2006; Scrocchi et al., 2006).

Local Distribution: In Paraguay there are two clusters of populations. The far northwestern group is located in Dry Chaco and the southeastern one is in Wet Chaco and Mesopotamian Grasslands (see Comments).

Conservation Status: Least Concern.

Comments: Scrocchi and Viñas (1990) put *C. occipitolutea* into the synonymy of *Clelia clelia*. Zaher (1996) retrieved *C. occipitolutea* and placed it into the synonymy of Boulenger's (1896) *Oxyrhopus maculata* and erected the new genus *Boiruna* to contain it.

The two population groups may indicate a real separation between a dry-adapted form in the northwest and a more mesic-inhabiting form in the south or may merely be a result of inadequate collecting in the intervening region.

Specimens Examined: Paraguay (MNHNP 9412). ALTO PARAGUAY: Agua Dulce (MNHNP 6553, 9792); Nueva Tribu (MNHNP 2625); Fortín Madrejón (MNHNP 2617, 2619); Mayor Pablo Lagerenza (MNHNP 7674); Parque Nacional Defensores del Chaco (MNHNP 7937); Parra Cué (MNHNP 9186). BOQUERÓN: Filadelfia (MNHNP 2622–2624, 3061, 6549, 10014, USNM 342099); 30 km N Filadelfia (MNHNP 3058); 50 km S Mariscal Estigarribia (EBD 31771); Fortín Toledo (MNHNP 3841); Route IX, 30 km S turnoff to Filadelfia (MNHNP 2618); Parque Nacional Teniente Enciso (MNHNP 3062). CENTRAL: Asunción (NHMUK 94.3.14.60,

1930.11.27.224–1930.11.27.226). ITAPÚA: Yacyretá (UNNEC 453). MISIONES: 2 km NW San Ignacio (MNHNP 3060). ÑEEMBUCÚ (MNHNP 9458). PRESIDENTE HAYES: Route IX, 22 km N Río Verde (UCS 5714); 8 km NE Juan de Zalazar (UMMZ 166855); Estancia La Golondrina (USNM 342100).

Photographic Records: PRESIDENTE HAYES: Cuenca Upper Yacaré Sur (FPREP 878–882).

***Clelia clelia* (Daudin, 1803)**

Brachyrhynchum occipitoluteum: Boettger (1885a): Paraguay.

Oxyrhopus cloelia: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Oxyrhopus cloelia: Koslowsky (1898b): Paraguay.

Oxyrhopus cloelia: Bertoni (1913): Paraguay.

Oxyrhopus Cloelia [sic]: Serié (1915): CENTRAL: Trinidad.

Oxyrhopus cloelia: Bertoni (1921): CENTRAL: Asunción.

Pseudoboa cloelia: Schouten (1931): Paraguay.

Pseudoboa cloelia: Schouten (1937): Paraguay.

Pseudoboa cloelia: Bertoni (1939): CENTRAL: Asunción.

Pseudoboa cloetia: Gatti (1955): Paraguay.

Oxyrhopus cloelia: Canese (1966): Paraguay.

Clelia clelia: Talbot (1979): Eastern Paraguay.

Clelia clelia: Scrocchi and Viñas (1990): SAN PEDRO: Carumbé (FML 719).

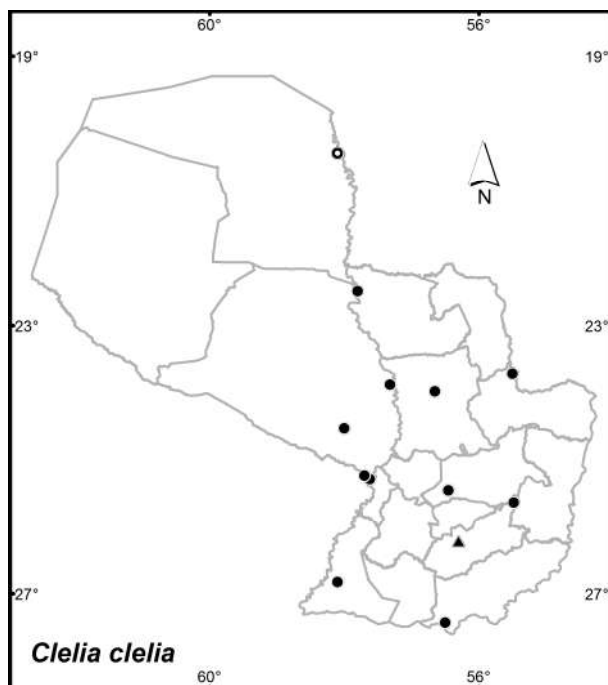
C[lelia]. clelia [partim]: Aquino et al. (1996): See Specimens Examined.

Clelia clelia: Motte et al. (2004): Paraguay.

Clelia clelia: Scott et al. (2006): See Specimens Examined.

Clelia clelia: Motte et al. (2009): Paraguay.

Clelia clelia: Cacciali (2009a:map): Paraguay.



General Distribution: From Central México southward to Paraguay and northern Argentina (Scrocchi and Viñas, 1990; Scott et al., 2006).

Local Distribution: In Paraguay, *Clelia clelia* is present on the west bank of the Río Paraguay in Departamento Presidente Hayes and is widely distributed between the ríos Paraguay and Paraná. It occurs in Cerrado, Wet Chaco, Central Forest, Mesopotamian Grasslands, and the edge of Atlantic Forest ecoregions.

Conservation Status: Least Concern.

Comments: Many authors have included *Boiruna maculata* (under the specific name *occipitoluteum*) in this taxon, and it is impossible to accurately sort out the two taxa without specimen data.

Zaher (1996) doubted the presence of *C. clelia* in Paraguay.

Specimens Examined: CAAGUAZÚ: 5 km N Coronel Oviedo (MNHNP 2626). CAAZAPÁ: Estancia La Golondrina (MNHNP 9217). CANINDEYÚ: Colonia Ybycuí (MNHNP 6695). CENTRAL: Asunción (MNHNP 3085); Trinidad (UMMZ 109048). CONCEPCIÓN: Puerto Fonciere (MNHNP 3957). ITAPÚA: Yacyretá (FML 11964, MNHNP 4660, 4721, 4722, 4956, 8370). ÑEEMBUCÚ: 8 km NE Tacuara (MNHNP 8840). PRESIDENTE HAYES: Road to Falcón (MNHNP 8489); Río Monte Lindo, 2.3 km W Río Paraguay (MNHNP 6284); Route IX, between Kilometers 100-150 (MNHNP 3908). SAN PEDRO: Carumbé (FML 719).

Photographic Records: CAAZAPÁ: 6 km ESE Caazapá near Río Pirapó (FPREP 831–833).

***Clelia plumbea* (Wied, 1820)**

Oxyrhopus cloelia: Bertoni (1913): Paraguay.

Oxyrhopus cloelia: Bertoni (1914): ALTO PARANÁ.

Pseudoboa cloelia: Bertoni (1939): ALTO PARANÁ.

Clelia clelia clelia: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

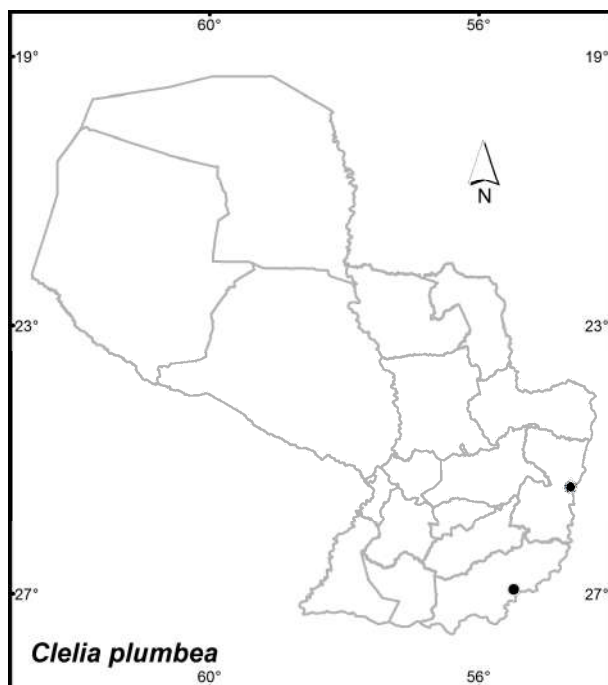
Clelia plumbea: Zaher (1996): CENTRAL: Asunción (incorrect locality; IB 10100).

C[lelia]. clelia [partim]: Aquino et al. (1996): See Specimens Examined.

Clelia plumbea: Scott et al. (2006): See Specimens Examined.

Clelia plumbea: Motte et al. (2009): Paraguay.

Clelia plumbea: Cacciali (2009a): Paraguay.



General Distribution: Provincia de Misiones in Argentina, southern Brazil, and eastern Paraguay (Bailey, 1970a; Zaher, 1996; Scott et al., 2006).

Local Distribution: Eastern Paraguay in departamentos Itapúa and Alto Paraná in Atlantic Forest (Scott et al., 2006).

Conservation Status: Least Concern.

Comments: Bailey included this taxon as a subspecies of *C. clelia* (in Peters and Orejas-Miranda, 1970), but it was separated out as a distinct species by Zaher (1996).

Zaher (1996) included a specimen from the Instituto Butantan with data from “Assunción.” This locality is probably incorrect as there are no other records in Paraguay outside of the Atlantic Forest ecoregion (Scott et al., 2006).

Specimens Examined: ALTO PARANÁ: Vivero Forestal Itaipú (MAI 48; “MBI 38” in Scott et al., 2006). ITAPÚA: Arroyo Pirapó (MNHNP 3059).

***Mussurana bicolor* (Peracca, 1904)**

Oxyrhopus labialis: Serié (1915): PRESIDENTE HAYES: “Remancito (Alto Paraguay).” See Comments about this locality.

Pseudoboa labialis: Schouten (1931): Paraguay.

Pseudoboa labialis: Schouten (1937): Paraguay.

Pseudoboa labialis: Bertoni (1939): Paraguay.

Pseudoboa labialis: Gatti (1955): Paraguay.

Clelia bicolor: Talbot (1979): Eastern Paraguay.

Clelia bicolor: Scrocchi and Viñas (1990): CENTRAL: Asunción (CHINM 5801–5804).

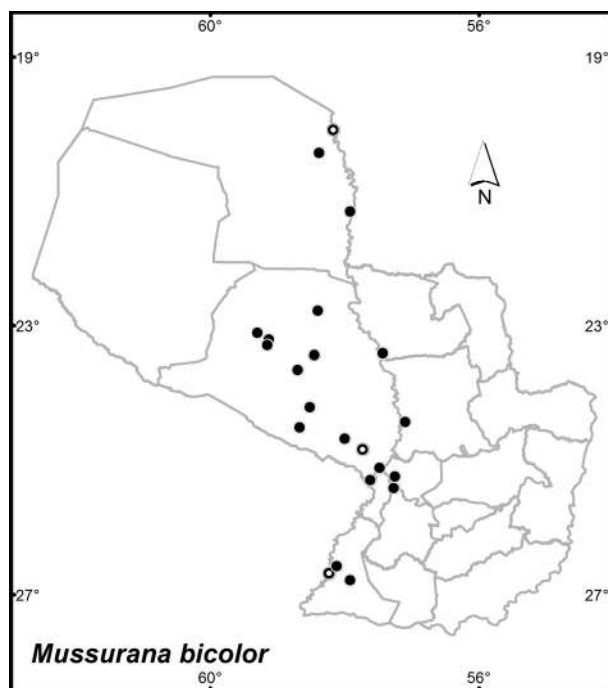
Clelia occipitolutea: Aquino-Shuster et al. (1991): ALTO PARAGUAY: Potrerito.

Clelia bicolor: Giraudo and Contreras (1994): ÑEEMBUCÚ: Caí Mbocá.

Clelia bicolor [partim]: Aquino et al. (1996): See Specimens Examined.

C[lelia]. clelia [partim]: Aquino et al. (1996): See Specimens Examined.

Clelia bicolor: Zaher (1996): CENTRAL: Asunción (NHMUK 1930.11.27.224–1930.11.27.226).



Clelia bicolor: Leynaud and Bucher (1999:map): Paraguay.

Clelia bicolor: Motte et al. (2004): Paraguay.

Clelia bicolor: Scott et al. (2006): See Specimens Examined.

Clelia bicolor: Jansen et al. (2009): PRESIDENTE HAYES: Route IX, 223 km NW Villa Hayes (USNM 342097).

Clelia bicolor: Motte et al. (2009): Paraguay.

Mussurana bicolor: Cacciali (2009a:map): Paraguay.

Mussurana bicolor: Cabral and Weiler (2014): ALTO PARAGUAY: Tres Gigantes (CZCEN 742). CENTRAL: Bahía de Asunción (CZCEN 657); Quinta Suiza (CZCEN 199).

General Distribution: Mato Grosso and Mato Grosso do Sul, Brazil, central Paraguay, and northwestern Argentina (Zaher, 1996; Scott et al., 2006; Scrocchi et al., 2006).

Local Distribution: Associated with the floodplain of the Río Paraguay in Wet and Dry Chaco (Scott et al., 2006).

Conservation Status: Least Concern.

Comments: Formerly in the genus *Clelia*, this species was placed in the new genus *Mussurana* by Zaher et al. (2009). Argentine and Paraguayan species of *Boiruna*, *Clelia*, and *Mussurana* were reviewed by Scott et al. (2006).

Serié cites reptile localities variously as “Barbero (Norte del Paraguay)” (Serié 1915:576) and “Remancito (Alto Paraguay)” (Serié 1915:578). An ornithological paper (Podtiaguin, 1944) makes these references to a study site: “Remancito (Chaco)” (page 77), “Estancia Dr. Barbero-Remancito” (page 90), and “estancia del Sr. Dr. A. Barbero ‘Remancito,’ Chaco” (page 113). We assume that these are all the same locality.

Dr. Andrés Barbero was one of the founders of the Sociedad Científica del Paraguay. His estancia, Remancito, was in Presidente Hayes next to the present-day town of Cerrito. It lay on a strip of land ~5 km wide and ~50 km long, extending from approximately the current Trans-Chaco Highway (Route IX) to the Río Paraguay. The estancia was about 25 km N of the present-day town of Remansito.

Specimens Examined: Paraguay (MNHNP 94444, 9449, 9535). ALTO PARAGUAY: Colonia Potrerito (MNHNP 5783, 5784); Puerto Guaraní (MACN 614). CENTRAL: Asunción (MACN 5801–5804, MNHNP 2613,14, 3752); Luque (MNHNP 9166); San Lorenzo (MNHNP 6556, 7684, 8481); Ypacaraí (MNHNP 6555); Trinidad (UMMZ 109046). CONCEPCIÓN: 2 km E Concepción (USNM 342096). CORDILLERA: San Bernardino (MNHNP 3942). ÑEEMBUKU: Estancia San Antonio (MNHNP 6674); Estancia Yacaré (MNHNP 6678, 6685). PRESIDENTE HAYES: Estancia La Golondrina (MNHNP 2621, 9144, 9225, 9226, 9230); Estancia La Victoria, Route IX Km 234 (MNHNP 2616); Estancia Santa Catalina, Route IX Km 330 (MNHNP 5785); Guajhó, Casado (MACN 1772, 1773); Loma Verde (MNHNP 4582); Rancho Carandá (MNHNP 7942); Route IX, 24°43′59″S, 57°56′02″W (MNHNP 6575); Route IX Km 113

(MNHNP 6550); Route IX Km 323 (MNHNP 6552); Route to General Bruguez (MNHNP 7516, 7657); Route IX, 8 km N Puente Remanso (MNHNP 2615); Route IX, 223 km NW Villa Hayes (USNM 342097,98). SAN PEDRO: Villa del Rosario (MNHNP 2620).

Photographic Records: CENTRAL: Asunción (FPREP 531–538).

***Mussurana quimi* Franco, Marques and Puerto, 1997**

Clelia bicolor [partim]: Aquino et al. (1996): See Specimens Examined.

Clelia quimi: Scott et al. (2006): See Specimens Examined.

Clelia quimi: Motte et al. (2009): Paraguay.

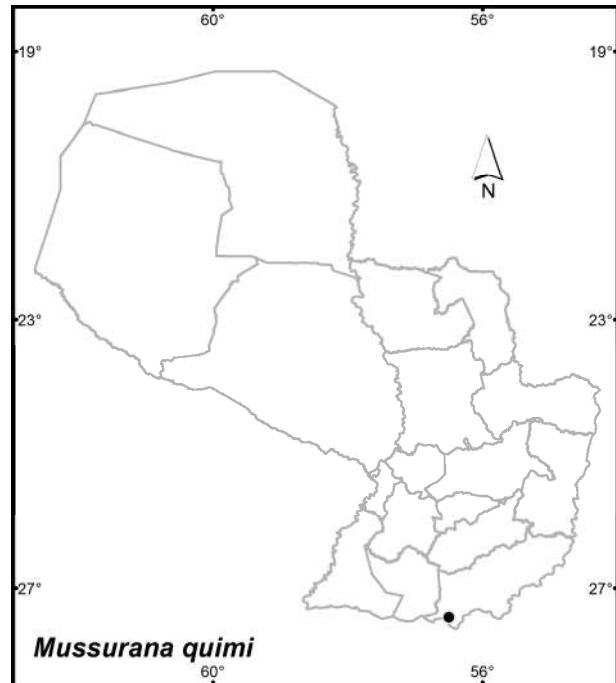
Mussurana quimi: Cacciali (2009a): Paraguay.

General Distribution: Provincia de Misiones in Argentina, southern Paraguay, and southeastern Brazil (Franco et al., 1997; Scott et al., 2006).

Local Distribution: Its presence in Paraguay is confirmed by a single locality record from Departamento Itapúa in Mesopotamian Grasslands (Scott et al., 2006).

Conservation Status: Vulnerable.

Comments: Formerly in the genus *Clelia*, this species was placed in the new genus *Mussurana* by Zaher et al. (2009). Argentine and Paraguayan species of *Boiruna*, *Clelia*, and *Mussurana* were reviewed in Scott et al. (2006).



Specimens Examined: ITAPÚA: Isla Yacyretá (MNHNP 4723, 4724, 4866).

***Oxyrhopus guibei* Hoge and Romano, 1977**

Oxyrhopus trigeminus: Cope (1862d): Paraguay Expedition.

Oxyrrhopus [sic] *trigeminus*: Boettger (1885a): Paraguay.

Oxyrhopus trigeminus: Berg (1898): Paraguay.

Oxyrhopus trigeminus: Koslowsky (1898b): Paraguay.

Oxyrhopus trigeminus: Schenkel (1901): Paraguay.

Oxyrhopus trigeminus: Bertoni (1914): Paraguay.

Oxyrhopus trigeminus: Serié (1915): CENTRAL: Trinidad.

Pseudoboa trigeminus: Schouten (1931): Paraguay.

Pseudoboa trigemina: Amaral (1926a): Paraguay expedition (USNM 12381[2]).

Pseudoboa trigeminus: Schouten (1937): Paraguay.

Pseudoboa trigemina: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni.
CENTRAL: Asunción.

Pseudoboa trigemina: Gatti (1955): Paraguay.

Oxyrhopus trigeminus: Canese (1966): Paraguay.

Oxyrhopus trigeminus: Talbot (1979): Eastern Paraguay.

Leptognathus sp.: Elter (1981): Paraguay (MZUT R2046).

Oxyrhopus guibei: Zaher and Caramaschi (1992): Paraguay (USNM 5818, 12381a, 12381b).
CENTRAL: Vicinity of Asunción (USNM 142096). ITAPÚA: Capitán Miranda (USNM 253212).
"ALTO PARAGUAY" [SAN PEDRO]: Primavera (NHMUK 1958.1.2.29, 1955.1.6.19, 1960.1.2.95, 1955.1.6.10, 1955.1.6.11, 1960.1.2.97, 1962.85).

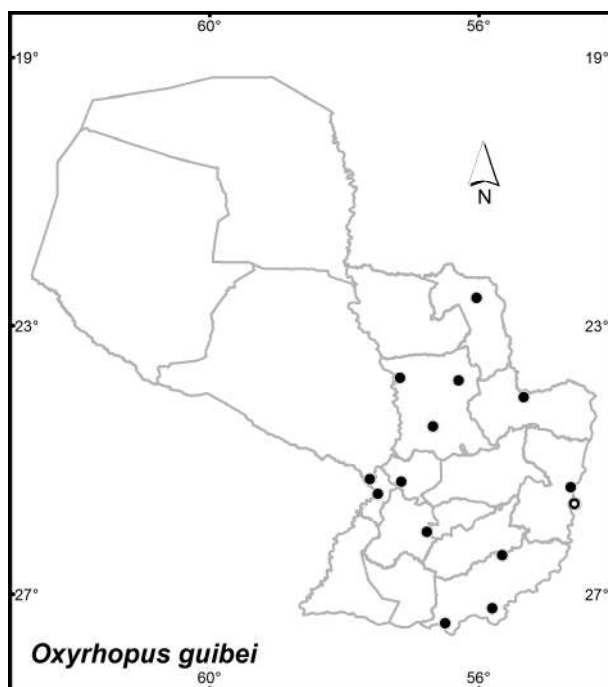
Oxyrhopus guibei: Aquino et al. (1996): See Specimens Examined.

Oxyrhopus guibei: Motte et al. (2004): Paraguay.

Oxyrhopus guibei: Motte et al. (2009): Paraguay.

Oxyrhopus guibei: Cacciali (2009a:map): Paraguay.

Oxyrhopus guibei: Cacciali (2013): ITAPÚA: Kangüery.



General Distribution: Central and southwestern Brazil, Paraguay, eastern Bolivia, and Argentinean Chaco (Zaher and Caramaschi, 1992; Cei, 1993;).

Local Distribution: Widespread east of the Río Paraguay in Cerrado, Central Forest, Atlantic Forest, and Mesopotamian Grasslands ecoregions.

Conservation Status: Least Concern.

Comments: This taxon has been considered a subspecies of *O. trigeminus* until Zaher and Caramaschi (1992) declared it to be a full species.

Specimens Examined: “Paraguay” (USNM 5818). Paraguay (AMNH 78985, MNHNP 9550, 9679, MZUT n/n, USNM 12381). ALTO PARANÁ: Itaipú reserves (MAI 82). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2568). CANINDEYÚ: (AMNH 143292); Reserva Natural del Bosque Mbaracayú (MNHNP 3616, 5146, 9436). CENTRAL: Asunción (AMNH 75748, NHMUK 94.3.14.61); near Asunción (USNM 142096); San Antonio (EBD n/n [2]); San Lorenzo (MNHNP 5147); Villeta (MNHNP 3495). CORDILLERA: 9.5 km N Caacupe (UMMZ 153076). ITAPÚA: Isla Yacyretá (MNHNP 4832, 4858, 4859); Parque Nacional San Rafael (MNHNP 6387); Capitán Miranda (USNM 253212); Kangüery (Cacciali, 2013). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 3541, 5148). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.6.10, 1955.1.6.11, 1955.1.6.19, 1958.1.2.29, 1960.1.2.94, 1960.1.2.95, 1960.1.2.97, 1962.85, 1969.323); Estancia Pedernal (MNHNP 10902); Laguna Blanca (CZPLT 106, 348).

Photographic Records: ITAPÚA: Kangüery (FPREP 257–259). SAN PEDRO: Laguna Blanca (FPREP 512–516).

***Oxyrhopus petolarius* (Linnaeus, 1758)**

Oxyrhopus petolarius: Koslowsky (1898b): Paraguay.

Oxyrhopus petolarius: Bertoni (1914): Paraguay.

Clelia petolarius: Bertoni (1918): ALTO PARANÁ: Puerto Bertoni.

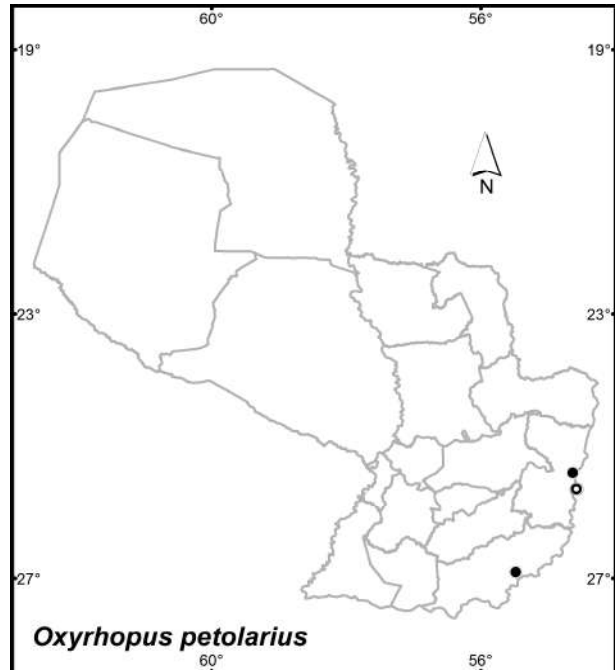
Pseudoboa petolarius: Schouten (1931): Paraguay.

Pseudoboa petolarius: Schouten (1937): Paraguay.

Pseudoboa petola: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. CENTRAL: Asunción (see Comments).

Pseudoboa petola: Gatti (1955): Paraguay.

Oxyrhopus petola: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.



Oxyrhopus petola: Motte et al. (2009): Paraguay.

Oxyrhopus petola: Cacciali (2009a): Paraguay.

Oxyrhopus petolarius: Cabral and Scott (2014): ITAPÚA: Near Pirapó.

General Distribution: From southern México southward through Central America and South America, east of the Andes, to Misiones, Argentina (Bailey, 1970b; Cei, 1993; Giraudo, 2002).

Local Distribution: Known only from extreme eastern Paraguay in Atlantic Forest.

Conservation Status: Vulnerable.

Comments: Bertoni's (1939) Asunción record is probably a copy of an erroneous identification of *O. rhombifer* by Boulenger (1894a), which he corrected later (Boulenger, 1896).

Savage (2011) determined that the correct name for this species is *Oxyrhopus petolarius*. The Paraguayan subspecies should be *O. p. digitalis* (Bailey, 1970b; Giraudo, 2002).

Specimens Examined: ALTO PARANÁ: Itaipú reserves (MAI 61, 62, 81, 94); Puerto Bertoni (ANSP 32581). ITAPÚA: 1 km NE CEMA, Pirapó (MNHNP 11800).

***Oxyrhopus rhombifer* Duméril, Bibron and Duméril, 1854**

Oxyrhopus petalarius: Boulenger (1894a): CENTRAL: Asunción.

Oxyrhopus rhombifer: Boulenger (1896): CENTRAL: Asunción.

Oxyrhopus rhombifer: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Oxyrhopus rhombifer: Koslowsky (1898b): Paraguay.

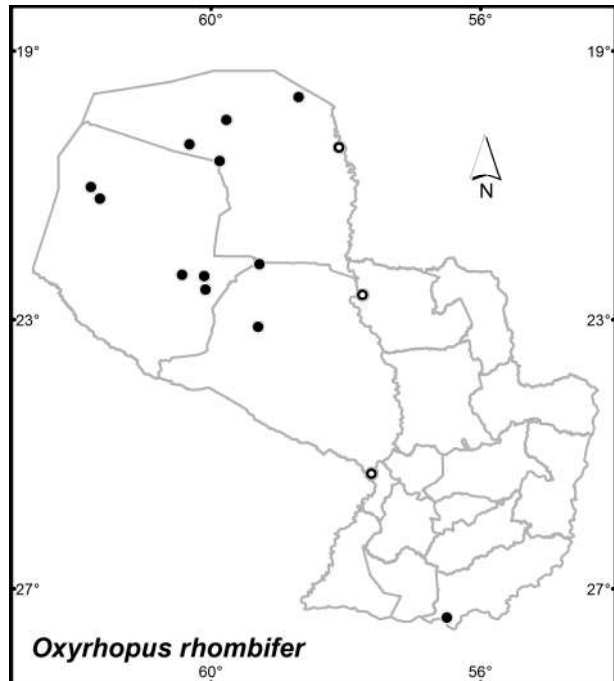
Oxyrhopus rhombifer inaequifasciatus: Werner (1909): CONCEPCIÓN: Puerto Max (type locality).

Oxyrhopus rhombifer: Bertoni (1914): Paraguay.

Oxyrhopus rhombifer D. B. var. *inaequifasciatus*: Serié (1915): Paraguay.

Oxyrhopus rhombifer inaequifasciatus: Bertoni (1918): Paraguay.

O[xyrhopus]. rhombifer var. *inaequifasciata*: Werner (1925): Paraguay.



Pseudoboa rhombifer inaequifasciatus: Schouten (1931): Paraguay.

Pseudoboa rhombifer meridionalis: Schouten (1931): Paraguay.

Pseudoboa rhombifer inaequifasciatus: Schouten (1937): Paraguay.

Pseudoboa rhombifera: Bertoni (1939): Paraguay.

Pseudoboa rhombifera: Gatti (1955): Paraguay.

Oxyrhopus rhombifer [sic]: Canese (1966): Paraguay.

Oxyrhopus rhombifer: Elter (1981): GUAIRÁ: Tebicuary (MZUT R1819).

Oxyrhopus rhombifer: Scott and Lovett (1975): See Specimens Examined.

Oxyrhopus rhombifer: Talbot (1979): Eastern and western Paraguay.

Oxyrhopus rhombifer: Aquino et al. (1996): See Specimens Examined.

Oxyrhopus rhombifer inaequifasciatus: Leynaud and Bucher (1999:map): Paraguay.

Oxyrhopus rhombifer: Motte et al. (2009): Paraguay.

Oxyrhopus rhombifer rhombifer: Motte et al. (2004): Paraguay.

Oxyrhopus rhombifer: Cacciali (2009a:map): Paraguay.

General Distribution: Rio Amazonas (Santarém, Pará) in Brazil, south to central Argentina and Uruguay (Bailey, 1970b; Cei, 1993; Carreira et al., 2005).

Local Distribution: The subspecies *O. r. inaequifasciatus* occurs in Dry and Wet Chaco west of the Río Paraguay. There is a single record for the subspecies *O. r. rhombifer* from Mesopotamian Grasslands in Departamento Itapúa.

Conservation Status: Least Concern.

Specimens Examined: Paraguay (MNHNP 9266, 9537). ALTO PARAGUAY: Agua Dulce (USNM 342398); Misión Nueva Tribu (LACM 126522); Madrejón (MNHNP 2569); Estancia Punto Alto (MNHNP 10204). BOQUERÓN: Filadelfia (MNHNP 330, 5150, 5153, 10035); 3 km NW Filadelfia (EBD 31751); 31.7 km S Filadelfia (USNM 342397); 20 to 36 km S Filadelfia (MNHNP 5151, 5152, 9729); 41 km W Filadelfia (MNHNP 3496); Parque Nacional Teniente Enciso (MNHNP 3497); Route IX Km 695 (MNHNP 5149). ITAPÚA: Isla Yacyretá (MNHNP 4860). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 5157, UCS 6988); Estancia Palo Santo (MNHNP 4056).

Photographic Records: ALTO PARAGUAY: Parque Nacional Defensores del Chaco (FPREP 412). BOQUERÓN: Parque Nacional Teniente Enciso (FPREP 578–580).

***Phimophis guerini* (Duméril, Bibron and Duméril, 1854)**

Phimophis guerini: Cope (1862d): Paraguay Expedition.

Rhinostoma nasuum: Boulenger (1894a): CENTRAL: Asunción.

Rhinostoma guianense: Boulenger (1896): CENTRAL: Asunción.

Oxyrhopus guerini: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Oxyrhopus Guerini: Berg (1898): Paraguay.

Oxyrhopus guerini: Bertoni (1914): Paraguay.

Rhinostoma guianense: Serié (1915): Paraguay.

Rhinostoma guianense: Bertoni (1918): Paraguay.

O[xyrhopus]. guerini: Werner (1925):Paraguay.

Rh[inostoma]. guianense: Werner (1925):Paraguay.

Rhinostoma guianense: Schouten (1931): Paraguay.

Pseudoboa guerini: Schouten (1931): Paraguay.

Pseudoboa guerini: Amaral (1926a): Paraguay expedition (USNM 12414).

Pseudoboa guerini [sic]: Schouten (1937): Paraguay.

Rhinostoma guianense: Schouten (1937): Paraguay.

Pseudoboa guerini: Bertoni (1939): Paraguay.

Rhinostoma guianense: Bertoni (1939) CENTRAL: Asunción.

Rhinostoma guianense: Gatti (1955): Paraguay.

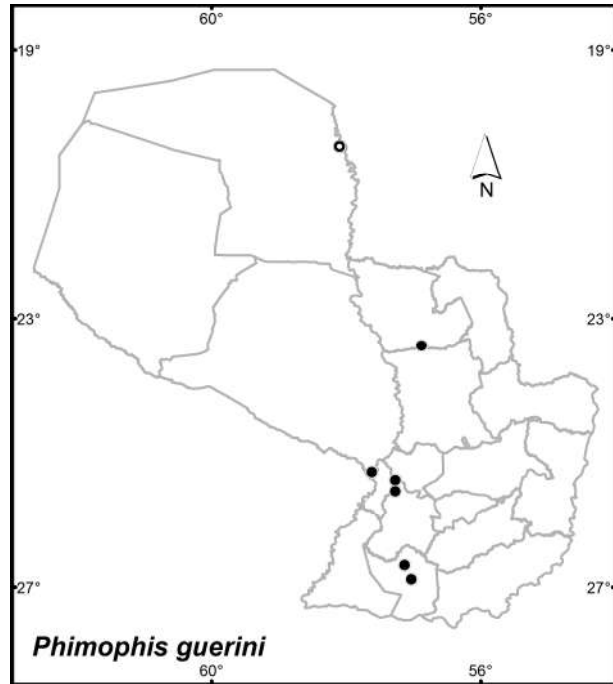
Pseudoboa guerini: Gatti (1955): Paraguay.

P[seudoboa]. guerrini [sic]: Gatti (1955): Paraguay.

Phimophis guerini: Aquino et al. (1996): See Specimens Examined.

Phimophis guerini: Motte et al. (2009): Paraguay.

Phimophis guerini: Cacciali (2009a): Paraguay.



General Distribution: Bahía, Brazil, south to São Paulo, and east through Paraguay to northern Argentina (Bailey, 1970c; Hoogmoed, 1982; Ceï, 1993; Tipton, 2005; Scrocchi et al., 2006).

Local Distribution: *P. guerini* has been found east of the Río Paraguay in Cerrado, Central Forest, and Mesopotamian Grasslands.

Conservation Status: Data Deficient.

Specimens Examined: “Paraguay” (USNM 12414); Paraguay (MNHNP 9442). CENTRAL: Asunción (NHMUK 94.3.14.62, 1930.11.27.223); San Lorenzo (MNHNP 8439); Ypacaraí (MNHNP 10456). CONCEPCIÓN: Horqueta (MNHNP 2681). MISIONES: 4.3 km SE San Ignacio (MNHNP 10023); 2.7 km S San Juan Bautista (MNHNP 10024). PARAGUARÍ: Cerro Yaguarón (EBD 30412).

***Phimophis vittatus* (Boulenger, 1896)**

Rhinostoma vittatum: Bertoni (1914): Paraguay.

Rhinostoma vittatum: Schouten (1931): Paraguay.

Rhinostoma vittatum: Schouten (1937): Paraguay.

Phimophis vittatus: Talbot (1979): Western Paraguay.

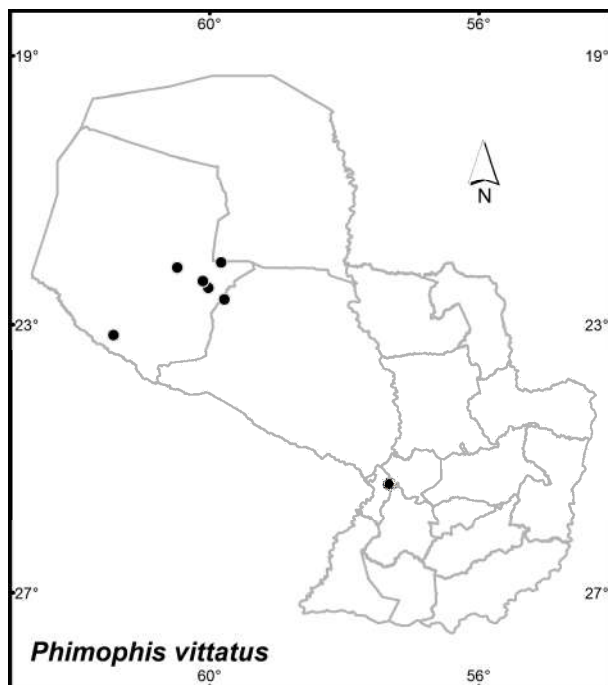
Phimophis vittatus: Aquino et al. (1996): See Specimens Examined.

Phimophis vittatus: Leynaud and Bucher (1999:map): Paraguay.

Phimophis vittatus: Motte et al. (2009): Paraguay.

Phimophis vittatus: Cacciali (2009a): Paraguay.

Phimophis vittatus: Cabral and Weiler (2014): BOQUERÓN: Filadelfia (CZCEN 301).



General Distribution: Present in northwestern Paraguay, northeastern Argentina, and southwestern Bolivia (Bailey, 1970c; Ceí, 1993; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: This species is found in the Dry Chaco and Central Forest.

Conservation Status: Data Deficient.

Specimens Examined: BOQUERÓN: 12 km S Filadelfia (MNHNP 5164); 17 km S Filadelfia (MNHNP 5165); 48 km S Filadelfia (MNHNP 5166); Campo Loro (MNHNP 8840); Comunidad Ayoreo Tunucojai (MNHNP 10657); Estancia Agropil (MNHNP 11030); Filadelfia (MNHNP 2577, 3498); 17 km SE Marical Estigarribia (USNM 342414). CENTRAL: 1.5 km N Itaugua (UMMZ 166846).

Photographic Records: BOQUERÓN: Tunakokai Indigenous Reserve (FPREP 447–449).

***Pseudoboa nira* (Duméril, Bibron and Duméril, 1854)**

Scytale coronata: Peracca (1895): CONCEPCIÓN: Río Apa.

Scytale coronata: Bertoni (1914): Paraguay.

Cytale coronata: Schouten (1931): Paraguay.

Scytale coronata: Bertoni (1939): Paraguay.

Scytale coronata: Gatti (1955): Paraguay.

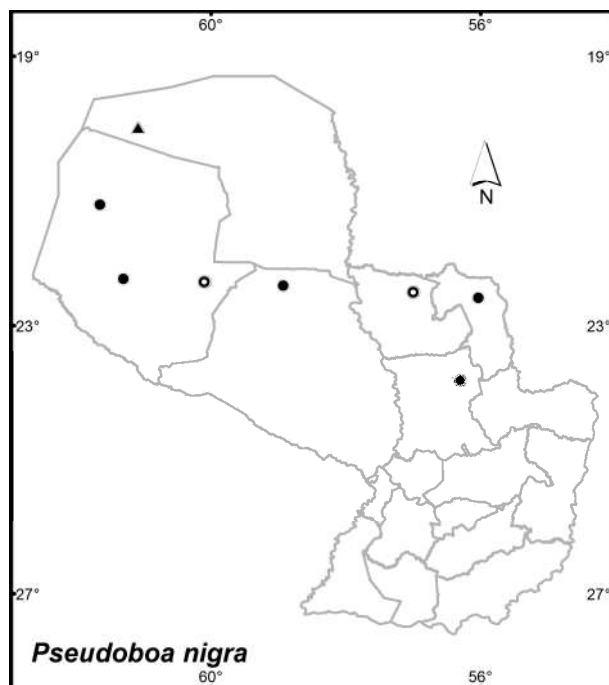
Pseudoboa nira: Talbot (1979): Western Paraguay.

Pseudoboa nira: Aquino et al. (1996): See Specimens Examined.

Pseudoboa nira: Ziegler et al. (2002b): BOQUERÓN: Filadelfia (MTKD 43425).

Pseudoboa nira: Motte et al. (2009): Paraguay.

Pseudoboa nira: Cacciali (2009a:map): Paraguay.



General Distribution: Southern Brazil, Paraguay, eastern Bolivia, and northern Argentina (Bailey, 1970d; Ceí, 1993).

Local Distribution: There are few specimens known from two clusters, one in Dry Chaco in western Paraguay and the other in Cerrado in the east.

Conservation Status: Data Deficient.

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 309, 8478). BOQUERÓN: Parque Nacional Teniente Enciso (MNHNP 2578); Estancia Mbutú Reta (MNHNP 3594). PRESIDENTE HAYES: Estancia Elisa (MNHNP 7548). SAN PEDRO: Laguna Blanca (CZPLT 215, 455).

Photographic Records: BOQUERÓN: Lagerenza'i (FPREP 576, 577). SAN PEDRO: Laguna Blanca (FPREP 862–865).

***Rhachidelus brazili* Boulenger, 1908**

Rhachidelus brazili: Motte et al. (2009): Paraguay.

Rhachidelus brazili: Smith et al. (2013a): See Specimens Examined.

General Distribution: Southcentral Brazil and northeastern Argentina (Peters and Orejas-Miranda, 1970; Cei, 1993; Fernandes and Passos, 2002; Arruda et al., 2011) and Departamento San Pedro, Paraguay. A record from Rio Grande do Sul, Brazil is doubted by Di-Bernardo et al. (2003).

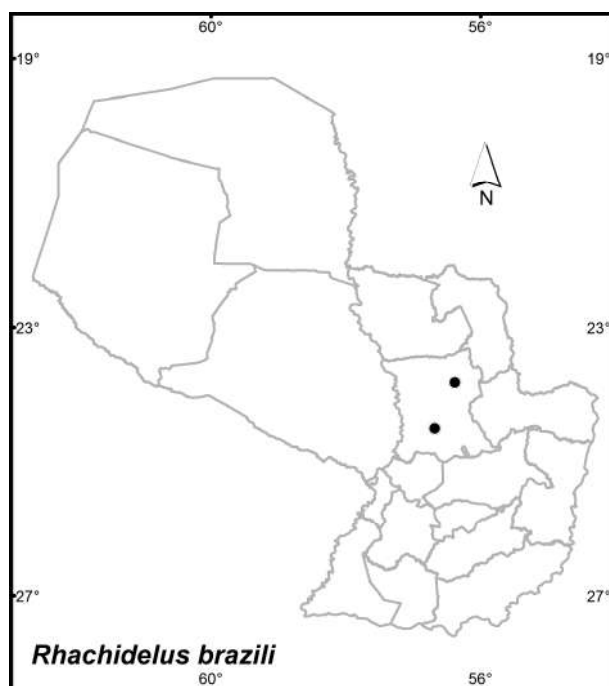
Local Distribution: Two known specimens from San Pedro in a mixture of Wet Chaco and Central and Atlantic forests. There is a record from Misiones, Argentina in Atlantic Forest across the Río Paraná from Departamento Alto Paraná (Giraudó, 2002).

Conservation Status: Critically Endangered.

Comments: The population in San Pedro may be isolated from the major part of the species range to the east and south in Argentina and Brazil. The generic name has often been misspelled as *Rachidelus* (Smith et al., 2013a).

Specimens Examined: SAN PEDRO: Colonia Primavera (NHMUK 1960.1.2.98); Road to Laguna Blanca E of Santa Rosa (CZPLT 69).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 490–496).



Xenodontinae-Phylodryadini

***Philodryas aestiva* (Duméril, Bibron and Duméril, 1854)**

Philodryas aestivus: Cope (1862d): Paraguay Expedition.

Phylodryas aestivus: Koslowsky (1898b): Paraguay.

Philodryas subcarinatus
Boulenger (1902): Colonia
Benitez, Chaco [Argentina] (type
locality; see Comments).

Phylodryas ãestivus [sic]: Bertoni
(1914): Paraguay.

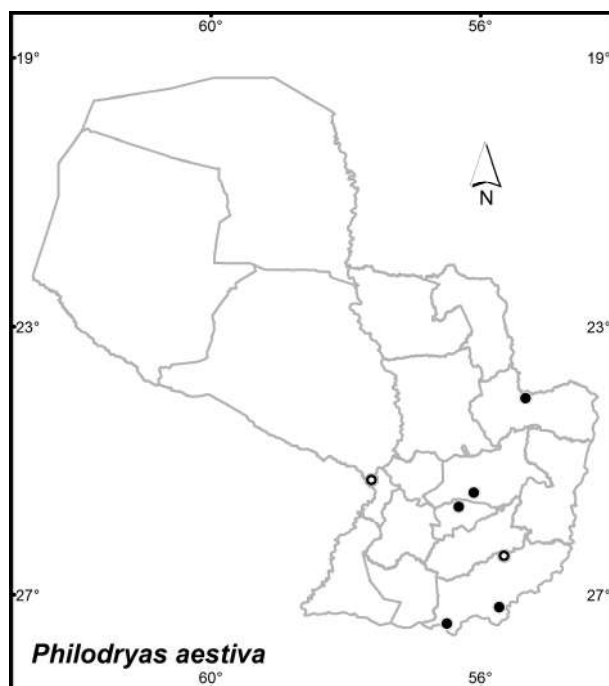
?*Phylodryas viridissimus*: Bertoni
(1914): ALTO PARAGUAY?

Ph[ilodryas]. aestivus: Werner
(1925): Paraguay.

Ph[ilodryas]. subcarinatus:
Werner (1925): Paraguay.

Philodryas aestivus: Schouten
(1931): Paraguay.

Philodryas aestivus: Schouten
(1937): Paraguay.



Chlorosoma ãestivum [sic]: Bertoni (1939): CENTRAL: Asunción.

Chlorosoma viridissimum: Bertoni (1939): ALTO PARAGUAY? CENTRAL:
Asunción?

Chlorosoma aestivum: Gatti (1955): Paraguay.

Phylodrias aestivus: Canese (1966): Paraguay.

Philodryas aestivus: Talbot (1979): Eastern Paraguay.

Philodryas viridissimus: Talbot (1979): Eastern and western Paraguay.

Philodryas aestivus: Aquino et al. (1996): See Specimens Examined.

Philodryas aestivus: D'Agostini (1998): Paraguay (NHMUK 63.10.58.).

Philodryas aestivus: Leynaud and Bucher (1999): Paraguay.

Philodryas aestivus: Motte et al. (2009): Paraguay.

Philodryas aestiva: Cacciali (2009a:map): Paraguay.

Philodryas aestiva: Núñez (2012): ITAPÚA: Kangüery.

General Distribution: Bolivia, southeastern Brazil, eastern Paraguay, northern Argentina, and Uruguay (Peters and Orejas-Miranda, 1970; Cei, 1993; Carreira et al., 2005; Scrocchi et al., 2006).

Local Distribution: Eastern Paraguay in Atlantic Forest and on its fringes in Wet Chaco and Mesopotamian Grasslands.

Conservation Status: Least Concern.

Comments: The type locality of *Philodryas subcarinatus*, “Colonia Benitez, Chaco” (Boulenger, 1902:288) has been attributed to Paraguay by several subsequent authors (e. g., Peters and Orejas-Miranda, 1970; Giraudo and Scrocchi, 2002). However, a more-logical interpretation is that the locality is Colonia Benítez, Provincia de Chaco, Argentina, as was indicated by D’Agostini (1998).

Philodryas a. subcarinata was considered to be a subspecies of *P. aestiva* (Barrio et al., 1977) but, after a careful study of the global variation in *P. aestivus*, D’Agostini (1998) concluded that there was no basis for maintaining subspecies in the taxon. Giraudo (2002) and Giraudo and Scrocchi (2002) disagree and continue to distinguish two subspecies in Argentina. Carreira et al. (2005) state that, until the question is settled by more studies, they will accept the opinion of D’Agostini (1998). If subspecies are recognized, the form in Paraguay is *P. a. subcarinata*.

Donnelly and Myers (1991) determined that *Philodryas* is a feminine noun.

Specimens Examined: “Paraguay Expedition” (ANSP 5530, USNM 5812). Paraguay (MNHNP 2665, 9495). “Paraguay River” (NHMUK 1923.12.5.5). CAAGUAZÚ: Colonia Walter Insfran (MNHNP 3543). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 9437). GUAIRÁ: Aldea Tuna (MNHNP 2579). ITAPÚA: El Tirol (USNM 253568); Isla Yacyretá (EBD 30414, MNHNP 4627–4634, 4730, 4819–4826, 4840–4845, 4898–4902, 4936–4938, 4966, 6706, 6711, 8330, 8334, 8337, 8341–8343, 8361–8363, 8402, UNNEC 475).

***Philodryas agassizii* (Jan, 1863)**

Pseudablabes agassizii: Motte et al. (2009): Paraguay.

Pseudablabes agassizii: Cacciali (2009a): Paraguay.

General Distribution: Uruguay, southern and southeastern Brazil and northeastern Argentina (Peters and Orejas-Miranda, 1970; Ceí, 1993; Leynaud and Bucher, 1999; Tipton, 2005; Scrocchi et al., 2006), and Paraguay. [No map available.]

Local Distribution: Unknown. There is no map shown because the only specimen from Paraguay does not have specific locality data.

Conservation Status: Endangered.

Comments: Unfortunately, the specimen housed in the MNHNP does not have specific locality data. It was possibly part of a collection from Itapúa associated with the flooding of Yacyretá Dam. Many specimens from this collection were catalogued without specific locality data.

Long known as *Pseudablabes agassizi*, Zaher et al. (2009) found that the genus *Pseudablabes* is deeply embedded in *Philodryas*.

Specimens Examined: Paraguay (MNHNP 9534).

***Philodryas baroni* Berg, 1895**

Philodryas baroni: Werner (1929): Paraguay.

P[hilodryas]. baroni: Aquino et al. (1996): See Specimens Examined.

Philodryas baroni: Leynaud and Bucher (1999:map): Paraguay.

Philodryas baroni: Motte et al. (2009): Paraguay.

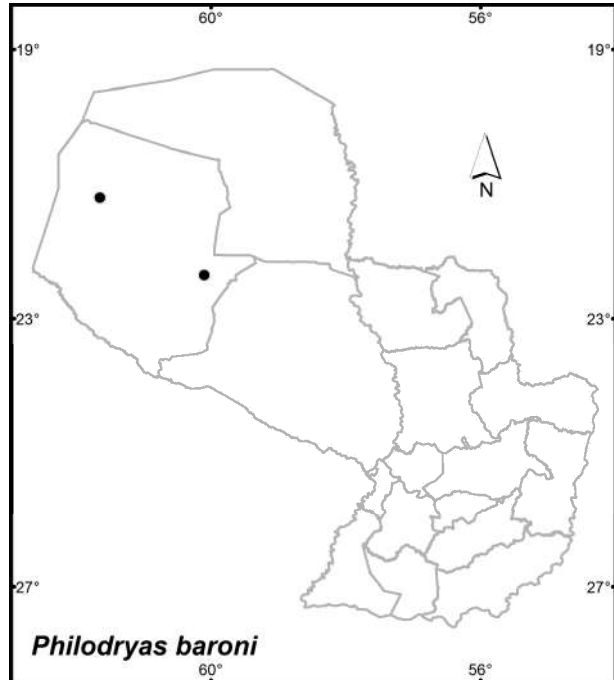
Philodryas baroni: Cacciali (2009a:map): Paraguay.

General Distribution: Central and northern Argentina, Paraguay, and eastern Bolivia (Peters and Orejas-Miranda, 1970; Cei, 1993; Scrocchi et al., 2006).

Local Distribution: Known from two Dry Chaco localities.

Conservation Status: Least Concern.

Specimens Examined: BOQUERÓN: Filadelfia (MNHNP 2570, 2572); Parque Nacional Teniente Enciso (MNHNP 2571, 3500, 5119, USNM 342399, 342400).



***Philodryas livida* (Amaral, 1923)**

Smith et al. (2014): See Specimens Examined.

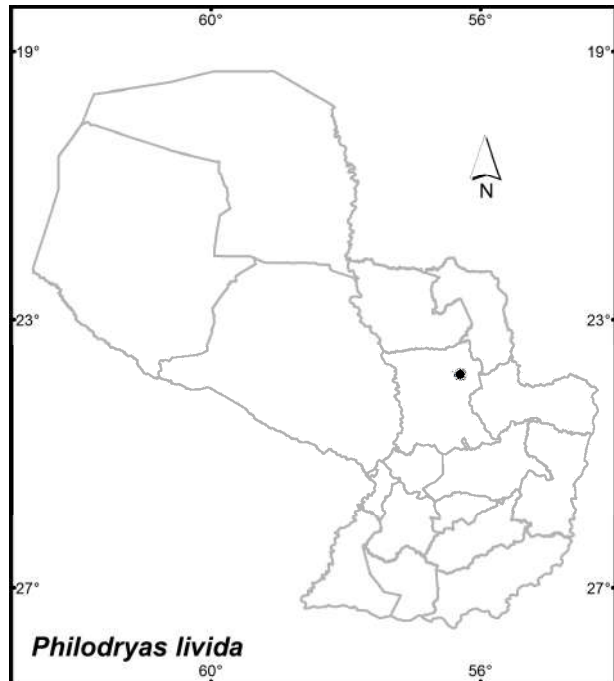
General Distribution: Central Brazil (Uetz and Hallermann, 2012) and Paraguay.

Local Distribution: One locality in Cerrado.

Conservation Status: Not Evaluated.

Specimens Examined: SAN PEDRO: Laguna Blanca (CZPLT 131, 458).

Photographic Records: SAN PEDRO: Laguna Blanca (FREP 775–782).



***Philodryas mattogrossensis* Koslowsky, 1898**

Philodryas ternetzii Schenkel, 1901: CORDILLERA: “Bemalcue” (type locality; =Bernal Cué, now Nueva Colombia [Cacciali and Wüest, 2009]).

Philodryas Ternetzi [sic]:Serié (1915): Paraguay.

Philodryas ternetzi: Bertoni (1918): Paraguay.

Ph[ilodryas]. ternetzi: Werner (1925): Paraguay.

Philodryas ternetzi: Schouten (1931): Paraguay.

Philodryas ternetzi: Schouten (1937): Paraguay.

Philodryas mattogrossensis: Talbot (1979): Western Paraguay.

?*Philodryas mattogrossensis*: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

P[hilodryas]. mattogrossensis: Aquino et al. (1996): See Specimens Examined.

Philodryas mattogrossensis: Leynaud and Bucher (1999:map): Paraguay.

Philodryas matogrossensis [sic]: Ziegler et al. (2002b): BOQUERÓN: Fortín Toledo (MTKD 43429).

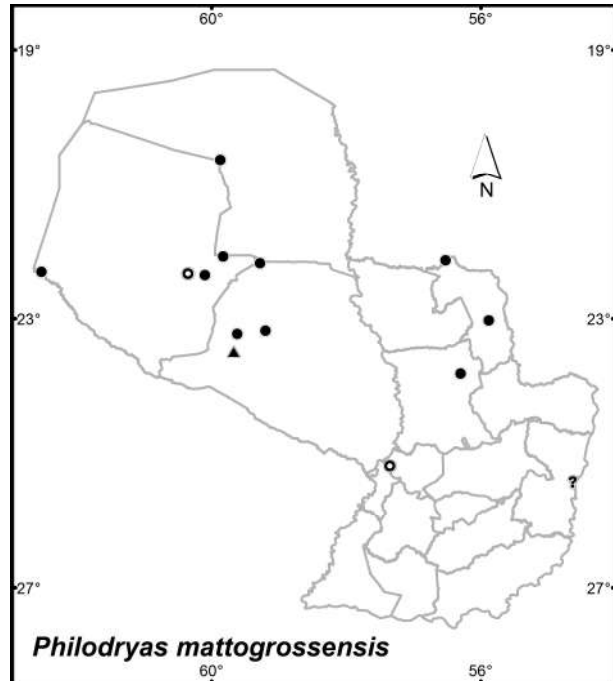
Philodryas olfersi: Ziegler et al. (2002b): “Dry Chaco”: MTKD 43438,39. BOQUERÓN: Fortín Toledo (MTKD 43436, 43438, 43439). See Comments.

Philodryas patagoniensis: Ziegler et al. (2002b): BOQUERÓN: Filadelfia (MTKD 43430).

Philodryas mattogrossensis: Motte et al. (2009): Paraguay.

Philodryas mattogrossensis: Cacciali (2009a:map): Paraguay.

Philodryas mattogrosensis [sic]: Cabral and Weiler (2014): BOQUERÓN: Filadelfia (CZCEN 419).



General Distribution: Paraguay, eastern Bolivia, southwestern Brazil, and northern Argentina (Peters and Orejas-Miranda, 1970; Cei, 1993; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: Two separate population centers, one west of the Río Paraguay in Dry and Wet Chaco and one east of the river in Cerrado. The Atlantic Forest record by Duré Rodas (1995) needs to be reexamined.

Conservation Status: Least Concern.

Comments: We assume that the snakes Zeigler et al. (2002b) referred to as *P. olfersi* and *P. patagoniensis* are this species; their figure 19 photograph labelled "*Philodryas olfersi*" is actually *P. mattogrossensis*, and we have not seen specimens of *P. patagoniensis* from Boquerón.

Specimens Examined: "Paraguay" (USNM 347914). Paraguay (MNHNP 9244, 9248, 9515, 9567). ALTO PARAGUAY: Madrejón (MNHNP 2573–2575, 7228, USNM 342404). AMAMBAY: 2 km W Bella Vista (MNHNP 3501); Estancia Paicuará (MNHNP 6525). BOQUERÓN: 5 km W Filadelfia (MNHNP 10030); Filadelfia (MNHNP 2576, USNM 342401,2); Pozo Hondo (MNHNP 2654, 6528); 8 km NW Pozo Hondo (USNM 342403); Campo Loro (MNHNP 10658). PRESIDENTE HAYES: 10 km S Paratodo (UCS 7902); Estancia Palo Santo (MNHNP 4196, 10454); Route IX Km 335 (MNHNP 3502). SAN PEDRO: Laguna Blanca (CZPLT 101, 102).

Photographic Records: BOQUERÓN: Fortín Toledo (761–763). PRESIDENTE HAYES: Lolita (FPREP 260–262).

***Philodryas nattereri* Steindachner, 1870**

Philodryas nattererii: Cope (1895): "Paraguay" [probably Paraguay Expedition].

Philodryas nattereri: Talbot (1979): Eastern Paraguay.

Philodryas nattereri: Smith et al. (2013b): SAN PEDRO: Laguna Blanca (CZPLT 17, 295, 310).

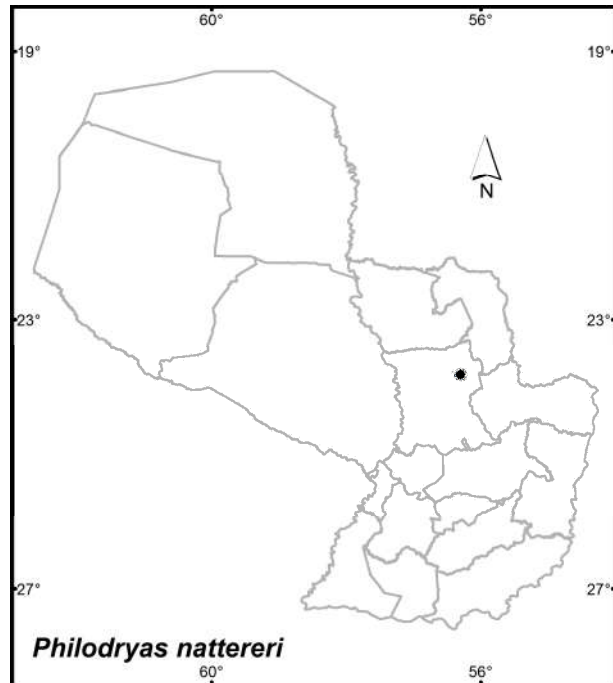
General Distribution: Central Brazil and Paraguay (Peters and Orejas-Miranda, 1970).

Local Distribution: One locality in San Pedro in Cerrado.

Conservation Status: Not Evaluated.

Specimens Examined: SAN PEDRO: Laguna Blanca (CZPLT 17, 295, 310).

Photographic Record: SAN PEDRO: Laguna Blanca (FPREP 421–430, 501).



***Philodryas olfersii* (Lichtenstein, 1823)**

Philodryas latirostris Cope, 1862b: Paraguay Expedition (type locality; USNM 5811, holotype).

Philodryas latirostris: Cope (1862d): Paraguay Expedition (USNM 5364, 5811).

Philodryas Olfersi[sic]: Boettger (1885a): Paraguay.

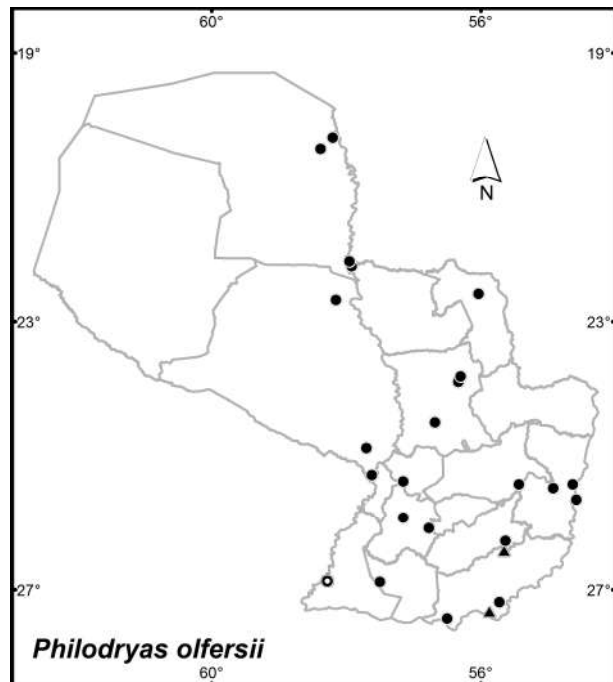
Philodryas Olfersii [sic]: Boulenger (1894a): CENTRAL: Asunción.

Philodryas olfersii: Boulenger (1896): CENTRAL: Asunción.

Phylodryas Olfersii: Peracca (1895): CENTRAL: Luque.

Phylodryas Olfersi: Koslowsky (1898b): Paraguay.

Philodryas olfersii: Schenkel (1901): "Paraguay: Apa lue." We are unable to locate this locality.



- Phylodryas olfersi*: Bertoni (1914): Paraguay.
- Philodryas Olfersii* [sic]: Serié (1915): Paraguay.
- Ph[ilodryas]. olfersi*: Werner (1925): Paraguay.
- Philodryas olfersii*: Amaral (1926a): Paraguay expedition (USNM 12327).
- Philodryas olfersii*: Schouten (1931): Paraguay.
- Philodryas olfersii*: Schouten (1937): Paraguay.
- Chlorosoma olfersii*: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni.
- Chlorosoma olfersii*: Gatti (1955): Paraguay.
- Chlorosoma olfersii*: Cochran (1961): Paraguay, T. J. Page (USNM 5811, cotype of *Philodryas latirostris*).
- Phylodrias olfersii*: Canese (1966): Paraguay.
- Philodryas olfersii*: Talbot (1979): Eastern Paraguay.
- Philodryas olfersii*: Elter (1981): Paraguay (MZUT R2829, R2051, R3712).
- Philodryas olfersii*: Giraudo and Contreras (1994): ÑEEMBUCÚ: Puerto Arara'a.
- Philodryas olfersii*: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.
- P[hilodryas]. olfersii*: Aquino et al. (1996): See Specimens Examined.
- Philodryas olfersii*: Leynaud and Bucher (1999:map): Paraguay.
- Philodryas olfersi*: Motte et al. (2004): Paraguay.
- Philodryas olfersii*: Motte et al. (2009): Paraguay.
- Philodryas olfersii*: Cacciali (2009a:map): Paraguay.
- Philodryas olfersii*: Cacciali (2013): ITAPÚA: Kangüery.
- Philodryas olfersii*: Cabral and Weiler (2014): ALTO PARANÁ: Limoy (CZCEN 378). CENTRAL: (CZCEN 205).

General Distribution: Widely distributed in eastern and southern South America (Tipton, 2005).

Local Distribution: This species is probably present in most of Paraguay except the Dry Chaco.

Conservation Status: Least Concern.

Comments: Two subspecies are supposed to be present in Paraguay: *P. o. olfersii* and *P. o. latirostris* (Tipton, 2005). Nevertheless, the specimens examined by us did not show characters that allow their differentiation. Giraudo (2002) stated that *P. o. olfersii* exhibits a brownish dorsal stripe, with the top of the head the same color, and a wide postocular band, while the brown head and body color is absent in *P. o. latirostris* and the postocular band is thinner. Giraudo (2002) recorded one specimen that may be an intergrade. Only a few of the specimens examined from

eastern Paraguay show the brown stripe, and the width of the postocular band is highly variable, being thick or thin even in the same department (e.g., MNHNP 10223 and MNHNP 5117).

Figure 19 of Ziegler et al. (2002b) is actually *Philodryas mattogrossensis*, not *P. olfersii*.

Specimens Examined: Paraguay Expedition (USNM 5811 [holotype of *P. latirostris*], 12327). Paraguay (MNHNP 3513, 9247, 9299, 9517, 9551, 9586, MZUT R2051, R3712, USNM 218052). ALTO PARAGUAY: Bahía Negra (MNHNP 10223); Colonia Potrerito (MNHNP 5177). ALTO PARANÁ: 28.5 km W Ciudad del Este (LACM 126505); Itaipú reserves (MAI 72, 109, 117, 118); Puerto Bertoni (MZUT R2829); Río Monday (NHMUK 99.7.8.3). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2580); 13 km E Parque Nacional Cerro Corá (USNM 342405). CAAGUAZÚ: Colonia José Domingo Campos (MNHNP 2581). CAAZAPÁ: Parque Nacional San Rafael (MNHNP 8851). CENTRAL: Asunción (NHMUK 94.3.14.65, 94.3.14.66, 1930.11.27.227). CONCEPCIÓN: 1 km E San Lázaro (MNHNP 5179); Vallemí (MNHNP 11128). CORDILLERA: Caacupé (MNHNP 3499). ITAPÚA: Vicinity of El Tirol (USNM 253569); Isla Guazú'i (MNHNP 4823); Isla Yacyretá (MNHNP 6708, 8493); Kangüery (Cacciali, 2013). MISIONES: 80 km E Pilar on Route IV (MNHNP 11187). PARAGUARÍ: Acahay (MNHNP 228); Parque Nacional Ybycuí (MNHNP 5180–81, 6547). PRESIDENTE HAYES: Route IX Km 70 (MNHNP 10898). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.6.13, 1956.1.16.43, 1960.1.3.2, 1962.99–1962.101); Laguna Blanca (CZPLT 60); Lima (MNHNP 3404).

Photographic Records: ITAPÚA: Encarnación (FPREP 563, 564); Nueva Gambach (FPREP 263–269). SAN PEDRO: Laguna Blanca (FREP 769–774).

***Philodryas patagoniensis* (Girard, 1858)**

Philodryas schottii: Cope (1862d): Paraguay Expedition (USNM 5801).

Philodryas schotti [sic]: Boettger (1885a): Paraguay.

Philodryas schottii: Boulenger (1894a): CENTRAL: Asunción.

Philodryas schottii: Cope (1895): "Paraguay" [probably Paraguay Expedition].

Philodryas schottii: Boulenger (1896): CENTRAL: Asunción.

Philodryas schottii: Peracca (1895): CENTRAL: Luque.

Phylodryas schotti: Koslowsky (1898b): Paraguay.

Philodryas schotti: Schenkel (1901): ?Apa Lue.

Phylodryas schotti: Bertoni (1914): Paraguay.

Ph[ilodryas]. schotti: Werner (1925): Paraguay.

Philodryas schottii: Amaral (1926a): Paraguay (USNM 11261).

Philodryas psammophideus: Schouten (1931): Paraguay. See Comments.

Philodryas schotti: Schouten (1931): Paraguay.

Phylodryas psammophideus: Schouten (1937): Paraguay.

Philodryas schotti: Schouten (1937): Paraguay.

Chlorosoma psammophideum: Bertoni (1939): CENTRAL: Asunción. See Comments.

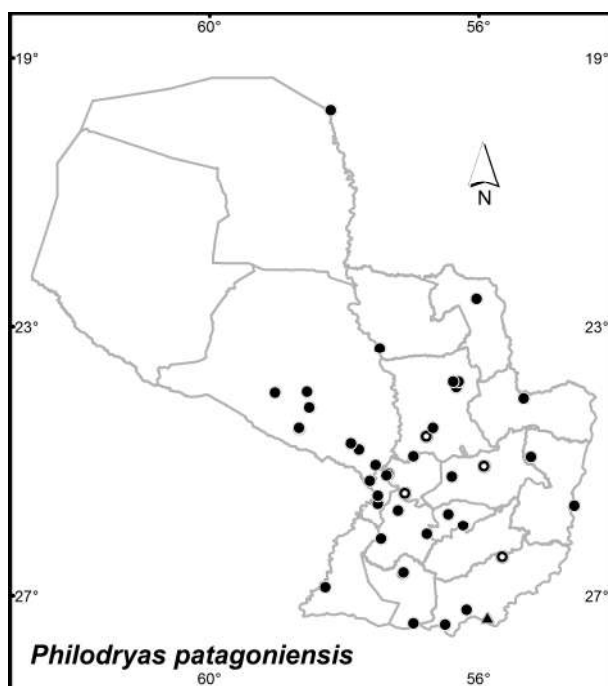
Chlorosoma schotti: Bertoni (1939): CENTRAL: Asunción.

Chlorosoma psammophideum: Gatti (1955): Paraguay.

Chlorosoma schotti: Gatti (1955): Paraguay.

Phylodrias schotti: Canese (1966): Paraguay.

Philodryas patagoniensis: Thomas et al. (1977): Paraguay (ANSP 5712, UMMZ 132107–132110, ZMH 3121). ALTO PARANÁ: Puerto Bertoni (MZUT R2828). CORDILLERA: "Bemalcue" (=Bernal Cué, currently Nueva Colombia; NMB 1930–1932). CAAGUAZÚ: Yhú (MCZ 34208). CENTRAL: Asunción (AMNH 75314,15). SAN PEDRO: Colonia Friesland (KU 73467). "PRESIDENTE HAYES" (*en errore* = SAN PEDRO) Estancia Primavera (AMNH 103202).



Philodryas patagoniensis: Talbot (1979): Eastern Paraguay.

Philodryas patagoniensis: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT R2828). CENTRAL: Luque (MZUT R839). GUAIRÁ: Villarrica (MZUT n/n).

Philodryas patagoniensis: Campbell and Murphy (1984): CENTRAL: Vicinity of Asunción.

Philodryas patagoniensis: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Philodryas patagoniensis: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

P[hilodryas]. patagoniensis: Aquino et al. (1996): See Specimens Examined.

Philodryas patagoniensis: Leynaud and Bucher (1999:map): Paraguay.

Philodryas patagoniensis: Motte et al. (2004): Paraguay.

Philodryas patagoniensis: Motte et al. (2009): Paraguay.

Philodryas patagoniensis: Cacciali (2009a:map): Paraguay.

Philodryas patagoniensis: Núñez (2012): ITAPÚA: Kangüery.

Philodryas patagoniensis: Cacciali (2013): ITAPÚA: Kangüery.

Philodryas patagoniensis: Cabral and Weiler (2014): CORDILLERA: 7 km W Piribebuy (CZ 504).

General Distribution: Brazil, Uruguay, Bolivia, Paraguay, Argentina (Peters and Orejas-Miranda, 1970; Cei, 1993; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: Present in all parts of the country except the Dry Chaco.

Conservation Status: Least Concern.

Comments: This is one of the commonest snakes in Paraguay. Schouten (1931:21) recorded a smashed, headless snake on the road in Asunción's Parque Caballero that he identified, with difficulty, as *Phylodryas* [sic] *psammophideus*. It was almost certainly a specimen of *P. patagoniensis*, as *P. psammophideus* is restricted to the far-distant Dry Chaco. Bertoni's (1939) Asunción record for *Chlorosoma psammophideum* probably also refers to this specimen.

Specimens Examined : Paraguay Expedition (ANSP 5712). Paraguay (MNHNP 9268, 9460, 9498, 9528, MZUT n/n, NHMUK 85.9.1.10, UMMZ 132107–132110, 203851, 203852). ALTO PARAGUAY: Estancia Cerrito (MNHNP 3932). ALTO PARANÁ: Itakyry (MAI 104); Puerto Bertoni (MZUT R2828). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 3076). CAAGUAZÚ: 24 km N Coronel Oviedo (USNM 342406). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 10863). CENTRAL: Asunción (NHMUK 94.3.14.64); vicinity of Asunción (AMNH 75314, 75315); Luque (MZUT 1011); Nueva Italia (MNHNP 8523); San Lorenzo (LACM 126506); Villeta (MNHNP 3078). CORDILLERA: 9 km NW San Bernardino (LACM 126508); Estancia Saladillo (LACM 126507); Route III, between Arroyos y Esteros and 25 de Diciembre (MNHNP 11072–11074). GUAIRÁ: Beato Roque González de Santa Cruz (MNHNP 3075); Estancia Suabia, Villarrica (MZUT n/n). ITAPÚA: Route I, km 331 (USNM 342407); Isla Modesto (MNHNP 4836); Isla Paloma (MNHNP 8195, 8349); Isla Talavera (MNHNP 4662); Isla Yacyretá (EBD n/n, MNHNP 4661, 4828, 4887–4895,

4957, 4958, 4962, 8367, 8414, 8415, 10630); Kangüery (Cacciali, 2013). MISIONES: 4 km W Corateí (MNHNP 3962); San Juan Bautista (USNM 342408); 32 km S Villa Florida (MNHNP 10028). ÑEEMBUCÚ: 4 km NW Pilar by road (UMMZ 168353). PARAGUARÍ: Laguna Verá (USNM 139291); Parque Nacional Ybycuí (USNM 342409); Route I, km 83 (MNHNP 3080). PRESIDENTE HAYES. Route IX Km 39 (MNHNP 6716); Route IX Km 101 (USNM 342410); Estancia La Golondrina (MNHNP 329); Estancia La Victoria (MNHNP 3081, 3961); Route IX Km 84 (MNHNP 3077); Route IX Km 93 (MNHNP 10651); Route IX Km 100 (MNHNP 10622); Route IX Km 233 (MNHNP 3082); Route IX Km 306 (MNHNP 8496). SAN PEDRO: Colonia Primavera (AMNH 103202, NHMUK 1955.1.6.14–1955.1.6.16, 1960.1.3.1, 1960.1.3.43, 1962.87–1962.98); Laguna Blanca (CZPLT 119, 146, 258, 360, 375, 381, 416); Road to Laguna Blanca E of Santa Rosa (CZPLT 258); Lima (MNHNP 3079).

Photographic Records: CENTRAL: Asunción (FPREP 272). ITAPÚA: Encarnación (FPREP 270, 271). PRESIDENTE HAYES: Route IX Km 300 (FPREP 273–277). SAN PEDRO: Laguna Blanca (FREP 684–690).

***Philodryas psammophidea* Günther, 1872**

Philodryas crassifrons: Boettger (1885a): Paraguay.

Phylodryas psammophideus: Koslowsky (1898b): Paraguay.

Phylodryas psammophideus:
Bertoni (1914): Paraguay.

Liophis trifasciatus [partim?]:
Bertoni (1918): Paraguay.

Philodryas psammophideus:
Talbot (1979): Eastern Paraguay.

P[hilodryas]. psammophideus:
Aquino et al. (1996): See
Specimens Examined.

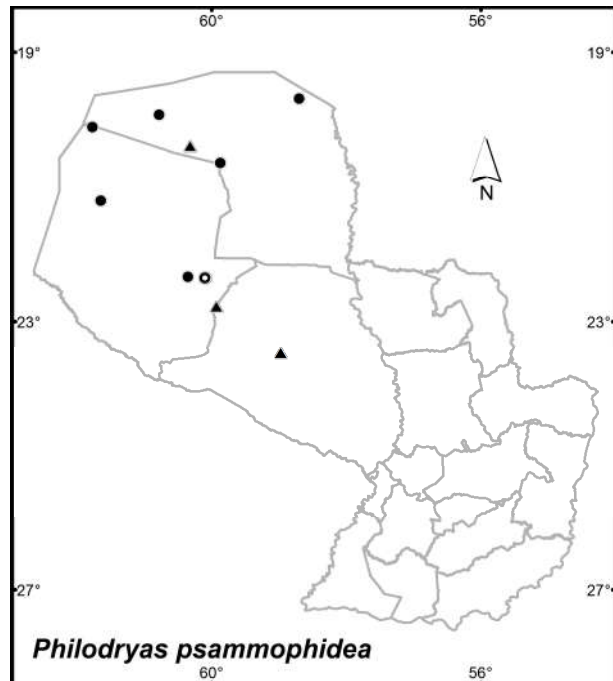
Philodryas psammophideus:
Leynaud and Bucher (1999:map):
Paraguay.

Philodryas psammophideus:
Ziegler et al. (2002b):
BOQUERÓN: Filadelfia (MTKD
43431,32).

Philodryas psammophideus: Motte
et al. (2009): Paraguay.

Philodryas psammophidea: Cacciali (2009a): Paraguay.

Philodryas psammophidea: Cabral and Weiler (2014): BOQUERÓN: Parque
Nacional Teniente Enciso (CZCEN 739).



General Distribution: Western and southern Brazil, eastern Bolivia, Paraguay, and northern Argentina (Cei, 1993; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: This species inhabits Paraguay in Dry Chaco.

Conservation Status: Least Concern.

Comments: The subspecies *Philodryas p. psammophidea* is present in Paraguay (Leynaud and Bucher, 1999; Tipton, 2005).

Specimens Examined: ALTO PARAGUAY: Estancia Punto Alto (MNHNP 10205); Fortín Pikyrendá (MNHNP 9189); Parque Nacional Defensores del Chaco (MNHNP 6530). BOQUERÓN: Fortín Toledo (MNHNP 10015); 2 km W Madrejón (MNHNP 5251); Parque Nacional Teniente Enciso (MNHNP 5123, 5250, 6572, USNM 34211–34213).

Photographic Records: ALTO PARAGUAY: Cerro León (FPREP 488). BOQUERÓN: (FPREP 280–284); Fortín Boquerón (FPREP 489); Parque Nacional Teniente Eciso (FPREP 285, 286). PRESIDENTE HAYES: Pozo Colorado (FPREP 278, 279).

Xenodontinae–Hydropsini

Helicops infrataeniatus Jan, 1865

Helicops carinicauda: Koslowsky (1898b): Paraguay.

Helicops carinicauda: Bertoni (1914): Paraguay.

Helicops carinicauda: Bertoni (1918): ALTO PARANÁ

Helicops carinicauda: Schouten (1931): CENTRAL: Bahía de Asunción.

Helicops carinicauda: Schouten (1937): Paraguay.

Helicops carinicauda: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. CENTRAL: Asunción.

Helicops carinicauda: Gatti (1955): Paraguay.

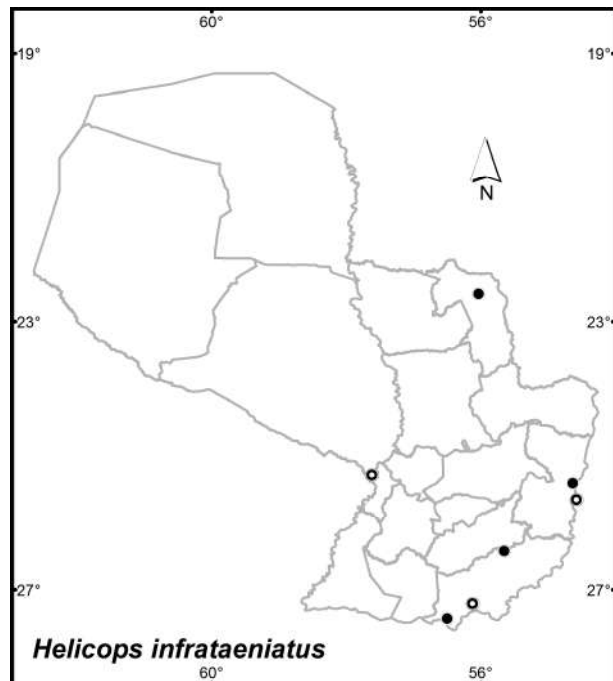
Helicops carinicaudus: Talbot (1979): Eastern Paraguay.

Helicops infrataeniatus: Deiques and Cechin (1991): Revision.

Helicops infrataeniatus: Álvarez et al. (1995): ITAPÚA: Carmen del Parana (UNNEC 461); Isla Talavera (UNNEC 429).

Helicops carinicaudus: Aquino et al. (1996): See Specimens Examined.

H[elicops]. infrataeniatus: Aquino et al. (1996): See Specimens Examined.



Helicops infrataeniatus: Motte et al. (2009): Paraguay.

Helicops infrataeniatus: Cacciali (2009a:map): Paraguay.

Helicops infrataeniatus: Núñez (2012): ITAPÚA: Kangüery.

General Distribution: From São Paulo in Brazil to Rio Grande do Sul, eastern Paraguay, northeastern Argentina, and Uruguay (Rossman, 1970; Cej, 1993; Carreira et al., 2005; Tipton, 2005).

Local Distribution: Known from Alto Paraná, Amambay, and Itapúa in Atlantic Forest, Mesopotamian Grasslands, and Cerrado. One additional bibliographic record from Departamento Central is in Central Forest.

Conservation Status: Data Deficient.

Comments: Formerly considered to be a subspecies of *H. carinicaudus* (Peters and Orejas-Miranda, 1970), Deiques and Cechin (1991) separated out *H. infrataeniatus* as a separate species.

Specimens Examined: “Paraguay River” (NHMUK 1923.12.5.4). ALTO PARANÁ: Centro Forestal Alto Paraná (MNHNP 3398, 3834); Puerto Bertoni (ANSP 23000). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2632, 5203, 9190). ITAPÚA: Isla Yacyretá (MNHNP 8193, 8198); Parque Nacional San Rafael (MNHNP 9210).

Photographic Records: AMAMBAY: Parque Nacional Cerro Corá (FPREP 450, 451).

***Helicops leopardinus* (Schlegel, 1837)**

Helicops leprieurii: Cope (1862d): Paraguay Expedition (USNM 5400).

Helicops leopardinus: Peracca (1895): CENTRAL: Asunción.

Helicops leopardinus: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Helicops leopardinus: Berg (1898): Paraguay.

Helicops leopardinus: Koslowsky (1898b): Paraguay.

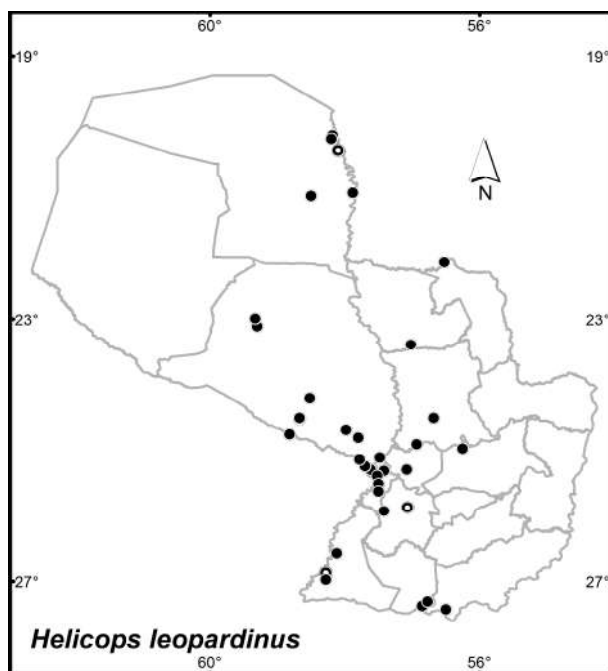
Helicops leopardinus: Schenkel (1901): Paraguay.

Helicops leopardinus: Bertoni (1914): Paraguay.

Helicops leopardina: Griffin (1916): CENTRAL: Areguá (CM 324).

Helicops leopardinus: Serié (1915): Paraguay.

Helicops leopardinus: Schouten (1931): CENTRAL: Bahía de Asunción.



- Helicops leopardinus*: Schouten (1937): Paraguay.
- Helicops leopardinus*: Bertoni (1939): CENTRAL: Asunción.
- Helicops leopardinus*: Gatti (1955): Paraguay.
- Helicops leopardinus*: Talbot (1979): Eastern Paraguay.
- Helicops leopardinus*: Elter (1981): CENTRAL: Asunción (MZUT R881).
- Helicops leopardinus*: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.
- Helicops leopardinus*: Álvarez et al. (1995): ITAPÚA: Isla Curé (UNNEC 446–452). MISIONES: Ayolas (UNNEC 460).
- H[elicops]. leopardinus*: Aquino et al. (1996): See Specimens Examined.
- Helicops leopardinus*: Leynaud and Bucher (1999:map): Paraguay.
- Helicops leopardinus*: Motte et al. (2004): Paraguay.
- Helicops leopardinus*: Motte et al. (2009): Paraguay.
- Helicops leopardinus*: Cacciali (2009a:map): Paraguay.
- Helicops leopardinus*: Cabral and Weiler (2014): CENTRAL: Bahía de Asunción (CZCEN 196, 651); Luque (CZCEN 193); Surubi'i (CZCEN 311). PARAGUARÍ: Acahay (CZCEN 379).

General Distribution: From the Guianas through Peru, Brazil, and Bolivia to Paraguay and Argentina south to Buenos Aires (Rossman, 1970; Cei, 1993; Leynaud and Bucher, 1999; Giraudo and Scrocchi, 2002; Tipton, 2005).

Local Distribution: Most of the country except Dry Chaco and Atlantic Forest ecoregions (Cerrado, Pantanal, Wet Chaco, Central Forest, and Mesopotamian Grasslands).

Conservation Status: Least Concern.

Specimens Examined: “Paraguay” (USNM 5400). Paraguay (AMNH 5247, 5248, MNHN 1931/74, MNHNP 9269, 9271, 9274, 9521, 9522, 9524, 9531–9533, 9539–9545, 9571). ALTO PARAGUAY: Bahía Negra (MNHNP 9797); Estancia General Díaz (MNHNP 3494); Estancia Doña Julia (MNHNP 9219, 9222); Parra Cué (MNHNP 9199). AMAMBAY: Bella Vista (UMMZ 166863). CAAGUAZÚ: Juan Ramón Chávez (MNHNP 2506). CENTRAL: Areguá (USNM 342102); Asunción (AMNH 5247–48, MNHNP 10532, MZUT 985, NHMUK 1930.11.27.183–1930.11.27.89, USNM 139287–139289); Compañía Pintoty (MNHNP 8524); Guarambaré (MNHNP 3211); Rio Salado, 2 km N Luque (USNM 200028); 14 km S Luque (UMMZ 166862); San Lorenzo (MNHNP 2509); Trinidad (UMMZ 108768); Villeta (MNHNP 2507, 2508, 2510). CONCEPCIÓN: Arroyo Peguajhó (UMMZ 166861). CORDILLERA: Colonia Teniente Fariña (MNHNP 5124); Route III, between Arroyos y Esteros and 25 de Diciembre (MNHNP 11075, 11076). ITAPÚA: Isla Gaujó (MNHNP 9040); Isla Modesto (MNHNP 4835); Isla Paloma (MNHNP 6702, 6717–6726); Isla Talavera (MNHNP 4725, 4726, 4856); Isla Yacyretá (MNHNP 4727–4729, 4855, 4932, 4943, 4973–4976, 4980, 4982, 8490, 9150, 9152). MISIONES: Vicinity of Ayolas (MNHNP 190); 13 km N Villa Permanente (MNHNP 3593). ÑEEMBUCÚ: Estancia Yacaré

(MNHNP 6687); 11.4 km S from Pilar (MNHNP 7310); 14.8 km S from Pilar (MNHNP 7309). PARAGUARÍ: Lago Ypoá (MNHNP 9569). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 3773, 5048, 9098); 1 km NW Estancia Juan de Zalazar (UMMZ 166864); Road to Falcón (MNHNP 5214); Route IX Km 85.9 (MNHNP 10650); Route IX Km 111 (MNHNP 5215); Estancia La Golondrina (MNHNP 5557, 9224); Estancia La Victoria (MNHNP 11473); Road to General Bruguez, 16 km before way to Falcón (MNHNP 6823); General Bruguez (MNHNP 9763, 9764); Puerto Militar, 1 km W Puente Remanso (MNHNP 9798). SAN PEDRO: Colonia Primavera (NHMUK 1960.1.2.73, 1962.36, 1962.37).

Photographic Records: PRESIDENTE HAYES: (FPREP 218).

***Hydrops caesurus* Scrocchi, Ferreira, Giraudo, , Ávila, Motte 2005**

Hydrops triangularis bolivianus: Álvarez et al. (1995): ITAPÚA: Isla Yacyretá (UNNEC 409).

Hydrops triangularis: Álvarez and Aguirre (1995): ITAPÚA: Isla Yacyretá (UNNEC 409, actually UNNEC 6725 after Scrocchi et al., 2005).

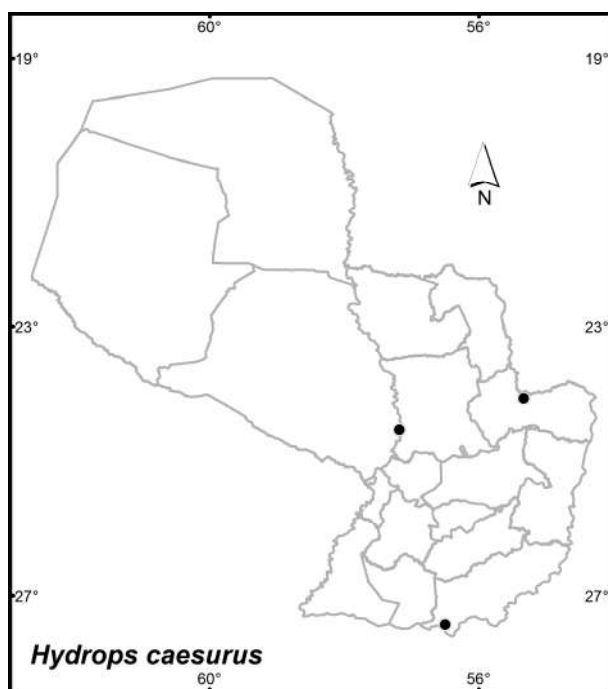
Hydrops triangularis: Aquino et al. (1996): See Specimens Examined.

Hydrops triangularis:
Buongermini and Waller (1998):
PRESIDENTE HAYES: Paraguay
River, 14 km SW Puerto Rosario
(MNHNP 6462).

Hydrops caesurus Scrocchi et al.
(2005): Paraguay (MNHNP 9267,
paratype). ITAPÚA: Isla Yacyretá
(MNHNP 4951, 4963, 6697, 6699,
9148, 9149, 9151, UNNEC 6725,
paratypes); Isla Paloma (type
locality, MNHNP 6698 holotype,
MNHNP 6700, paratype).
PRESIDENTE HAYES: Paraguay
River, 14 km S Puerto Rosario
(MNHNP 6462, paratype).

Hydrops caesurus: Motte et al.
(2009): Paraguay.

Hydrops caesurus: Cacciali (2009a:map): Paraguay.



General Distribution: Río Paraguay drainage from Mato Grosso, Brazil, through Paraguay to northeastern Argentina (Scrocchi et al., 2005).

Local Distribution: Río Paraguay, lower Río Paraná, and Canindeyú in open formations (Wet Chaco, Mesopotamian Grasslands, and Cerrado).

Conservation Status: Vulnerable.

Comments: Scrocchi et al. (2005) described the new species, *H. caesurus*, for this southernmost *Hydrops* population that had been called *H. triangularis*. The holotype (MNHNP 6698) came from Isla Paloma, Itapúa in the reservoir behind the Yacyretá dam on the Río Paraná.

Specimens Examined: Paraguay (MNHNP 9267). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 10819). ITAPÚA: Isla Yacyretá (MNHNP 4963, 6697, 6699, 9149, 9151 paratypes); Isla Paloma (MNHNP 6698 holotype, MNHNP 6700 paratype); Isla Talavera (MNHNP 4831). PRESIDENTE HAYES: Paraguay River, 14 km S Puerto Rosario (MNHNP 6462 paratype).

***Pseudoeryx plicatilis* (Linnaeus, 1758)**

Dimades plicatilis: Cope (1862d): Paraguay Expedition.

Dimades plicatilis: Koslowsky (1898b): Paraguay.

Dimades plicatilis: Bertoni (1914): Paraguay.

Dimades plicatilis: Amaral (1926a): Paraguay expedition (USNM "12400").

Dimades plicatilis: Schouten (1931): Paraguay.

Dimades plicatilis: Schouten (1937): Paraguay.

Dimades plicatilis: Bertoni (1939): Chaco.

Dimades plicatilis: Gatti (1955): Paraguay.

Pseudoeryx plicatilis: Talbot (1979): ?Western Paraguay.

Pseudoeryx plicatilis: Aquino-Shuster et al. (1991): ALTO PARAGUAY: Puerto 14 de Mayo.

Pseudoeryx plicatilis: Aquino et al. (1996): See Specimens Examined.

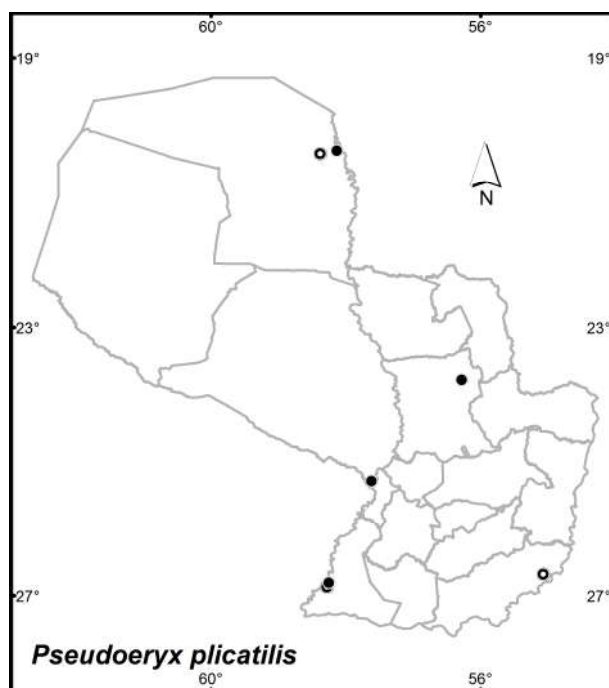
Pseudoeryx plicatilis [sic]: Motte et al. (2004): Paraguay.

Pseudoeryx plicatilis: Motte et al. (2009): Paraguay.

Pseudoeryx plicatilis: Cacciali (2009a): Paraguay.

Pseudoeryx plicatilis: Scartozzoni et al. (2010): ITAPÚA: Yataty. ÑEEMBUCÚ: Pilar.

Pseudoeryx plicatilis: Cabral and Caballero (2012): CENTRAL: Asunción Bay (CZCEN 683).



Pseudoeryx plicatilis: Cabral and Weiler (2014): CENTRAL: Bahía de Asunción (CZCEN 683).

General Distribution: East of the Andes, in Colombia, Venezuela, Ecuador, and the Guianas southward, through Brazil, to eastern Bolivia, Paraguay, and northern Argentina (Scartozzoni et al., 2010).

Local Distribution: Scant available records in Pantanal, Cerrado, and Wet Chaco associated with the Río Paraguay and its tributaries and floodwaters.

Conservation Status: Data Deficient.

Comments: The subspecies in Paraguay is *Pseudoeryx p. plicatilis*.

Specimens Examined: “Paraguay” (USNM 5802). ALTO PARAGUAY: Puerto 14 de Mayo (MNHNP 5202). CENTRAL: Asunción Bay (USNM 139290). ÑEEMBUCÚ: 10 km N Pilar (MNHNP 8788). SAN PEDRO: Laguna Blanca (CZPLT 97, 107, 125, 364, 413).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 507–511).

Xenodontinae–Hydrodynastini

Hydrodynastes gigas (Duméril, Bibron and Duméril, 1854)

Cyclagras gigas: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Cyclagras gigas: Koslowsky (1898b): Paraguay.

Cyclagras gigas: Bertoni (1914): Paraguay.

Cyclagras gigas: Bertoni (1928a): “Río Paraguay”. PRESIDENTE HAYES: Chaco’í.

Cyclagras gigas: Schouten (1931): ?Riacho Caracará.

Cyclagras gigas: Schouten (1937): Paraguay.

Cyclagras gigas: Bertoni (1939): Chaco. CENTRAL: Asunción.

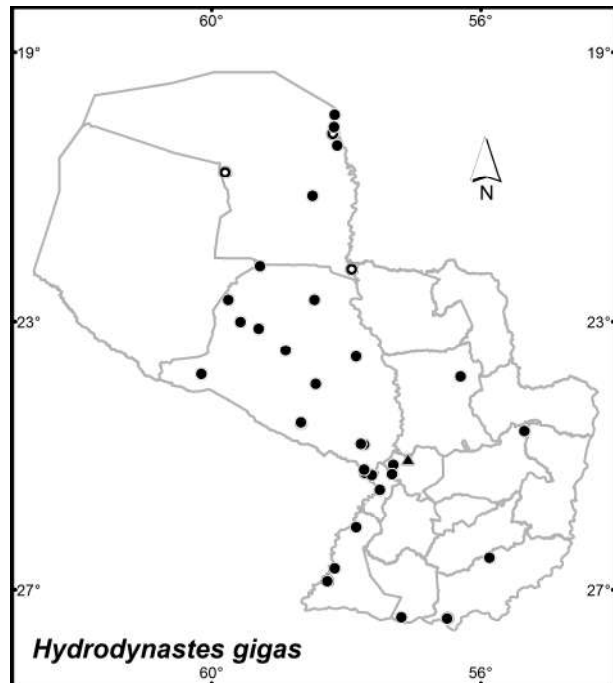
Leisophis bicinctus: Gatti (1955): ALTO PARAGUAY: Bahía Negra.

Cyclagras gigas: Gatti (1955): Paraguay.

Hydrodynastes gigas: Scott and Lovett (1975): See Specimens Examined.

Hydrodynastes gigas: Talbot (1979): Eastern and western Paraguay.

Hydrodynastes gigas: Campbell and Murphy (1984): CENTRAL: Vicinity of Asunción.



Hydrodynastes gigas: Giraudo and Contreras (1994): ÑEEMBUCÚ: Paso Lengá.

Hydrodynastes gigas: Álvarez et al. (1995): ITAPÚA: Isla Talavera (UNNEC 468); Isla Yacyretá (UNNEC 482).

Hydrodynastes gigas: Aquino et al. (1996): See Specimens Examined.

Hydrodynastes gigas: Leynaud and Bucher (1999:map): Paraguay.

Hydrodynastes gigas: Ziegler et al. (2002b): BOQUERÓN/ALTO PARAGUAY: Vicinity of 20°46'S, 59°48'W, road S Fortín Madrejón (MTKD 43443).

Hydrodynastes gigas: Padial et al. (2003): ALTO PARAGUAY: Bahía Negra.

Hydrodynastes gigas: Motte et al. (2004): Paraguay.

Hydrodynastes gigas: Campbell and Lamar (2004): CENTRAL: Asunción.

Hydrodinastes [sic] *gigas*: Weiler and Airaldi Wood (2009): PRESIDENTE HAYES: Rancho Carandá.

Hydrodynastes gigas: Motte et al. (2009): Paraguay.

Hydrodynastes gigas: Cacciali (2009a:map): Paraguay.

Hydrodinastes gigas [sic]: Cabral and Weiler (2014): ALTO PARAGUAY: Tres Gigantes (CZCEN 751). CONCEPCIÓN: Valle Mí (CZCEN 725).

General Distribution: Eastern Bolivia, central and southern Brazil, Paraguay, and central and northern Argentina (Peters and Orejas-Miranda, 1970; Cei, 1993; Leynaud and Bucher, 1999; Tipton, 2005; Scrocchi et al., 2006).

Local Distribution: Widely distributed, absent only from the Dry Chaco, and present only on the western fringe of the Atlantic Forest.

Conservation Status: Least Concern.

Specimens Examined: "Paraguay" (USNM 84567, 89390); Paraguay (MNHNP 9298, 9300, 9512). ALTO PARAGUAY: Estancia General Díaz (MNHNP 3881–3883); Estancia Carmelo Peralta (MNHNP 3893, 3897); Puerto 14 de Mayo (NHMUK 98.6.3.5, 98.6.3.56); Puerto Caballo (UMMZ 188080, 191006); Puerto Ramos (UMMZ 188081); Río Negro (MNHNP 5046, 5047). CAAGUAZÚ: Mbutuy (MNHNP 6529). CENTRAL: Lambaré (MNHNP 10504); Villeta (MNHNP 3121). CORDILLERA: Compañía Matiauda (MNHNP 8419); San Bernardino (MNHNP 10690). ITAPÚA: Estancia San Isidro (MNHNP 9789); Isla Cadena (MNHNP 4623); Isla Guazu'i (MNHNP 4851–4853, 8492); Isla Modesto (MNHNP 4622); Isla Yacyretá (MNHNP 4847, 4854, 4946, 4953, 4964, 4978, 9424, 9426, 9443). MISIONES: Yabebury (MNHNP 5242). ÑEEMBUCÚ: Villa Oliva (MNHNP 7948); 5 km NE Pilar (MNHNP 3894); 24 km NE Pilar (MNHNP 3778). PRESIDENTE HAYES: 8 km NE Estancia Juan de Zalazar (UMMZ 166854); 11.3 km NNW Chaco'i (UMMZ 153086); 44 km W Concepción (MNHNP 3117); Estancia La Golondrina (MNHNP 3118, 3119); Estancia La Rural (MNHNP 9987); Estancia Palo Santo (MNHNP 5045); Estancia San Juan (MNHNP 7940); Estancia Tuparendá (MNHNP 10158); Hacienda Tinfunqué (MNHNP 3895); Route IX Km 83 (MNHNP 3120); Route IX Km 212 (MNHNP 10485);

Route IX Km 290 (MNHNP 10400); Route IX Km 418 (UCS 6992). SAN PEDRO: Laguna Blanca (CZPLT 314, 324).

Photographic Records: CENTRAL: Asunción (FPREP 220). CORDILLERA: Arroyos y Esteros (FPREP 221–226). PRESIDENTE HAYES: Parque Nacional Tinfunque (FPREP 219).

Xenodontinae–Xenodontini

Erythrolamprus Boie, 1826

Zaher et al. (2009) made the most fundamental changes in our concept of the genus *Liophis* Wagler, 1830 since Dixon (1980) redefined it by combining four genera (25 species) that were recognized at that time: *Dromicus*, *Leimadophis*, *Liophis*, and *Lygophis*.

Pertinent to our work, Zaher et al. (2009) resurrected *Lygophis* and placed the genus *Erythrolamprus* into the synonymy of *Liophis*. We agree with the former decision, but Curcio et al. (2009) showed that *Erythrolamprus* has priority over *Liophis*. Grazziotin et al. (2012) corrected this error by placing *Liophis* as a junior synonym of *Erythrolamprus*.

Erythrolamprus aesculapii (Linnaeus, 1766)

Erythrolamprus venustissimus: Cope (1862d): Paraguay Expedition (USNM 5862).

Erythrolamprus [sic] *venustissimus*: Peracca (1895): CENTRAL: Asunción, Luque.

Erythrolamprus aesculapi:
Bertoni (1913): Paraguay.

Erythrolamprus ãesculapi:
Bertoni (1914): ALTO PARANÁ.

Erythrolamprus aesculapii: Serié
(1915): Paraguay.

Erythrolamprus aesculapi:
Schouten (1931): Paraguay.

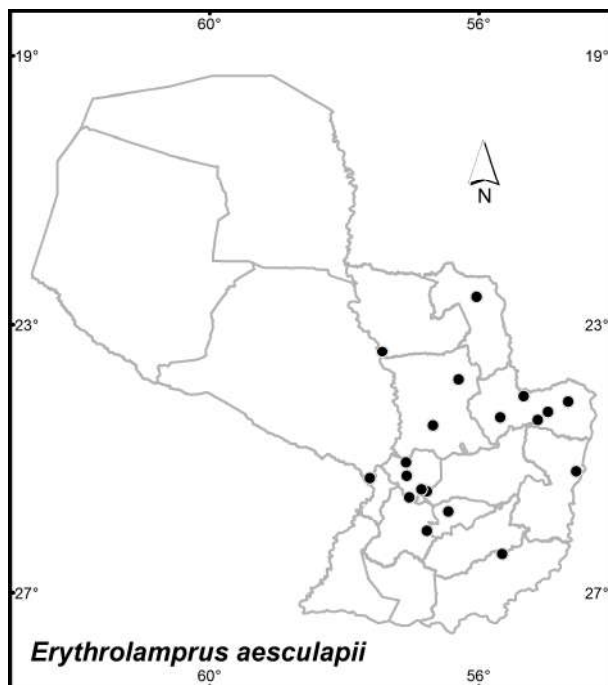
Erythrolamprus aesculapi:
Schouten (1937): Paraguay.

Erythrolamprus ãesculapi [sic]:
Bertoni (1939): ALTO PARANÁ.

Erythrolamprus aesculapi: Gatti
(1955): Paraguay.

Erithrolamprus [sic] *aesculapii*:
Canese (1966): Paraguay.

Erythrolamprus aesculapii: Talbot (1979): Eastern Paraguay.



Leptognathus aesculapii: Elter (1981): Paraguay (MZUT R2045).

Erythrolamprus venustissimus: Elter (1981): CENTRAL: Asunción (MZUT R1243); Luque (MZUT R1242).

Erythrolamprus aesculapii: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

Erythrolamprus aesculapii: Aquino et al. (1996): See Specimens Examined.

Erythrolamprus aesculapii: Motte et al. (2004): Paraguay.

Erythrolamprus aesculapii: Motte et al. (2009): Paraguay.

Liophis aesculapii: Cacciali (2009a:map): Paraguay.

General Distribution: Central America southward throughout the Amazon Basin to central Brazil, eastern Paraguay, and Misiones in Argentina (Tipton, 2005).

Local Distribution: Widely distributed in the Oriental Region except in the far east along the upper Río Paraná; in all eastern ecoregions: Wet Chaco, Central Forest, Cerrado, Mesopotamian Grasslands, and the fringes of the Atlantic Forest.

Conservation Status: Least Concern.

Comments: Placed in the genus *Erythrolamprus* by Duméril et al. (1854), this species was recently moved to the genus *Liophis* by Zaher et al. (2009). However, Curcio et al. (2009) pointed out that this was unwarranted on both procedural and taxonomic grounds, and they recommended that the genus *Erythrolamprus* be maintained.

The subspecies in Paraguay is *E. a. venutissimus*.

Specimens Examined: "Paraguay" (USNM 5862, 12412). Paraguay (MZUT n/n). ALTO PARANÁ: Pikyry (MAI 3). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2667). CAAGUAZÚ: Estancia San Ignacio (UMMZ 166850). CANINDEYÚ: 6 km E Catueté (MNHNP 3787); 13.3 km N Curuguaty (UMMZ 153073); 65 km E Curuguaty (UMMZ 166851); 90 km E Curuguaty (UMMZ 166852); Reserva Natural del Bosque Mbaracayú (MNHNP 9191). CENTRAL: Asunción (AMNH 77023, MZUT 1022, USNM 142059); Luque (MZUT 1021). CONCEPCIÓN: Concepción (MNHNP 5154). CORDILLERA: 1.6 km S by road of Tobatí (UMMZ 153071); Arroyos y Esteros (MAI 126); Itacurubí de la Cordillera (MNHNP 3407). GUAIRÁ: Villarrica (AMNH 24326). ITAPÚA: Parque Nacional San Rafael (MNHNP 8784). PARAGUARÍ: Choló (MNHNP 11045); Parque Nacional Ybycuí (MNHNP 2666, 2668). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.3.52, 1958.1.2.30, 1960.1.3.4, 1962.102–1962.106, 1969.322); Laguna Blanca (CZPLT 393, 427).

Photographic Records: AMAMBAY: Parque Nacional Cerro Corá (FPREP 502). SAN PEDRO: Laguna Blanca (FREP 783–791).

***Erythrolamprus albertguentheri* Grazziotin, Zaher, Murphy, Scrocchi, Benavides, Zhang and Bonatto, 2012**

Liophis viridis: Koslowsky (1898b): Paraguay.

Liophis viridis: Bertoni (1914): Paraguay.

Leimadophis viridis: Schouten (1931): Paraguay.

Leimadophis viridis: Schouten (1937): Paraguay.

Leimadophis viridis: Bertoni (1939): Chaco. CENTRAL: Asunción.

Leimadophis viridis: Gatti (1955): Paraguay.

Leimadophis typhlus [partim]: Talbot (1979): Western Paraguay.

Leimadophis viridis [partim]:
Talbot (1979): Western Paraguay.

Liophis guentheri: Dixon (1987):
BOQUERÓN: Loma Plata (KU
73454).

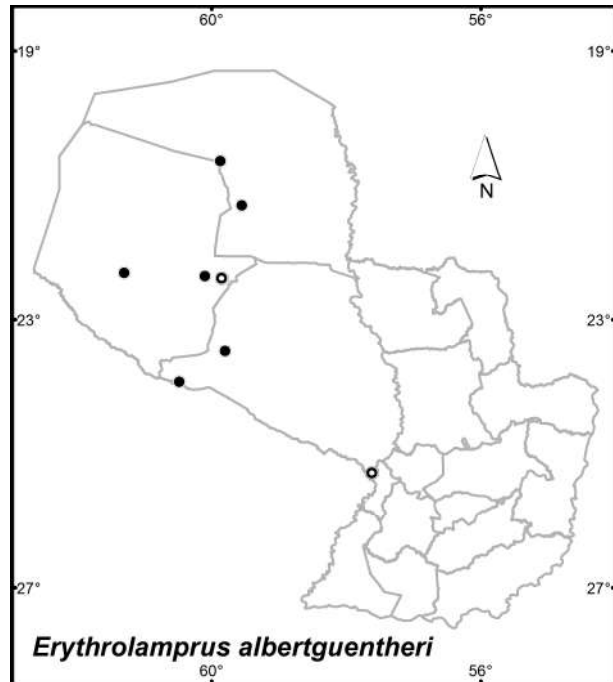
L[iophis]. guentheri [partim]:
Aquino et al. (1996): See
Specimens Examined.

Liophis guentheri: Leynaud and
Bucher (1999:map): Paraguay.

Liophis guentheri: Ziegler et al.
(2002b): BOQUERÓN: Filadelfia
(MTKD 43427, 43428).

Liophis guentheri: Motte et al.
(2009): Paraguay.

Liophis guentheri: Cacciali
(2009a): Paraguay.



General Distribution: Dry Chaco in extreme southeastern Bolivia, western Paraguay, and northwestern Argentina (Dixon, 1987; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: Dry Chaco. Bertoni's record from Departamento Central is doubtful.

Conservation Status: Least Concern.

Comments: Long known as *Liophis* (or *Leimadophis*) *guentheri*, when the species was moved to the genus *Erythrolamprus*, the name became a secondary homonym of *Erythrolamprus guentheri* (Garman, 1883), necessitating the replacement name *E. albertguentheri* (Grazziotin et al., 2012).

Concepts of the relationship between this species and *E. typhlus* have been unstable. Parker (1928) failed to find differences between them, but Dixon (1987) separated them based on non-overlapping ventral counts. Giraudo and Scrocchi (2002) in Argentina, ignoring the priority of the name *typhlus* and without comment, returned the two species to synonymy under the newer name *Liophis guentheri*.

In Paraguay, *E. albertguentheri* and *E. typhlus* show the same biogeographic relationship as other pairs of widespread tropical species (e.g., *Epicrates* and *Boa*) that split into a Dry Chaco form west of the Río Paraguay and a more mesic-adapted form east of the river, and the true relationships between these pairs will only be determined by genetic examination of specimens in the region of the border between northern Paraguay, Bolivia, and Brazil. In the Southern Cone, the more mesic *E. typhlus* seems to be characteristic of the Bolivian Chiquitanía, the Pantanal, and most of the Brazilian Atlantic Forest, and *E. albertguentheri* is strictly Dry Chaco.

Specimens Examined: ALTO PARAGUAY: Estancia Tres Marías (MNHNP 9179); Madrejón (MNHNP 2630); 2 km S Madrejón (MNHNP 2631). BOQUERÓN: 6 km W Filadelfia (MNHNP 4583, 6592); Estancia Mbutú Reta (MNHNP 3783). PRESIDENTE HAYES: Estancia Sammaklay (MNHNP 9192); Fortín Teniente Coronel Miguel A. Ramos (MNHNP 10779).

***Erythrolamprus almadensis* (Wagler, 1824)**

Liophis Almadensis [sic]: Boettger (1885a): Paraguay.

Liophis almadensis: Peracca (1895): CENTRAL: Asunción. CONCEPCIÓN: Río Apa.

Liophis almadensis: Boulenger (1894b): Paraguay.

Liophis almadensis: Berg (1898): Paraguay.

Liophis almadensis: Koslowsky (1898b): Paraguay.

Trigonocephalus scolecomorphus Bacqué (1906): CENTRAL: Asunción (type locality).

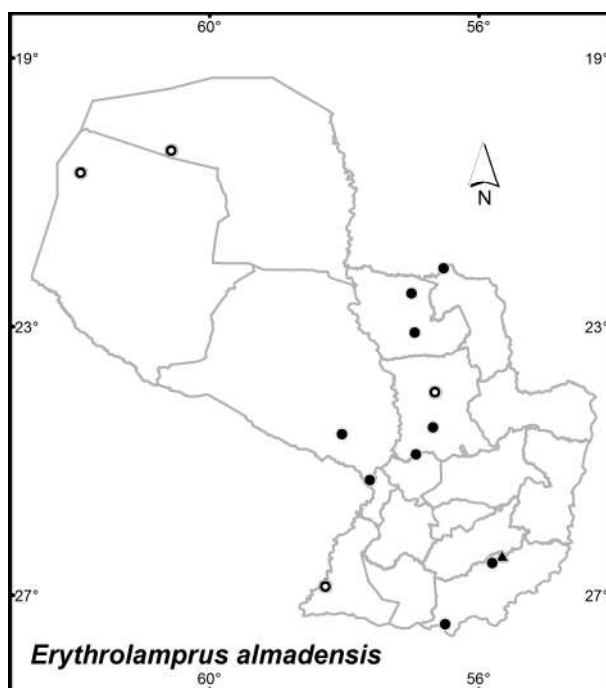
Liophis almadensis: Bertoni (1914): Paraguay.

?*Rhadinaea anomala*: Bertoni (1914): Paraguay.

Liophis almadensis: Serié (1915): Paraguay.

Liophis almadensis: Serié (1916): CENTRAL: Asunción

Liophis almadensis: Bertoni (1921): Paraguay.



Leimadophis almadensis: Amaral (1926a): Paraguay expedition (USNM "12402"[2]).

L[iophis]. almadensis: Werner (1929): Paraguay.

Leimadophis almadensis: Schouten (1931): CENTRAL: Trinidad.

?*Rhadinaea anomala*: Schouten (1931): Paraguay.

Leimadophis almadensis: Schouten (1937): Paraguay.

?*Rhadinaea anomala*: Schouten (1937): Paraguay.

Leimadophis almadensis: Bertoni (1939): CENTRAL: Asunción.

?*Liophis anomalus*: Bertoni (1939): Paraguay.

?*Liophis anomalus*: Gatti (1955): Paraguay.

Leimadophis almandensis [sic]: Gatti (1955): Paraguay.

Leimadophis almadensis: Gatti (1955): Paraguay.

Leimadophis almadensis: Talbot (1979): Eastern Paraguay.

Leimadophis almadensis: Elter (1981): CENTRAL: Asunción (MZUT R1538). CONCEPCIÓN: Río Apa (MZUT R1546).

Liophis almadensis: Dixon (1991): ALTO PARAGUAY: 28.8 km W Madrejón (LACM 126504). BOQUERÓN: Nueva Asunción. SAN PEDRO: Carumbe (FML 573, 575, 751); Colonia Primavera (NHMUK 1954.1.3.57, 1955.1.5.88, 1955.1.5.92, 1960.1.2.78, 1962.63–1962.67).

Liophis almadensis: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

Liophis almadensis: Aquino et al. (1996): See Specimens Examined.

Liophis almadensis: Leynaud and Bucher (1999:map): Paraguay.

Liophis almadensis: Motte et al. (2004): Paraguay.

Liophis almadensis: Motte et al. (2009): Paraguay.

Liophis almadensis: Cacciali (2009a:map): Paraguay.

Erythrolamprus almadensis: Cacciali (2013): ITAPÚA: Kangüery.

General Distribution: Southern Brazil, from the mouth of the Amazon River south to Uruguay, and west through Paraguay to the base of the Andes in northern Argentina and southeastern Bolivia (Dixon, 1991).

Local Distribution: Open formations (Dry and Wet Chaco, Cerrado, Mesopotamian Grasslands), avoiding the forests of Central Forest and Atlantic forest.

Conservation Status: Least Concern.

Comments: Dixon (1991) incorrectly placed Colonia Primavera in the Departamento Alto Paraguay; it is in San Pedro. "Alto Paraguay" is on all of the Primavera labels in the British Museum, but it simply means "up the Río Paraguay from Asunción," and not the department (Cacciali et al., 2007c).

Specimens Examined: “Paraguay” (USNM 11263, 338269). Paraguay (MNHNP 10104). AMAMBAY: 2 km W Bella Vista (MNHNP 5204). CENTRAL: Asunción (MZUT 996). CONCEPCIÓN: Paso Barreto (MNHNP 9801); Río Apa (MZUT 997). CORDILLERA: Route III, between Arroyos y Esteros and 25 de Diciembre (MNHNP 11077). ITAPÚA: Isla Yacyretá (EBD 30341, MNHNP 8194); Kangüery (Cacciali, 2013); San Pedro Mi (MNHNP 11136). PRESIDENTE HAYES: Tacuara (MNHNP 5223). SAN PEDRO: Colonia Primavera (NHMUK 1954.1.3.57, 1955.1.5.88, 1955.1.5.92, 1960.1.2.78, 1962.62–1962.69).

Photographic Records: ITAPÚA: Kangüery (FPREP 238, 239).

***Erythrolamprus frenatus* (Werner, 1909)**

Rhadinaea frenata Werner (1909): Paraguay (type locality).

Rhadinaea frenata: Serié (1915): Paraguay.

Rhadinaea frenata: Bertoni (1918): Paraguay.

Rh[adinaea]. frenata: Werner (1929): Paraguay.

Rhadinaea frenata: Schouten (1931): Paraguay.

Rhadinaea frenata: Schouten (1937): Paraguay.

Liophis frenatus: Bertoni (1939): Paraguay.

Liophis frenatus: Gatti (1955): Paraguay.

Liophis frenatus: Talbot (1979): Eastern Paraguay.

Liophis frenatus: Dixon (1983a): CAAGUAZÚ: Pastoreo (MCZ 34203). SAN PEDRO: Colonia Primavera (NHMUK 1960.1.3.41).

Liophis frenatus: Álvarez et al. (1995): ITAPÚA: Isla Ybycuí (UNNEC 476); Isla Yacyretá (UNNEC 478).

Liophis frenatus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

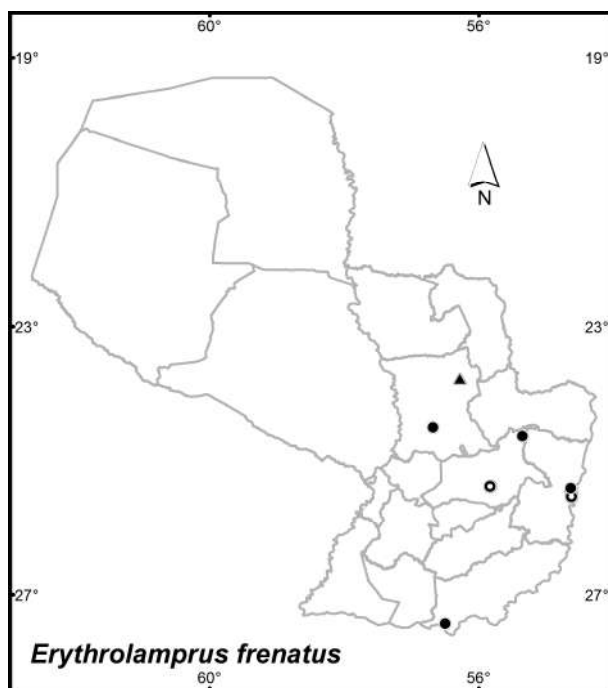
L[iophis]. frenatus: Aquino et al. (1996): See Specimens Examined.

Liophis frenatus: Dixon in Giraudo (2002): ALTO PARANÁ: Ciudad del Este.

Liophis frenatus: Motte et al. (2009): Paraguay.

Liophis frenatus: Cacciali (2009a:map): Paraguay.

General Distribution: Paraguay, southcentral Brazil, and provinces Misiones and Corrientes in Argentina (Dixon, 1983a; Giraudo, 2002).



Local Distribution: Southeastern Paraguay in Atlantic Forest and Mesopotamian Grasslands and localities in San Pedro in Wet Chaco and Cerrado.

Conservation Status: Data Deficient.

Comments: The locality plots for *Erythrolamprus frenatus* by Dixon (1983a, 1989) in the Chaco west of the Río Paraguay are incorrectly plotted. All known localities are east of the river. The range maps for *L. longiventris* and *L. frenatus* in Dixon (1989) are reversed (Giraud, 2002), causing Dixon (1989) to erroneously include *L. longiventris* but not *L. frenatus* in the list of Paraguayan *Liophis* (now *Erythrolamprus*).

Specimens Examined: Paraguay (MNHNP 9549). ALTO PARANÁ: Hernandarias (MNHNP 10229); Itaipú reserves (MAI 27). CAAGUAZÚ: Estancia Golondrina (MNHNP 10252). ITAPÚA: Isla Yacyretá (MNHNP 4950, 4952, 4965, 5205, UNNEC 478). SAN PEDRO: Colonia Primavera (NHMUK 1960.1.3.41); Laguna Blanca (CZPLT 318, 325, 338).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 409–411, 638–644).

***Erythrolamprus jaegeri* (Günther, 1858)**

Aporophis coralliventris Boulenger (1894a): CONCEPCIÓN: “...island north of Concepción, near San Salvador, North Paraguay” (type locality).

Aporophis coralliventris
Boulenger (1894b):
CONCEPCIÓN: Island north of
Concepción, near San Salvador.

Rhadinaea jaegeri: Peracca
(1895): CAAGUAZÚ: Pirapó.

?*Rhadinaea jaegeri*: Koslowsky
(1898b): Paraguay.

Liophis typhlus: Koslowsky
(1898b): Paraguay.

?*Liophis typhlus*: Bertoni (1914):
Paraguay.

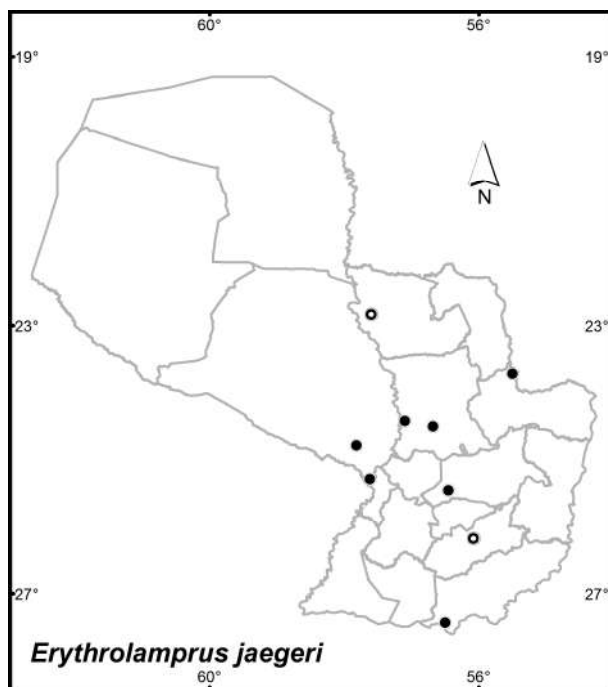
Aporophis coralliventris: Bertoni
(1914): Paraguay.

Rhadinaea jaegeri: Bertoni
(1914): Paraguay.

Aporophis coralliventris: Serié (1915): Paraguay.

Rhadinaea jaegeri: Serié (1915): Paraguay.

Liophis typhlus: Serié (1915): Paraguay.



- Aporophis coralliventris*: Schouten (1931): Paraguay.
Rhadinaea jaegeri: Schouten (1931): Paraguay.
?Leimadophis typhlus: Schouten (1931): Paraguay.
Aporophis coralliventris: Schouten (1937): Paraguay.
Rhadinaea jaegeri: Schouten (1937): Paraguay.
?Leimadophis typhlus: Bertoni (1939): CENTRAL: Asunción. Chaco.
Lygophis coralliventris: Bertoni (1939): CENTRAL: Asunción. CONCEPCIÓN: San Salvador.
Liophis jaegeri: Bertoni (1939): Paraguay.
?Leimadophis typhlus: Gatti (1955): Paraguay.
Lygophis coralliventris: Gatti (1955): Paraguay.
Liophis jaegeri: Gatti (1955): Paraguay.
Lygophis coralliventris: Talbot (1979): Eastern Paraguay.
Liophis jaegeri: Talbot (1979): Eastern Paraguay.
Liophis jaegeri: Elter (1981): CAAGUAZÚ: Pirapó (MZUT R814; see Comments).
Liophis jaegeri coralliventris: Dixon (1987): CENTRAL: Asunción (NHMUK 1930.11.27.208). CAAZAPÁ: Buena Vista (MCZ 34204). CONCEPCIÓN: Isla Concepción [*in errore* = Island N of Concepción (NHMUK 1946.1.5.85; type of *L. coralliventris*)]. SAN PEDRO: Colonia Primavera (NHMUK 1960.1.2.84, 1960.1.2.85, 1960.1.3.40, 1962.81).
Liophis jaegeri: Álvarez et al. (1995): ITAPÚA: Isla Pacú (UNNEC 428); Isla Talavera (UNNEC 465).
L[iophis]. jaegeri: Aquino et al. (1996): See Specimens Examined.
Liophis jaegeri: Leynaud and Bucher (1999:map): Paraguay.
Liophis jaegeri: Motte et al. (2004): Paraguay.
Liophis jaegeri: Motte et al. (2009): Paraguay.
Liophis jaegeri: Cacciali (2009a:map): Paraguay.
Erythrolamprus jaegeri: Cabral and Weiler (2014): CAAZAPÁ: Parque Nacional San Rafael (CZCEN 289).

General Distribution: Central coastal Brazil and the State of Mato Grosso, southward through Paraguay to northern Argentina and Uruguay (Dixon, 1987).

Local Distribution: Eastern and southwestern Paraguay in Cerrado, Central Forest, Wet Chaco.

Conservation Status: Least Concern.

Comments: Dixon (1987; 1989) separated the subspecies *L. j. jaegeri* and *L. j.*

coralliventris based on slight differences in the means and ranges of subcaudal counts and on the width of the vertebral orange stripe. Giraudo (2002) found that *L. jaegeri* from Argentina shows mixed characters of the two subspecies. Finally, Carreira et al. (2005) noted that, in Uruguay, subspecies cannot be defined because there is a large variation with respect to the width of the vertebral stripe, and the subcaudal counts broadly overlap. Achaval et al. (1979) also make the point that floating rafts of water hyacinths in the Paraguay, Paraná, and Uruguay rivers would carry this semi-aquatic snake downstream, thus promoting genetic mixing among many populations.

The locality "Pirapo (Paraguay centrale)" for MZUT 1009 in the Borelli collection (Peracca, 1895) needs clarification. Modern Paraguayan gazetteers show a Puerto Pirapó, a town of Pirapó, and an Arroyo Pirapó, all in Itapúa; and an Arroyo Pirapó in Caazapá, but it is none of these. Salvadori (1895) gives an itinerary for Borelli's trip and lists "Pirapo" between Carayaó and Caballero in western Departamento Caaguazú.

Specimens Examined: Paraguay (MNHNP 9276, 9680). CAAGUAZÚ: Pirapó (MZUT 1009, see Comments). CANINDEYÚ: Colonia Ybycuí (MNHNP 9167). CENTRAL: Asunción (NHMUK 94.3.14.56, 1930.11.27.208); San Lorenzo (MNHNP 5562). ITAPÚA: Isla Cururú (MNHNP 4731–4734, 4739–4743); Isla Guazú'i (MNHNP 4833); Isla Modesto (MNHNP 4736–4738); Isla Talavera (MNHNP 4730, 4735, 4878); Isla Yacyretá (MNHNP 4877, 4879–4882, 4884, 4885, 4954, 4968, 4984, 5131, 8197, 8339, 8340, 8344). PRESIDENTE HAYES: Route to General Bruguez, to 27 km of crossroad to Falcón (MNHNP 6826); Route IX Km 90 (MNHNP 10652, 10653). SAN PEDRO: Colonia Primavera (NHMUK 1960.1.2.84, 1960.1.3.40, 1962.81); Rosario (NHMUK 1960.1.2.85).

***Erythrolamprus miliaris* (Linnaeus, 1758)**

Liophis merremi: Boettger (1885a): Paraguay.

Rhadinaea merremi: Koslowsky (1898b): Paraguay.

Rharinea [sic] *merremi*: Bertoni (1914): Paraguay.

Rhadinaea merremi: Schouten (1931): Paraguay.

Rhadinaea merremi: Schouten (1937): Paraguay.

Liophis m. miliaris: Bertoni (1939): Río Paraguay.

Liophis m. miliaris: Gatti (1955): Paraguay.

Liophis miliaris: Talbot (1979): Eastern Paraguay.

Liophis miliaris: Elter (1981): CENTRAL: Luque (MZUT R1515).

Liophis miliaris orina: Dixon (1983b): AMAMBAY: Pedro Juan Caballero (FMNH 42268,69).

Liophis miliaris: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

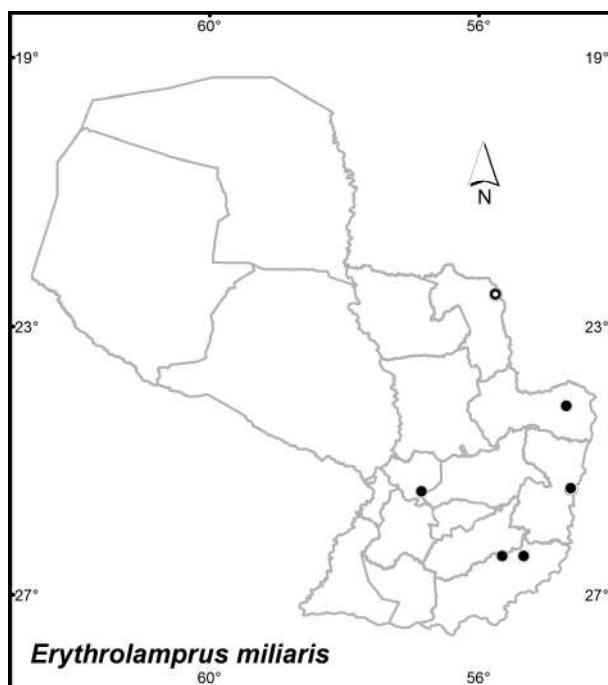
L[iophis]. miliaris [partim]: Aquino et al. (1996): See Specimens Examined.

Liophis miliaris orinus: Giraudo et al. (2006): See Specimens Examined.

Liophis miliaris: Motte et al. (2004): Paraguay.

Liophis miliaris: Motte et al. (2009): Paraguay.

Liophis miliaris: Cacciali (2009a:map): Paraguay.



General Distribution: Coastal Brazil from southern Bahía, southwestward through eastern Paraguay, to Misiones in Argentina (Gans, 1964b; Dixon, 1983b).

Local Distribution: Eastern Paraguay in Cerrado and Atlantic Forest, with an isolated record from Cordillera (Central Forest). Bertoni's (1939) record from the Río Paraguay cannot be verified.

Conservation Status: Least Concern.

Comments: In the past, *E. miliaris* in Paraguay was divided into two subspecies: *L. m. orinus* and *L. m. semiaureus* (Dixon, 1983b). Giraudo et al. (2006) elevated the last taxon to specific status. Bertoni (1939) was the first to cite both taxa, *L. m. miliaris* and *L. m. semiaureus*, in Paraguay. The subspecies of *E. miliaris* in Paraguay is *E. m. orinus* (Giraudo et al., 2006).

Specimens Examined: Paraguay (MNHNP 9497, UMMZ 67211). ALTO PARANÁ: Itaipú reserves (MAI 130); Tatí Yupi (MAI 112); Vivero Forestal Itaipú (MAI 70). CANINDEYÚ: 11 km S Catueté (MNHNP 3777, 3835). CORDILLERA: Itacurubí (MNHNP 2607). ITAPÚA: Arroyo Tingazú, 52 km NNW Pirapó (MNHNP 8863); 2 km E Parque Nacional San Rafael (UMMZ 153075); Parque Nacional San Rafael (MNHNP 8787).

Photographic Records: ITAPÚA: Kangüery (FPREP 242,243).

***Erythrolamprus poecilogyrus* (Wied, 1825)**

Liophis subfasciatus Cope (1862b): Paraguay Expedition (type locality; USNM 5809, holotype).

Liophis subfasciatus: Cope (1862d): Paraguay Expedition (USNM 6310, 5809-4-3).

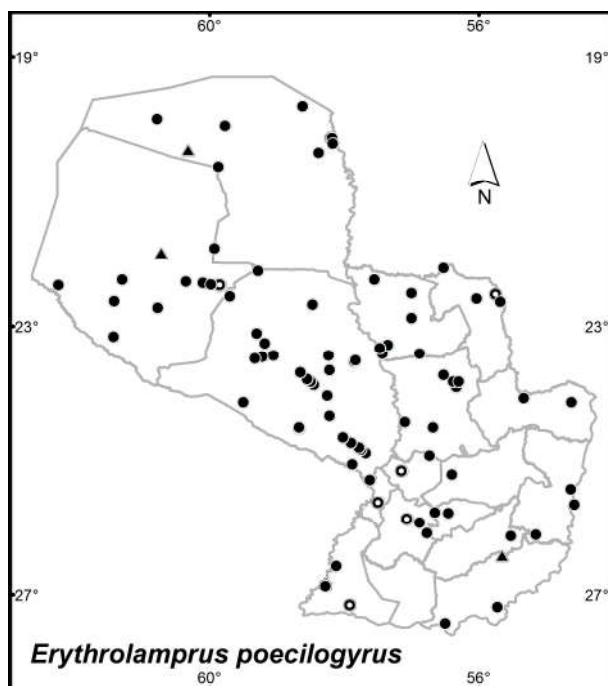
Opheomorus doliatus sublineatus: Cope (1862d): Paraguay Expedition (USNM 4666).

Liophis typhlus var. *subfasciata*: Boettger (1885a): Paraguay.

Liophis poecilogyrus: Boulenger (1894a): CENTRAL: Asunción.

Liophis poecilogyrus: Boulenger (1894b): CENTRAL: Asunción.

Liophis poecilogyrus: Peracca (1895): CENTRAL: Luque. CONCEPCIÓN: Río Apa. GUAIRÁ: Villarrica.



Liophis poecilogyrus: Koslowsky (1898b): Paraguay.

Liophis poecilogyrus: Schenkel (1901): Paraguay.

Liophis poecilogyrus: Peracca (1904): GUAIRÁ: Tebicuary.

Liophis poecilogyrus: Bertoni (1914): Paraguay.

Liophis poecilogyrus: Serié (1915): CENTRAL: Trinidad.

Liophis poecilogyrus: Bertoni (1918): ALTO PARANÁ: Puerto Bertoni.

Liophis poecilogyrus: Bertoni (1921): Paraguay.

L[iophis]. poecilogyrus: Werner (1929): Paraguay.

Leimadophis poecilogyrus reticulatus Parker (1931): PRESIDENTE HAYES: Makthlawaiya (type locality).

Leimadophis poecilogyrus: Schouten (1931): CENTRAL: Asunción.

- Leimadophis poecilogyrus*: Schouten (1937): Paraguay.
- Leimadophis poecilogyrus*: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. CENTRAL: Asunción.
- Leimadophis poecilogyrus*: Gatti (1955): Paraguay.
- Leimadophis poecilogyrus*: Cochran (1961): Paraguay, T. J. Page (USNM 5809, holotype of *Liophis subfasciatus*).
- Leimadophis poecilogyrus*: Scott and Lovett (1975): See Specimens Examined.
- Leimadophis poecilogyrus caesius*: Markezich (1976): PRESIDENTE HAYES: Makthlawaiya (NHMUK 1946.1.4.57); Río Pilcomayo, 15 mi W the Río Paraguay (FMNH 42277, MCZ 47014).
- Leimadophis p. caesius* × *L. p. schotti*: Markezich (1976): CENTRAL: Asunción (NHMUK 94.3.14.47–94.3.14.51, 1930.11.27.191–1930.11.27.201. SAN PEDRO: Puerto Rosario (NHMUK 62.59).
- Leimadophis poecilogyrus schotti*: Markezich (1976): AMAMBAY: Pedro Juan Caballero (MCZ 46994–46996). CENTRAL: Colonia “Nueva Itaka” (=Nueva Italia; MCZ 49550). SAN PEDRO: Primavera (NHMUK 1954.1.3.58–1954.1.3.60, 1954.1.3.62 [*en errore*, this is a *Bothrops alternatus*], 1955.1.5.90, 1955.1.5.91, 1956.1.3.36, 1956.1.3.38, 1960.1.2.76, 1960.1.2.77, 1960.1.4.14, 1962.45–1962.58, 1962.60, 1962.61).
- Leimadophis poecilogyrus*: Talbot (1979): Eastern and western Paraguay.
- Liophis poecilogyrus*: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT R1819, R2814). CENTRAL: Asunción (MZUT 1554); Luque (MZUT 1529). CAAGUAZÚ: Carayaó (MZUT 1528). CONCEPCIÓN: Río Apa (MZUT R1508). GUAIRÁ: Tebicuary (MZUT R1526); Villarrica (MZUT R1527).
- L[liophis]*. sp.: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT 2820).
- Liophis poecilogyrus*: Campbell and Murphy (1984): CENTRAL: Vicinity of Asunción.
- Liophis poecilogyrus*: Aquino-Shuster et al. (1991): See Specimens Examined.
- Liophis poecilogyrus caesius*: Dixon and Markezich (1992): BOQUERÓN: Loma Plata (KU 73455).
- Liophis poecilogyrus schotti*: Dixon and Markezich (1992): SAN PEDRO: Primavera (NHMUK 1962.53).
- Liophis poecilogyrus*: Giraudo and Contreras (1994): ÑEEMBUCÚ: Paso Lengá; Pilar; Villalbín.
- Liophis poecilogyrus*: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.
- L[liophis]*. *poecilogyrus*: Aquino et al. (1996): See Specimens Examined.
- Liophis poecilogyrus*: Leynaud and Bucher (1999:map): Paraguay.
- Liophis poecilogyrus*: Ziegler et al. (2002b): BOQUERÓN: Fortín Toledo (MTKD 43433–43435, 43437).

Liophis poecilogyrus: Padial et al. (2003): ALTO PARAGUAY: Bahía Negra.

Liophis poecilogyrus: Motte et al. (2004): Paraguay.

Liophis poecilogyrus: Motte et al. (2009): Paraguay.

Liophis poecilogyrus: Cacciali (2009a:map): Paraguay.

Liophis poecilogyrus: Cacciali and Motte (2011): See Specimens Examined.

Erythrolamprus poecilogyrus: Cacciali (2013): ITAPÚA: Kangüery.

Erythrolamprus poecilogyrus: Cabral and Weiler (2014): ALTO PARANÁ: Limoy (CZCEN 414, 510). PARAGUARÍ: Acahay (CZ380).

General Distribution: Much of cis-Andean South America, from south of the Río Orinoco to Argentina south of the mouth of the Río Paraná (Dixon and Markezich, 1992).

Local Distribution: Throughout the country wherever there is water, even temporary, in all ecoregions.

Conservation Status: Least Concern.

Comments: The subspecies nomenclature for *Erythrolamprus poecilogyrus* is somewhat chaotic. Based on color pattern, Amaral (1944) discerned 12 subspecies. Peters and Orejas-Miranda (1970) followed Amaral (1944) and also listed 12 subspecies.

The analysis by Dixon and Markezich (1992) went in another direction. They analyzed ventral, subcaudal, and maxillary tooth counts across the range of the species. However, probably because there was little concordance between morphological discontinuities and color pattern, they decided to use only color pattern in their subspecies definitions. They detected four subspecies that roughly correspond to the wet Atlantic Coast (*E. p. poecilogyrus*), Chaco (*E. p. caesius*), Amazon Forest–Caatinga–Cerrado (*E. p. schotti*), and Pampas (*E. p. sublineatus*) ecoregions. Because they used only color pattern, adjacent samples within the same subspecies occasionally have statistically significant differences in ventral and subcaudal counts. Interestingly, except for *E. p. poecilogyrus*, none of the other 11 subspecies names used by Amaral (1944) were among the three names used by Dixon and Markezich (1992).

In Paraguay, *E. p. caesius* is characteristic of the Chaco, and *E. p. schotti* is found in the east near the Río Paraná (Dixon and Markezich, 1992). However, snakes from much of the Wet Chaco and eastern Paraguay show a mix of characters, mostly those of *E. p. caesius* and *E. p. schotti*, but also with influence of *E. p. sublineatus* in the extreme southeast (Giraudo, 2002).

Although Peters and Orejas-Miranda (1970) list the type locality of *E. p. caesius* as “Santa Fé, Paraguay”, Santa Fé is in Argentina.

Specimens Examined: Paraguay Expedition (ANSP 9847, USNM 4666, 5804, 5809 holotype of *L. subfasciatus*, 342146). Paraguay (MNHNP 9447, 9499, 9502, 9580, 9581, 9585, UMMZ 203848, 237075). ALTO PARAGUAY: Agua Dulce (MNHNP 2640,

5121, 6535, 6536, USNM 342127–342134); Colonia Potrerito (MNHNP 3124, 3133, 6535, 6540–6545, 6557); Estancia Doña Julia (MNHNP 9196); Fortín Madrejón (MNHNP 2608, 2633, 2639, 2641, 2644, 2645, 2647, 2650, 3126, 6824, 7229); Guyra Toro (MNHNP 10166, 10167); Mayor Pablo Lagerenza (MNHNP 7938); Parque Nacional Defensores del Chaco (MNHNP 2603, 2604, 2606, 2634, 2643, 2646, 2648, 3489, 3970, 7150, 7299); Puerto Ramos (MNHNP 3600). ALTO PARANÁ: Itaipú reserves (MAI 127); Puerto Bertoni (ANSP 20824, MZUT [2 n/n]). AMAMBAY: 2 km SSE Bella Vista (USNM 253209, 253210); 2 km W Bella Vista (MNHNP 2651); 5 km SE Bella Vista (MNHNP 9146); 12 km S Pedro Juan Caballero (MNHNP 5237, USNM 342117); Parque Nacional Cerro Corá (MNHNP 2637, 6593, 6696, USNM 342118). BOQUERÓN: 5 km N Filadelfia (MNHNP 2557); 7 km N Filadelfia (MNHNP 2543, 2555); 7 km E Filadelfia (USNM 342126); 14 km NE Pedro P. Peña (MNHNP 4014, 4015); Comunidad Ayoreo Jesudi (MNHNP 10721); Estancia Agropil (MNHNP 11028); Estancia Jabalí (MNHNP 4042, 4043, 7083); Estancia La Buena Esperanza (MNHNP 10780); Estancia La Gama (MNHNP 4201); Estancia Mbutú Retã (MNHNP 3363); Filadelfia (MNHNP 2528–2541, 2544–2550, 2552, 2553, 2556, 2558–2560, 2636, 10573, USNM 342120–342125); Fortín Toledo (MNHNP 10925); Parque Trébol (MNHNP 5240). CAAGUAZÚ: Carayaó (MZUT 991). CANINDEYÚ: 6 km E Catueté (MNHNP 8864); Reserva Natural del Bosque Mbaracayú (MNHNP 11232). CAAZAPÁ: Tava'i, Toro Blanco (MNHNP 8744). CENTRAL: Asunción (MNHNP 5236, 6590, MZUT 2761, NHMUK 94.3.14.47–94.3.14.51, 1930.11.27.191–1930.11.27.202); Lambaré (MNHNP 5231); Luque (MZUT 993); San Lorenzo (MNHNP 2638, 3590, 3770, 3845, 7670, 9168). CONCEPCIÓN: 2 km E Concepción (MNHNP 6551); 19 km NE Concepción (USNM 342135); Estancia Centurión (MNHNP 3771); Parque Nacional Serranía San Luís (MNHNP 5556, 6390); Rancho Z (MNHNP 5239, 5555); Río Apa (MZUT 989, 990). CORDILLERA: 2 km N Juan de Mena (USNM 342119); Estancia Saladillo (LACM 126511, 126512). GUAIRÁ: Villarrica (MZUT 992); Tebicuary (MZUT 2843). ITAPÚA: El Tirol (USNM 253554–253558); Hohenau (AMNH 143295); 34 km NW María Auxiliadora (MNHNP 6389); Isla Yacyretá (MNHNP 5007). ÑEEMBUCÚ: 2 km NE Pilar (MNHNP 3490); Estancia Yacaré (MNHNP 6673, 6686, 6689). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 4317); road to Apyragua (MNHNP 2652). PRESIDENTE HAYES: (MNHNP 6534, 6546); 19 km W Route IX on the road to General Díaz (MNHNP 5216); 36 km W Route IX on road to Fortín General Díaz (MNHNP 5220); 49 km W Route IX on the road to Fortín General Díaz (MNHNP 5219); 44 km W Concepción (MNHNP 5122, 6527, 6554, 6558); Puesto de Control Fortín Caballero (MNHNP 11242); road to General Bruguez (no more specific locality data) (MNHNP 7087); road to General Bruguez, 29 km from the detour to Falcón (MNHNP 7656); Riacho Negro (USNM 342136, 342137, 342143–342145); Route IX (no more specific locality data) (MNHNP 5224); Route IX 24 km NW Villa Hayes (UMMZ 166841); Route IX Km 69 (MNHNP 3601); Route IX Km 77 (USNM 342138); Route IX Km 86 (MNHNP 5126, 5232, 5233, USNM 342141, 342142); Route IX Km 96 (MNHNP 6533); Route IX Km 116 (MNHNP 5225); Route IX Km 160 (MNHNP 3599); Route IX Km 220 (MNHNP 3836); Route IX Km 223 (MNHNP 5234, 5235, 6538, 6548, USNM 342139, 342140); Route IX Km 228 (MNHNP 7945); Route IX Km 229 (MNHNP 2542, 2554); Route IX Km 235 (MNHNP 7941); Route IX Km

245 (MNHNP 2551); Route IX Km 327 (MNHNP 5238); Estancia Juan de Zalazar (MNHNP 3598, 4058, 5049, 5051, UCS 5721, 5722, 6989–6991)); Estancia La Golondrina (MNHNP 2605); Estancia Palo Santo (MNHNP 4168); Estancia Pozo Azul (MNHNP 2642); 4 km SSE Estancia Pozo Azul (MNHNP 4057); Estancia Santa Catalina (MNHNP 5217, 5218, 5221); Estancia Santa María de la Doce (=Estancia Remancito, MNHNP 10647); Estancia Tuparendá (MNHNP 10110); Laguna Capitán (MNHNP 10993); Makthlawaiya (NHMUK 1928.1.8.15, paratype of *Leimadophis* [*Liophis*] *poecilogyrus reticulatus*). SAN PEDRO: Colonia Primavera (NHMUK 1954.1.3.58–1954.1.3.60, 1955.1.5.90, 1955.1.5.91, 1956.1.3.36, 1960.1.2.76, 1960.1.2.77, 1962.45–1962.58, 1962.60, 1962.61); Estancia Alegría (MNHNP 7084); Laguna Blanca (CZPLT 126, 160, 210, 256. 343, 401, 411); Road to Laguna Blanca, E of Santa Rosa (CZPLT 160); Lima (MNHNP 2612, 2649); Puerto Rosario (NHMUK 1956.1.3.38); Villa del Rosario (MNHNP 5120, NHMUK 1962.59).

Photographic Records: ALTO PARAGUAY: Cerro León (FPREP 549–551). BOQUERÓN: Fortín Toledo (FPREP 246–248); Loma Plata (FREP 741); Route IX Km 550 (FPREP 600, 601). ITAPÚA: Kangüery (FPREP 244, 245); Nueva Gambach (249, 250).

***Erythrolamprus reginae* (Linnaeus, 1758)**

Liophis reginae: Bertoni (1914): Paraguay?.

Liophis reginae: Serié (1915): CENTRAL: Trinidad.

Liophis reginae: Bertoni (1918): CENTRAL: Asunción.

Leimadophis reginae: Schouten (1931): Paraguay.

Leimadophis reginae: Schouten (1937): Paraguay.

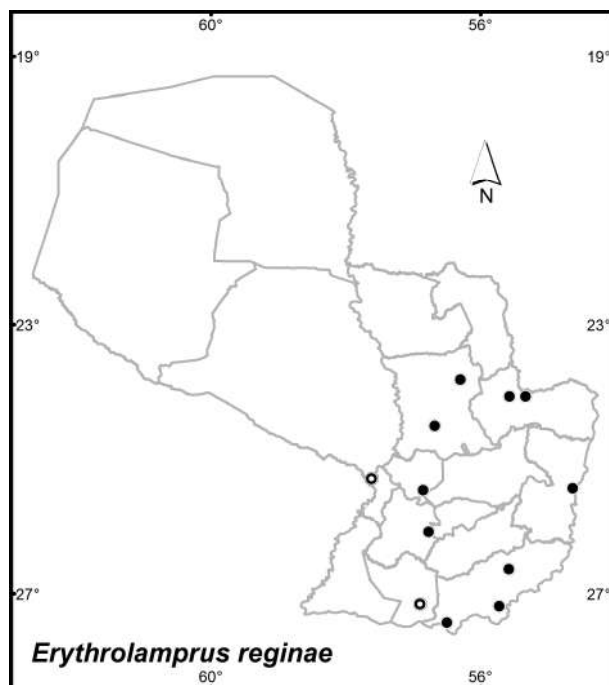
Leimadophis reginae: Bertoni (1939): Paraguay.

Leimadophis reginae: Gatti (1955): Paraguay.

Liophis reginae macrostoma: Dixon (1983c): CENTRAL: Asunción (FMNH 13160, NHMUK 1930.11.27.202). MISIONES: 2.7 km N San Antonio (UMMZ 14321, *en errore* =UMMZ 143421). SAN PEDRO: Colonia Primavera (NHMUK 1962.82).

Liophis reginae macrosomus: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.

*L[*iophis*]. reginae*: Aquino et al. (1996): See Specimens Examined.



Liophis reginae: Leynaud and Bucher (1999:map): Paraguay.

Liophis reginae: Motte et al. (2004): Paraguay.

Liophis reginae: Motte et al. (2009): Paraguay.

Liophis reginae: Cacciali (2009a): Paraguay.

General Distribution: Cis-Andean South America from Colombia to northern Argentina and Paraguay (Dixon, 1983c; Cei, 1993; Scrocchi et al., 2006).

Local Distribution: Scattered localities in central and southern Paraguay east of the Río Paraguay, in Wet Chaco, Atlantic Forest, Central Forest, and Mesopotamian Grasslands.

Conservation Status: Least Concern.

Comments: The subspecies present in Paraguay is *L. r. macrostomus* (Dixon, 1983c).

Specimens Examined: ALTO PARANÁ: Itaipú reserves (MAI 83); Tatí Yupi (MAI 114). CANINDEYÚ: 10 km NE Ygatimí (MNHNP 5191); Reserva Natural del Bosque Mbaracayú (MNHNP 9440). CORDILLERA: Cabañas (USNM 342147). ITAPÚA: Colonia Tarumá (MNHNP 5560); El Tirol (USNM 253559–253566); Isla Yacyretá (MNHNP 4967). MISIONES: 2.7 km N San Antonio (UMMZ 143421). PARAGUARÍ: Parque Nacional Ybycuí (MNHNP 5192, 5558, USNM 342148). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.3.37, 1960.1.3.39, 1962.80, 1962.82); Laguna Blanca (CZPLT 454).

Photographic Records: PARAGUARÍ: Parque Nacional Ybycuí (FPREP 251). SAN PEDRO: Laguna Blanca (FPREP 801–807).

***Erythrolamprus sagittifer* (Jan, 1863)**

Liophis trifasciatus Werner (1899): Paraguay (type locality).

Liophis trifasciatus: Serié (1915): Paraguay.

Liophis trifasciatus: Bertoni (1918): Paraguay.

L[iophis]. trifasciatus: Werner (1929): Paraguay.

?*Leimadophis trifasciatus*: Schouten (1931): CORDILLERA.

Leimadophis trifasciatus: Schouten (1931): Paraguay.

Liophis sagittifer modesta: Dixon and Thomas (1982): Paraguay (NMW 21224[2]). BOQUERÓN: Copagro, Route IX Km 589 (UCS 7498, 8026, 8027, 8030–8032); Filadelfia (KU 73457, NJS 125519 [now USNM 342149]); Loma Plata (KU 73458).

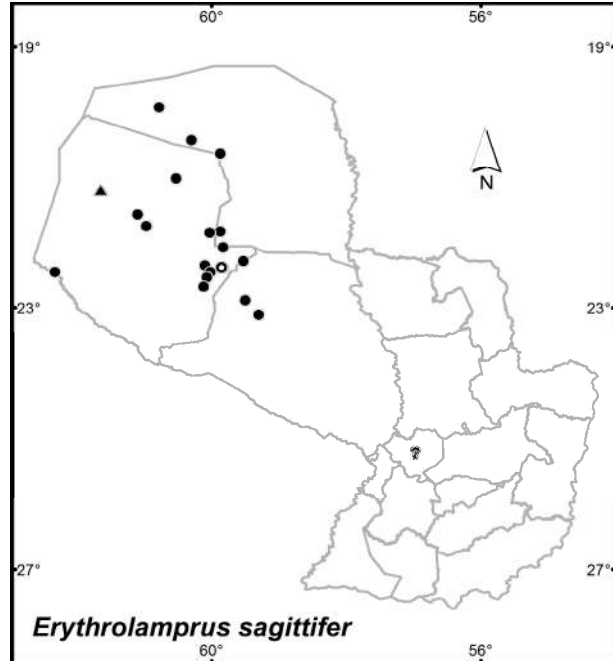
L[iophis]. sagittifer: Aquino et al. (1996): See Specimens Examined.

Liophis sagittifer: Leynaud and Bucher (1999:map): Paraguay.

Liophis sagittifer: Motte et al. (2009): Paraguay.

Liophis sagittifer: Cacciali (2009a): Paraguay.

Erythrolamprus sagittifer: Cabral and Weiler (2014): BOQUERÓN: Filadelfia (CZCEN 293, 300, 421, 422, 745).



General Distribution: Extreme southeastern Bolivia and western Paraguay southward through the Andean foothills of Argentina to Chubut (43°S) (Dixon and Thomas, 1982; Giraudo and Scrocchi, 2002).

Local Distribution: West of the Río Paraguay in Dry Chaco.

Conservation Status: Least Concern.

Comments: Lema (1987, 1994) lists *L. s. modestus* as a component of the reptilian fauna of the western part of the Brazilian State, Rio Grande do Sul. However, in their revision of the species, Dixon and Thomas (1982) saw no specimens from there, and the species is not listed from other regions that border western Rio Grande do Sul: Uruguay (Carreira et al., 2005) and Misiones, Argentina (Giraudo, 2002).

It is difficult to believe that snake populations living in the dry, tropical Monte and Chaco of Argentina, Bolivia, and Paraguay are the same species as populations in wet temperate forests in the State of Rio Grande do Sul, Brazil, 600 km to the east, and we believe that the identifications by Lema (1987, 1994) are incorrect.

Dixon and Thomas (1982) synonymized *Liophis trifasciatus* with *L. sagittifer*. The subspecies present in Paraguay is *E. s. modestus*.

We question the accuracy of Schouten's (1931) record for Departamento Cordillera, as all other records are west of the Río Paraguay.

Specimens Examined: ALTO PARAGUAY: Madrejón (MNHNP 2636, 3492, 3751, 5196, 7230); 2 km NW Madrejón (MNHNP 3750); 25 km by road S Fortín Madrejón (UMMZ 147655); Mayor Pablo Lagerenza (MNHNP 7936, 7939); Misión Nueva Tribu (LACM 126510). BOQUERÓN: Agua Linda (MNHNP 5197); Campo Loro (MNHNP 8841); COPAGRO, Route IX Km 589 (UCS 7498, 8026, 8027); Filadelfia (MNHNP 4584, USNM 342149); 13 km S Filadelfia (MNHNP 5194); 21 km S Filadelfia (MNHNP 5195); Fortín Americo Picco (EBD 31789–31791); Neuland (MNHNP 5193); 5 km W Madrejón (MNHNP 3491); Pedro P. Peña (MNHNP 4019); 3 km S Teniente Ochoa (USNM 342150); Route IX, between km 580 and 585 (UCS 7918, 8030–8032); Between Loma Plata and Estancia Palo Santo (MNHNP 4214). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 6521, UCS 7459); Route IX, km 382 (MNHNP 5198).

Photographic Records: BOQUERÓN: Loma Plata (FREP 753–760); Parque Nacional Teniente Enciso (FPREP 252, 465–469).

***Erythrolamprus semiaureus* (Cope, 1862d)**

Opheomorphus meremii var. *semiaureus*: Cope (1862d): Paraguay Expedition (type locality; USNM 4665, holotype).

Rhadinæa fusca: Boulenger (1894a): CENTRAL: Asunción.

Rhadinæa fusca: Boulenger (1894b): CENTRAL: Asunción.

Rhadinæa fusca: Peracca (1895): CENTRAL: Luque.

Rhadinæa fusca: Koslowsky (1898b): Paraguay.

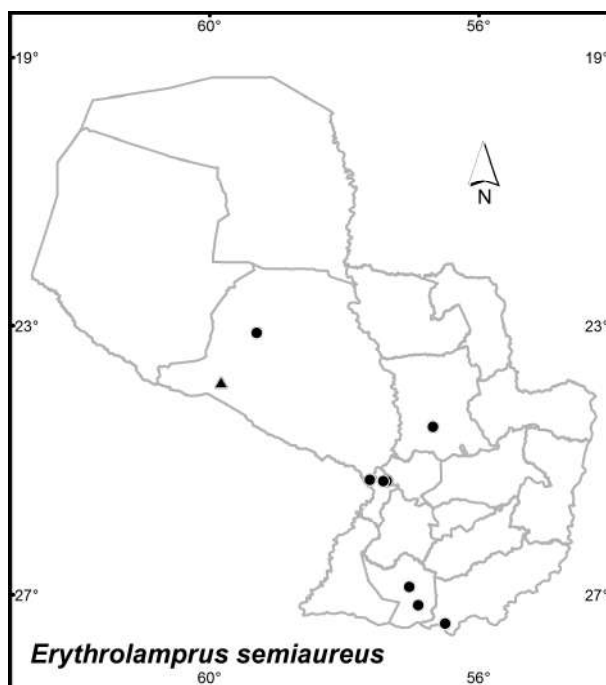
Rhadinæa fusca: Bertoni (1914): Paraguay.

Rhadinæa fusca: Schouten (1931): Paraguay.

Rhadinæa fusca: Schouten (1937): Paraguay.

Liophis m. semiaureus: Bertoni (1939): Río Paraguay.

Liophis miliaris semiaureus: Gatti (1955): Paraguay.



Liophis miliaris: Elter (1981): CENTRAL: Luque (MZUT R1515).

L[iophis]. miliaris [partim]: Aquino et al. (1996): See Specimens Examined.

Liophis semiaureus: Giraudo et al. (2006): See Specimens Examined.

Liophis semiaureus: Motte et al. (2009): Paraguay.

Liophis semiaureus: Cacciali (2009a): Paraguay.

Erythrolamprus semiaureus: Cabral and Weiler (2014): CENTRAL: Areguá (CZCEN 186).

General Distribution: South coastal Brazil, Uruguay, southern and western Paraguay, and northern Argentina (Giraudo et al., 2006).

Local Distribution: This species is associated with the lower ríos Paraguay and Paraná in Wet Chaco and Mesopotamian Grasslands.

Conservation Status: Least Concern.

Comments: The Alto Paraguay record in Aquino et al. (1996) seems to be an error; there is no specimen in the MNHNP with those data.

Specimens Examined: “Paraguay” (USNM 4665). Paraguay (MNHNP 9556, 9561, 9563–9565). CENTRAL: Areguá (LACM 126513, MNHNP 6573, 6574); Asunción (NHMUK 94.3.14.57); Luque (MZUT 1008); San Lorenzo (MNHNP 2527). ITAPÚA: Isla Cururú (MNHNP 4605–4608, 4613–4621, 4666–4720, 4751–4754); Isla Guazú'i (MNHNP 4811, 4812, 4837, 8350); Isla Modesto (MNHNP 4939); Isla Paloma (MNHNP 6591, 8338, 8365); Isla Talavera (MNHNP 4609–4612, 4744–4750); Isla Yacyretá (MNHNP 4808–4810, 4838, 4839, 4861–4865, 4961, 4983, 6705, 6710, 6712, 6713, 7947, 8355–8357, 8360, 8364, 9164). MISIONES: 2.7 km N San Antonio (UMMZ 143421); San Ignacio (MNHNP 9145). PARAGUARÍ: (MNHNP 6749). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 6638). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.3.39, 1962.83, 1962.84).

Photographic Records: PRESIDENTE HAYES: Estancia Sanidad (FPREP 253).

***Erythrolamprus typhlus* (Linnaeus, 1758)**

Liophis typhlus: Boulenger (1896): Paraguay.

Leimadophis typhlus [partim]: Talbot (1979): Eastern Paraguay.

Leimadophis viridis [partim]: Talbot (1979): Eastern Paraguay.

L[iophis]. guentheri [partim]: Aquino et al. (1996): See Specimens Examined.

Liophis typhlus: Motte et al. (2009): Paraguay.

General Distribution: Most of tropical cis-Andean South America with the exception of the Dry Chaco (Dixon, 1987).

Local Distribution: One record from Paraguay east of the Río Paraguay in Concepción in Cerrado. There is also a record in Brazil from Pôrto Murtiñho across the river from Departamento Alto Paraguay (Dixon, 1987).

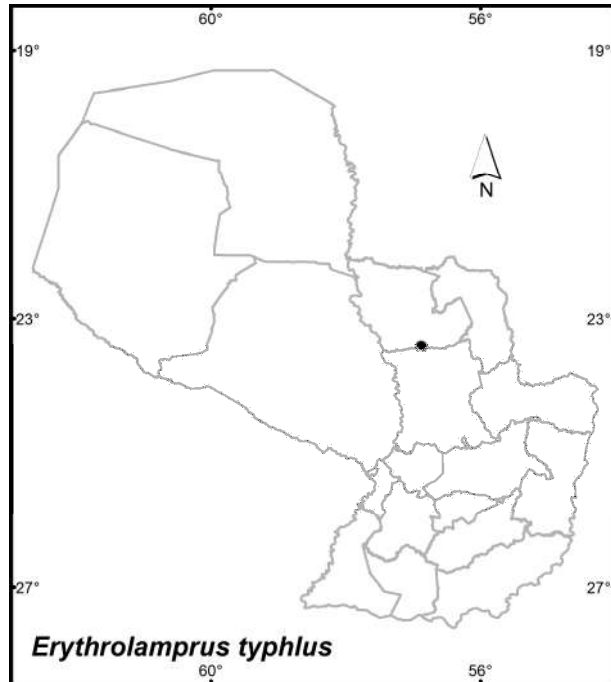
Conservation Status: Data Deficient.

Comments: Most previous records from Paraguay are probably misidentifications of *E. jaegeri* or when the taxon included *E. albertguentheri*, e.g., Bertoni's (1939) localities "Asunción y Chaco." The species has not been recorded from either of these well-collected localities.

For a discussion of the relationships between this species and *E. albertguentheri*, see the Comments under that species.

The subspecies in Paraguay is *E. t. elanoides* (Dixon, 1987).

Specimens Examined: CONCEPCIÓN: Horqueta (MNHNP 2629).



***Lygophis* Fitzinger**

Comments: Zaher et al. (2009) resurrected the genus *Lygophis* from the synonymy of *Liophis* (Dixon, 1980). However, Curcio et al. (2009) declared that this move was premature because the type species of *Lygophis*, *Coluber lineatus* Linnaeus, was not included in the analysis of Zaher et al. (2009). We agree with Grazziotin et al. (2012) and prefer to recognize this distinctive group of snakes as a genus separate from *Liophis* (now *Erythrolamprus*).

***Lygophis anomalus* (Günther, 1858)**

Aporophis anomalus: Cope (1895): "Paraguay" [probably Paraguay Expedition].

Rhadinaea anomala: Koslowsky (1898b): Paraguay.

Rhadinaea anomala: Bertoni (1914): Paraguay.

Rh[adinaea]. anomala: Werner (1929): Paraguay.

Liophis anomalus: Bertoni (1939): Paraguay.

Liophis anomalus: Talbot (1979): Eastern Paraguay.

General Distribution: Pôrto Alegre, Rio Grande do Sul, Brazil, and Provincia de Chaco, Argentina (27°S) south through western Argentina and Uruguay to south of Buenos Aires (38°S; Dixon, 1985).

Local Distribution: There is no map shown because the only Paraguayan voucher specimen does not have specific locality data. The species is probably present along the lower Río Paraná (Dixon, 1985).

Conservation Status: Not Evaluated.

Comments: Previous Paraguayan records are not supported by vouchers. Old records of the rare *Liophis anomalus* (Cope, 1895, Bertoni, 1914, 1939; Schouten, 1931, 1937; Gatti, 1955) could either refer to this species or to the common *E. almadensis* which has a similar color pattern. *Erythrolamprus almadensis* has often been confused with this species (Gallardo, 1986; Yanosky et al., 1993; Giraudo and Scrocchi, 2002).

Cope (1862b, page 80) described the type locality of *Lygophis rutilus* (a synonym of *L. anomalus*) as "Paraguay, along the Parana River and its branches, in particular the Tigre." This is contradictory. The Río Tigre enters the estuary of the Río Paraná (called Río de la Plata) near Buenos Aires, Argentina, far south of Paraguay, and Cope (1862d) amended the locality for the same specimen to "Buenos Ayres."

Cope's (1862b) number for the type of *L. rutilus* is "Mus. Smithsonian, Washington (5397)." His next statement, "Acad. Philada.," probably refers to the current ANSP 5534 which retains a parchment tag reading 5397. "5397" is also listed by Cope (1862b) as one of the cotypes of *Lygophis flavifrenatus* from the "Rio Vermejo region." Evidently, Cope gave the same number to two specimens, one of which, a *L. rutilus*, stayed in the ANSP and was renumbered ANSP 5534. The other went back to the USNM as the current USNM 5397; USNM 5397 and 5398 are the cotypes of

Lygophis flavifrenatus.

Specimens ANSP 5533, 5534, and 20823 are listed in the Academy's catalogue as syntypes of *L. rutilus* (Malnate, 1971). As noted above, 5534 is probably the holotype of *L. rutilus*, but the others, although collected on the same expedition, are not mentioned by Cope (1862b) and, therefore, are not syntypes.

To further complicate the matter, in the original USNM ledger the entry under 5397 was simply "*Dromicus*." Two later entries were inked-in under the same number: "*Lygophis rutilus* Cope Type" with a penciled notation, "Buenos Ayres" and "*Lygophis flavifrenatus* Cope Type." Apparently Cochran (1961), in her type catalogue, conflated the two under the name *Liophis flavifrenatus* and mistakenly gave "Buenos Aires" instead of "Río Vermejo region" as the type locality for that name.

Specimens Examined: Paraguay (ZVC-R 2431).

***Lygophis dilepis* (Cope, 1862d)**

Lygophis dilepis Cope (1862d): Paraguay Expedition (type locality; USNM 5861, holotype).

Aporophis lineatus: Boulenger (1894a): CENTRAL: Asunción.

Aporophis lineatus: Boulenger (1894b): CENTRAL: Asunción.

Aporophis dilepis: Peracca (1895): CENTRAL: Luque. CONCEPCIÓN: Río Apa.

Aporophis dilepis: Boulenger (1896): CONCEPCIÓN: Río Apa.

Aporophis dilepis: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Aporophis dilepis: Berg (1898): Paraguay.

Aporophis lineatus: Peracca (1895): CENTRAL: Luque.

Aporophis lineatus: Koslowsky (1898b): Paraguay.

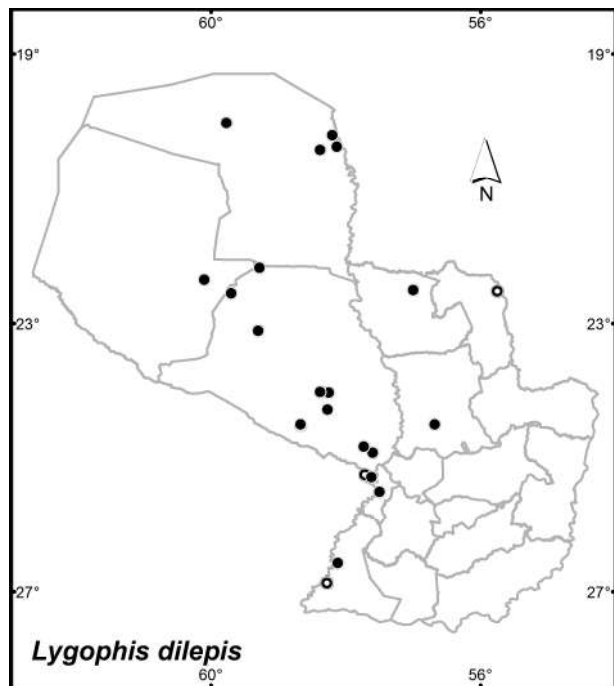
Aporophis dilepis: Schenkel (1901): Paraguay.

Aporophis lineatus (L.) = *A. dilepis* Cope?: Bertoni (1914): CENTRAL: Asunción. CONCEPCIÓN: Río Apa.

A[porophis]. dilepis: Werner (1929): Paraguay.

A[porophis]. lineatus: Werner (1929): Paraguay.

Aporophis lineatus: Schouten (1931): Paraguay.



Aporophis lineatus: Schouten (1937): Paraguay.

Lygophis lineatus = *A. dilepis* Cope?: Bertoni (1939): CENTRAL: Asunción. CONCEPCIÓN: Río Apa.

Lygophis lineatus dilepis: Hoge (1952): CENTRAL: Bahía de Asunción (IB 10.111–10.113).

Lygophis lineatus: Talbot (1979): Eastern Paraguay.

Liophis lineatus: Elter (1981): CENTRAL: Luque (MZUT R1160). CONCEPCIÓN: Río Apa (MZUT R1164).

Liophis lineatus: Campbell and Murphy (1984): CENTRAL: Vicinity of Asunción.

Liophis dilepis: Michaud and Dixon (1987): Paraguay (NS 127186 [=USNM 342111]). “Chaco” (USNM 69872). ALTO PARAGUAY: Agua Dulce (NS 98664 [=USNM 342108]); Puerto 14 de Mayo (NHMUK 98.6.3.7, 98.6.3.8). AMAMBAY: Pedro Juan Caballero (MCZ 46999, 47031). BOQUERÓN: Filadelfia (CM 94227, USNM 129445). CENTRAL: Villeta (NS 125645 [=USNM 342106]). PARAGUARÍ: 15 km S Parque Nacional “Ybycuí” (NS 125813 [=MNHNP 5116]). PRESIDENTE HAYES: Chaco’í (MZUSP 2399); La Golondrina (NS 127185 [=USNM 342110]); Route IX Km 199 (NS 97980 [=USNM 342109]). SAN PEDRO: Colonia Primavera (NHMUK 1958.1.2.23).

Liophis dilepis: Aquino-Shuster et al. (1991): See Specimens Examined.

Liophis dilepis: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar.

L[iophis]. dilepis [partim]: Aquino et al. (1996): See Specimens Examined.

Liophis dilepis: Leynaud and Bucher (1999:map): Paraguay.

Liophis dilepis: Ziegler et al. (2002b): BOQUERÓN: Filadelfia (MTKD 43463).

Liophis dilepis: Motte et al. (2004): Paraguay.

Liophis dilepis: Motte et al. (2009): Paraguay.

Lygophis dilepis: Cacciali (2009a:map): Paraguay.

Lygophis dilepis: Cabral and Weiler (2014): CENTRAL: Limpio (CZCEN 310)

General Distribution: Two disjunct populations; one in northeastern Brazil, the other in extreme southeastern Bolivia, Mato Grosso do Sul, Brazil, Paraguay, and northern Argentina (Michaud and Dixon, 1987; their “Mato Grosso” localities are actually in Mato Grosso do Sul).

Local Distribution: Principally the floodplain of the Río Paraguay in Pantanal and Wet Chaco, with extensions west into Dry Chaco and east into Cerrado.

Conservation Status: Least Concern.

Comments: The species is in the *Liophis lineatus* complex, last reviewed by Michaud and Dixon (1987). The striped species in the complex (*dilepis*, *lineatus*, *meridionalis*, *flavifrenatus*) have long been confused in lists, with *L. lineatus* often the default name. We have tried to sort out the most logical synonymies where there are no voucher specimens.

Specimens Examined: “Paraguay” (USNM 342111); Paraguay (MNHNP 4006, 9559, 10713). “Chaco” (USNM 69872). ALTO PARAGUAY: Agua Dulce (USNM 342108); Colonia Potrerito (MNHNP 3348, 3349, 5243–5247); Puerto 14 de Mayo (NHMUK 98.6.3.7, 98.6.3.8); Puerto Caballo (MNHNP 2672). BOQUERÓN: Filadelfia (MNHNP 5115). CENTRAL: Luque (MNHNP 6412, MZUT 1004); Villeta (USNM 342107). CONCEPCIÓN: Río Apa (MZUT 1003, NHMUK 94.12.31.1). ÑEEMBUCÚ: Estancia Yacaré (MNHNP 5117). PRESIDENTE HAYES: 24 km NW Villa Hayes (MNHNP 3123); Estancia Juan de Zalazar (MNHNP 5248, 5476); 8 km NE Juan de Zalazar (UMMZ 166842); Estancia La Golondrina (MNHNP 4167, USNM 342110); Estancia La Rural (MNHNP 5249); Estancia Palo Santo (MNHNP 5053); Estancia Pozo Azul (MNHNP 2671); Laguna Capitán (MNHNP 10896, 10897); Route IX Km 167 (MNHNP 2670); Route IX Km 199 (USNM 342109). SAN PEDRO: Primavera (NHMUK 1958.1.2.23).

Photographic Records: CENTRAL: Campo Grande (FPREP 240).

***Lygophis flavifrenatus* Cope, 1862**

Aporophis flavifrenatus: Peracca (1895): GUAIRÁ: Villarrica.

Aporophis flavifrenatus: Berg (1898): Paraguay.

Aporophis flavifrenatus:
Koslowsky (1898b): Paraguay.

Aporophis flavifrenatus: Bertoni
(1914): Paraguay.

Aporophis flavifrenatus: Schouten
(1931): Paraguay.

Aporophis flavifrenatus: Schouten
(1937): Paraguay.

Lygophis flavifrenatus: Bertoni
(1939): Chaco.

Lygophis flavifrenatus: Hoge
(1952): Paraguay

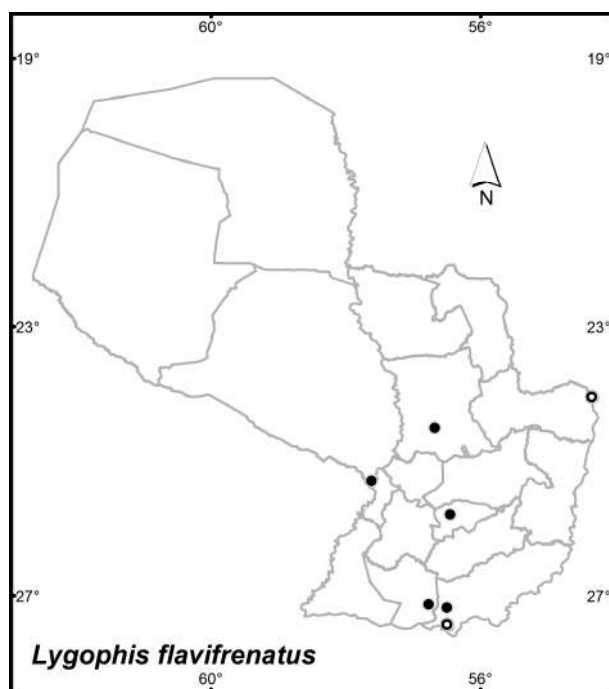
Lygophis flavifrenatus: Gatti
(1955): Chaco paraguayo.

Lygophis flavifrenatus: Talbot
(1979): Western Paraguay.

Liophis flavifrenatus: Elter (1981): GUAIRÁ: Villarrica (MZUT R1163).

Liophis flavifrenatus: Michaud and Dixon (1987): CANINDEYÚ: [Saltos del] Guairá (MZUSP 5337). “PRESIDENTE HAYES” [SAN PEDRO]: Primavera (NHMUK 1955.1.5.98).

Liophis flavifrenatus: Álvarez et al. (1995): ITAPÚA: Isla Talavera (UNNEC 491); Isla Ybycuí (UNNEC 471).



L[iophis]. flavifrenatus [partim]: Aquino et al. (1996): See Specimens Examined.

Liophis flavifrenatus: Motte et al. (2004): Paraguay.

Liophis flavifrenatus: Motte et al. (2009): Paraguay.

Lygophis flavifrenatus: Cacciali (2009a): Paraguay.

General Distribution: Southern Brazil, central and southern Paraguay, northeastern Argentina, and Uruguay (Michaud and Dixon, 1987; Giraudo, 2002; Carreira et al., 2005).

Local Distribution: Eastern Paraguay south of 24°S in open formations: Central Forest and Mesopotamian Grasslands and one record in Atlantic Forest.

Conservation Status: Least Concern.

Comments: See Comments under *Lygophis dilepis*.

The type locality of *Lygophis flavifrenatus*, “Río Vermejo region” (Cope, 1862b), has often been referred to as being in Paraguay (e.g., Peters and Orejas-Miranda, 1970; Michaud and Dixon, 1987). When Cope published, the territory was Paraguayan but, in 1876 after the Paraguayan defeat in a war against the united forces of Argentina, Brazil, and Uruguay, the region between the Río Bermejo and the Río Pilcomayo was ceded to Argentina and is now Provincia de Formosa.

Cochran (1961) incorrectly listed the type locality of *L. flavifrenatus* as “Buenos Aires.” See Comments under *Lygophis anomalus*.

Specimens Examined: Paraguay Expedition, Río Vermejo, Argentina (USNM 5397, 5398, cotypes of *L. flavifrenatus*). “Paraguay River” (NHMUK 1923.12.5.1, 1923.12.5.2). CENTRAL: Asunción (ANSP 20824). GUAIRÁ: Villarrica (MZUT 1007). ITAPÚA: 45 km NE Ayolas (MNHNP 4945). MISIONES: 2 km S Santiago (MNHNP 3395). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.5.98).

Photographic Records: ITAPÚA: Isla Yacyretá (FPREP 476; 517, 518).

***Lygophis meridionalis* (Schenkel, 1901)**

Lygophis lineatus: Cope (1862d): Paraguay Expedition (USNM 5810).

Aporophis lineatus, L. var. *meridionalis*: Schenkel (1901): “Bemalcue, Monte Sociedad, Paraguay” (type locality; NMB 1454–1457, syntypes). See Comments.

Aporophis lineatus: Peracca (1895): GUAIRÁ: Villarrica

Aporophis lineatus: Bertoni (1914): CENTRAL: Asunción.

Aporophis lineatus L. var. *meridionalis*: Serié (1915): Paraguay.

Aporophis lineatus: Serié (1915):
CENTRAL: Trinidad.

Aporophis lineatus meridionalis:
Bertoni (1918): Paraguay.

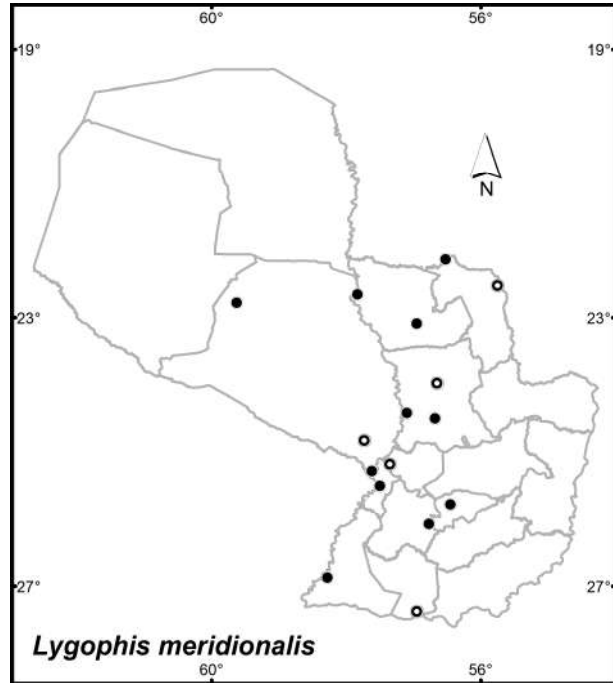
Aporophis lineatus meridionalis:
Schouten (1931): MISIONES.

Aporophis lineatus meridionalis:
Schouten (1937): Paraguay.

Lygophis lineatus: Gatti (1955):
Paraguay.

Liophis lineatus: Elter (1981):
GUAIRÁ: Villarica (MZUT
R1161[2]).

Liophis lineatus: Campbell and
Murphy (1984): CENTRAL:
Vicinity of Asunción.



Liophis meridionalis: Michaud and Dixon (1987): Paraguay (USNM 5810).
AMAMBAY: Pedro Juan Caballero (FMNH 42272, MCZ 46998).
CONCEPCIÓN/PRESIDENTE HAYES: Puerto Pinasco (USNM 63500).
“PRESIDENTE HAYES” [SAN PEDRO]: Primavera (NHMUK 1956.1.3.41,
1956.1.3.42, 1956.1.16.38, 1958.1.2.22, 1960.1.2.83, 1962.73–1962.79);
Carumbé (FML 635).

L[iophis]. dilepis [partim]: Aquino et al. (1996): See Specimens Examined.

L[iophis]. flavifrenatus [partim]: Aquino et al. (1996): See Specimens Examined.

L[iophis]. meridionalis: Aquino et al. (1996): See Specimens Examined.

Liophis meridionalis: Leynaud and Bucher (1999:map): Paraguay.

Liophis meridionalis: Motte et al. (2004): Paraguay.

Liophis meridionalis: Motte et al. (2009): Paraguay.

Lygophis meridionalis: Cacciali (2009a:map): Paraguay.

General Distribution: Central and southeastern Brazil, eastern Bolivia, eastern Paraguay, and northeastern Argentina (Michaud and Dixon, 1987).

Local Distribution: Open ecoregions east of the Río Paraguay in Central Forest, Cerrado, Mesopotamian Grasslands, and Wet Chaco, only avoiding Atlantic Forest. There is one Wet Chaco locality west of the river.

Conservation Status: Least Concern.

Comments: See Comments under *Lygophis dilepis*. The species is in the *Lygophis lineatus* complex, which was last reviewed (as *Liophis*) by Michaud and Dixon (1987). This species was described using four specimens from “Bemalcue, Mte. Sociedad” in Paraguay (Schenkel, 1901). According to Cacciali and Wüest (2009), these are two separate localities that have changed their names to Nueva Colombia, Departamento Cordillera; and Cerrito, Departamento Presidente Hayes, respectively. They restricted the type locality to “Monte Sociedad” or Cerrito.

Specimens Examined: “Paraguay” (USNM 5810). AMAMBAY: Bella Vista (MNHNP 2669). CENTRAL: Asunción (NHMUK 1930.11.27.209, 1930.11.27.210); Luque (MNHNP 6411, MZUT 1006, 1125); Villeta (MNHNP 2674). CONCEPCIÓN: Paso Barreto (MNHNP 7298). GUAIRÁ: Villarrica (MZUT 1006). ÑEEMBUCÚ: 7 km NE Pilar (MNHNP 3788). PARAGUARÍ: 15 km S entrance to Parque Nacional Ybycuí (MNHNP 5116). PRESIDENTE HAYES: Puerto Pinasco (USNM 63500); 25 Leguas (AMNH 143296). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.3.41, 1956.1.16.38, 1958.1.2.22, 1960.1.2.80–1960.1.2.83, 1962.73–1962.79); Villa del Rosario (MNHNP 2673).

Photographic Record: ?MISIONES: (FPREP 390).

***Lygophis paucidens* Hoge, 1953**

Lygophis paucidens: Cacciali et al. (2013): SAN PEDRO: Laguna Blanca (CZPLT 122, 144).

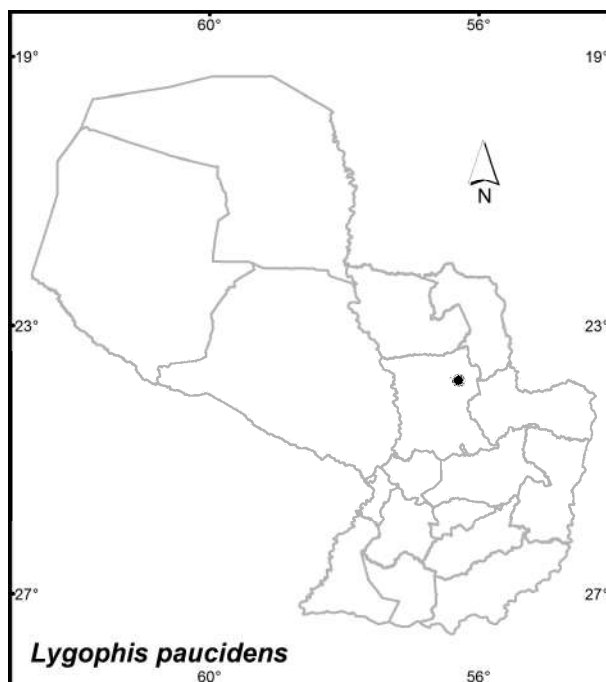
General Distribution: Goias, Brazil and central Paraguay.

Local Distribution: One locality in San Pedro in Cerrado.

Conservation Status: Not Evaluated.

Specimens Examined: SAN PEDRO: Laguna Blanca (CZPLT 122, 144).

Photographic Records: SAN PEDRO: Laguna Blanca (FPREP 691–694).



***Xenodon dorbignyi* (Duméril, Bibron and Duméril, 1854)**

Heterodon d'orbignyi: Cope (1862d): Paraguay Expedition (USNM 5808).

Heterodon d'orbignyi [sic]: Boettger (1885a): Paraguay.

Lystrophis d'orbignyi: Koslowsky (1898b): Paraguay.

Lystrophis dorbignyi: Bertoni (1914): Paraguay.

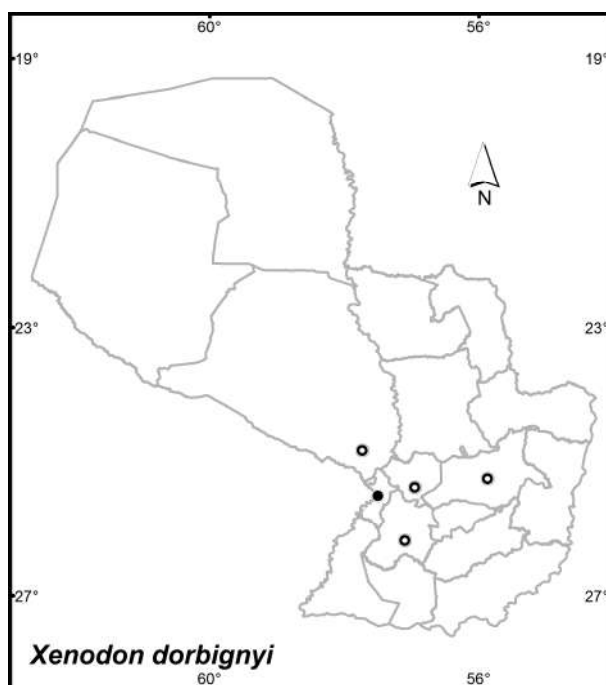
Lystrophis dD'orbignyi: Serié (1915): PRESIDENTE HAYES: "Barbero (Norte del Paraguay)" (Estancia Remancito). See Comments under *Mussurana bicolor*.

Lystrophis d'orbignyi: Schouten (1931): Paraguay.

Lystrophis dorbignyi: Schouten (1937): Paraguay.

Lystrophis dorbignyi: Bertoni (1939): CORDILLERA: [Estancia] Barrero Grande [= Eusebio Ayala].

Lystrophis dorbignyi: Gatti (1955): Paraguay.



Lystrophis dorbignyi: Orejas Miranda (1966:map): Unspecified localities in CAAGUAZÚ and PARAGUARÍ.

Lystrophis dorbignyi: Talbot (1979): Eastern Paraguay.

Lystrophis dorbignyi: Motte et al. (2009): Paraguay.

Xenodon dorbignyi: Cacciali (2009a:map): Paraguay.

General Distribution: Argentina, Uruguay, southern Paraguay, Bolivia, and southern Brazil (Peters and Orejas-Miranda, 1970; Ceí, 1993; Leynaud and Bucher, 1999; Carreira et al., 2005; Scrocchi et al., 2006).

Local Distribution: Southern Paraguay in the Oriental Region (Orejas-Miranda, 1966). Although Orejas-Miranda (1966) does not cite specific localities, he plots points in Atlantic Forest and Central Forest. The single MNHNP specimen with locality data is from Wet Chaco.

Conservation Status: Data Deficient.

Comments: This species has a highly variable color pattern, and subspecies designations are controversial (Carreira et al., 2005; Lema, 1994). If the current subspecies are accepted, then *Xenodon d. chacoensis* is in Paraguay (Lema, 1994; Tipton, 2005).

The generic designation follows Zaher et al. (2009).

Specimens Examined: "Paraguay" (USNM 5574). Paraguay (MNHNP 9558, 9770). CENTRAL: Villeta (MNHNP 2680).

***Xenodon histricus* (Jan, 1863)**

Lystrophis histrucus [sic]: Koslowsky (1898b): Paraguay.

Lystrophis histricus: Bertoni (1914): Paraguay.

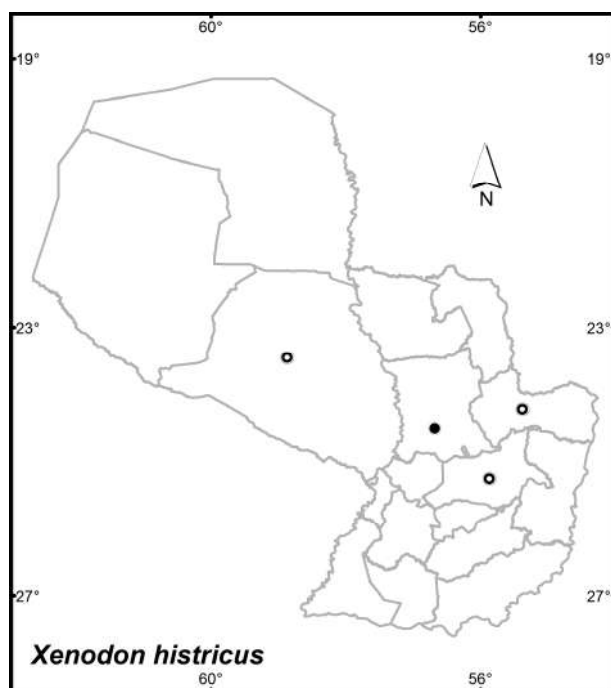
Lystrophis histricus: Schouten (1931): Paraguay.

Lystrophis histricus: Schouten (1937): Paraguay.

Lystrophis histricus: Bertoni (1939): Paraguay.

Lystrophis histricus: Gatti (1955): Paraguay.

Lystrophis histricus: Orejas Miranda (1966:map): Unspecified localities in CAAGUAZÚ, CANINDEYÚ, and PRESIDENTE HAYES. See Comments.



Lystrophis histricus: Talbot (1979): Eastern Paraguay.

Lystrophis histricus: Viñas and Olmedo (1988): Paraguay (MLP 154).

Lystrophis histricus: Motte et al. (2009): Paraguay.

Xenodon histricus: Cacciali (2009a): Paraguay.

General Distribution: Northeastern Argentina, eastern Paraguay, Uruguay, and southeastern Brazil (Peters and Orejas-Miranda, 1970; Cei, 1993; Leynaud and Bucher, 1999; Carreira et al., 2005).

Local Distribution: Wet Chaco in Departamento San Pedro. Orejas-Miranda (1966) recorded three additional points in his map (without specific location) from central Presidente Hayes (probably *en errore*), Canindeyú, and Caaguazú (Atlantic Forest).

Conservation Status: Data Deficient.

Comments: The Presidente Hayes site on the map in Orejas-Miranda (1966) is likely to be an error. The locality is probably Primavera in San Pedro. Other workers have also misplaced this important locality, e.g., Dixon and Kofron (1983) and Dixon (1991).

The generic designation follows Zaher et al. (2009). Although the species has been recorded from Paraguay in various publications since 1898, the only specimen with locality data that we have examined is from San Pedro, probably in Wet Chaco.

Specimens Examined: SAN PEDRO: Colonia Primavera (NHMUK 1960.1.2.79).

***Xenodon merremi* (Wagler, 1824)**

Xenodon severus: Boettger (1885a): Paraguay.

Xenodon merremii: Peracca (1895): CENTRAL: Asunción; Luque.

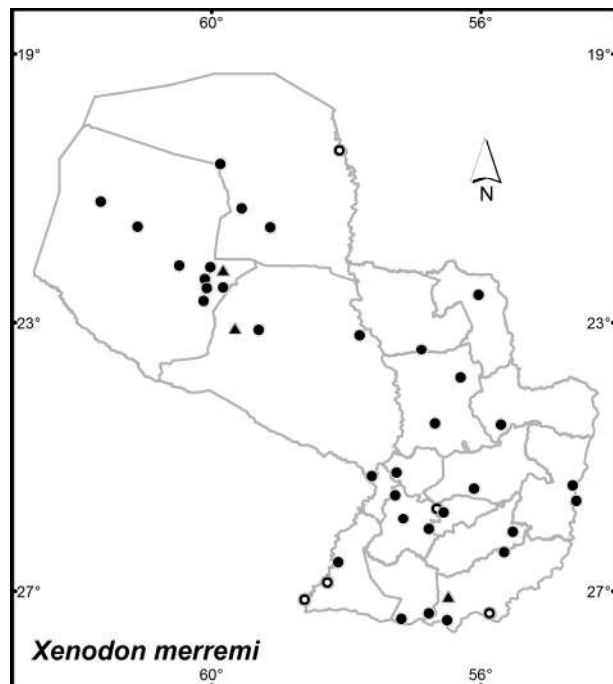
Xenodon rhabdocephalus: Boulenger (1894a): CENTRAL: Asunción.

Xenodon merremii: Boulenger (1894b): CENTRAL: Asunción.

Xenodon merremii: Boulenger (1898a): ALTO PARAGUAY: Puerto 14 de Mayo.

Xenodon merremi: Berg (1898): Paraguay.

Xenodon merremi: Koslowsky (1898b): Paraguay.



- Xenodon merremii*: Peracca (1904): GUAIRÁ: Tebicuary.
- Trionocephalus flavescens* Bacqué (1906): CENTRAL: Asunción (type locality).
- Trionocephalus alternatus binocularius* Bacqué (1906): CENTRAL: Asunción (type locality).
- Xenodon merremi*: Bertoni (1913): Paraguay.
- Xenodon meremii*: Bertoni (1914): Paraguay.
- Xenodon merremi*: Serié (1915): CENTRAL: Trinidad. Kiriopitá (we could not find this locality).
- Xenodon merremi*: Serié (1916): CENTRAL: Trinidad.
- Xenodon merremii*: Bertoni (1918): ALTO PARANÁ: Puerto Bertoni.
- Xenodon merremii*: Bertoni (1921): Paraguay.
- Xenodon tachyrenis*: Migone (1929): Central region.
- Xonodon* [sic] *merrenii* [sic]: Migone (1929): Chaco.
- Xenodon merremi*: Schouten (1931): Paraguay.
- Xenodon meremii* [sic]: Schouten (1931): Paraguay.
- Ophis meremii* [sic]: Schouten (1937): Paraguay.
- Ophis merremii*: Bertoni (1939): ALTO PARANÁ. CENTRAL: Asunción.
- Ophis severus*: Bertoni (1939): CENTRAL: Asunción.
- Xenedon* [sic] *merremii*: Gatti (1955): Paraguay.
- Xenodon severus*: Gatti (1955): Paraguay.
- Tomodon dorsatum*: Canese (1966): Paraguay.
- Xenodon merremii*: Talbot (1979): Eastern Paraguay.
- Xenodon merremi*: Scott and Lovett (1975): See Specimens Examined.
- Xenodon merremi*: Elter (1981): ALTO PARANÁ: Puerto Bertoni (MZUT R3366). CENTRAL: Asunción (MZUT R1786); Luque (MZUT R1777, R1788).
- Waglerophis merremii*: Kornacker (1988:map): ALTO PARAGUAY. AMAMBAY. BOQUERÓN: near Filadelfia (photo). CAAGUAZÚ. CENTRAL. CONCEPCIÓN. MISIONES. ÑEEMBUCU. PARAGUARÍ.
- Waglerophis merremii*: Giraudo and Contreras (1994): ÑEEMBUCÚ: Pilar; Curupayty.
- Waglerophis merremii*: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.
- Waglerophis merremi*: Aquino et al. (1996): See Specimens Examined.
- Waglerophis merremii*: Leynaud and Bucher (1999:map): Paraguay.
- Waglerophis merremi*: Ziegler et al. (2002b): BOQUERÓN: Filadelfia (MTKD 43445,46).

Waglerophis merremi: Motte et al. (2004): Paraguay.

Waglerophis merremi: Motte et al. (2009): Paraguay.

Xenodon merremi: Cacciali (2009a:map): Paraguay.

Waglerophis merremi: Cacciali (2009b): ITAPÚA: Colonia Amistad (photograph).

Xenodon merremi: Cacciali (2010b): See Specimens Examined.

Xenodon merremi: Cacciali (2013): ITAPÚA: Kangüery.

General Distribution: The Guianas except Suriname (Hoogmoed, 1985), Brazil, Paraguay, Bolivia, Peru, Ecuador, and central and northern Argentina (Peters and Orejas-Miranda, 1970).

Local Distribution: Present in the entire country, in all ecoregions.

Conservation Status: Least Concern.

Comments: The generic designation follows Zaher et al. (2009). Cacciali (2010b) described the distribution of color patterns with respect to ecoregions.

Specimens Examined: Paraguay Expedition (ANSP 5734). Paraguay (MNHNP 2611, 9256, 9429, 9431, 9432, 9448, 9456, 9516, 9554, 9566, 9583, 9593, 9594). ALTO PARAGUAY: Estancia Tres Marías (MNHNP 9197); Fortín Madrejón (MNHNP 2657, 2679); Laguna León (MNHNP 11041). ALTO PARANÁ: Puerto Bertoni (MZUT R3366); Tatí Yupi (MAI 91). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 2659, 2660, 9193). BOQUERÓN: 3 km S COPAGRO (UCS 7592); 5 km W Fortín Madrejón (UCS 7946); 9 km S Loma Plata (MNHNP 9996); 15.6 km S Filadelfia (MNHNP 10033); 26 km N Filadelfia (MNHNP 9736); Parque Nacional Teniente Enciso (MNHNP 2656, 6524); Filadelfia (MNHNP 2610, 3839, 8495); Neuland (MNHNP 9992); Route IX Km 508 (MNHNP 2655); Route IX Km 519 (MNHNP 6825). CAAGUAZÚ: Colonia Walter Insfrán (MNHNP 2601). CAAZAPÁ: Parabel (MNHNP 8808). CANINDEYÚ: Estancia Retamoso, Curuguaty (MAI R111). CENTRAL: Asunción (MNHNP 3180, 6520, NHMUK 94.3.14.52, 94.3.14.53, 1930.11.27.203–1930.11.27.207); vicinity of Asunción (AMNH 75286, 78970, 78984); Guarambaré (MNHNP 2664); Luque (MNHNP 6286, 6288–6290, MZUT (2 n/n); San Lorenzo (MNHNP 7053, 7461, 9172, 9939); Trinidad (UMMZ 108870). CONCEPCIÓN: Horqueta (MNHNP 2609). CORDILLERA: Altos (MNHNP 10309). GUAIRÁ: 13 km W Villarrica (MNHNP 6518). ITAPÚA: 3.5 km E Parque Nacional San Rafael (UMMZ 153078); Coast of the Paraná (MNHNP 4213); Isla Yacyretá (MNHNP 9568); Kangüery (Cacciali, 2013). MISIONES: 20 km SSW Santiago (LACM 126514); Yabebyry (MNHNP 3779–80). ÑEEMBUCÚ: Estancia Yacaré (MNHNP 4556, 4585, 6679). PARAGUARÍ: Acahay (MNHNP 3540); Coronel C. Barrientos (MNHNP 3781); Parque Nacional Ybycuí (MNHNP 2661–2663, UMMZ 166843); Yaguarón (MNHNP 2658). PRESIDENTE HAYES: Estancia Juan de Zalazar (UCS 6987); Estancia Bella Vista (MNHNP 10610). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.5.89, 1955.1.5.96, 1955.1.5.97, 1960.1.3.9, 1962.70–1962.72); Laguna Blanca (CZPLT 78, 294).

Photographic Records: BOQUERÓN: 20 km N Loma Plata (FREP 695–700). ITAPÚA: Kangüery (322,323). MISIONES: Estero Kuruñai (FPREP 320,321). PRESIDENTE HAYES: Laguna Bombacha (FPREP 325–327).

***Xenodon neuwiedii* (Günther, 1863)**

Xenodon neuwiedi: Koslowsky (1898b): Paraguay.

Xenodon neuwiedi: Bertoni (1914): MISIONES.

Xenodon neuwiedi: Bertoni (1918): ALTO PARANÁ: Puerto Bertoni.

Xenodon neuwiedi: Schouten (1931): Paraguay.

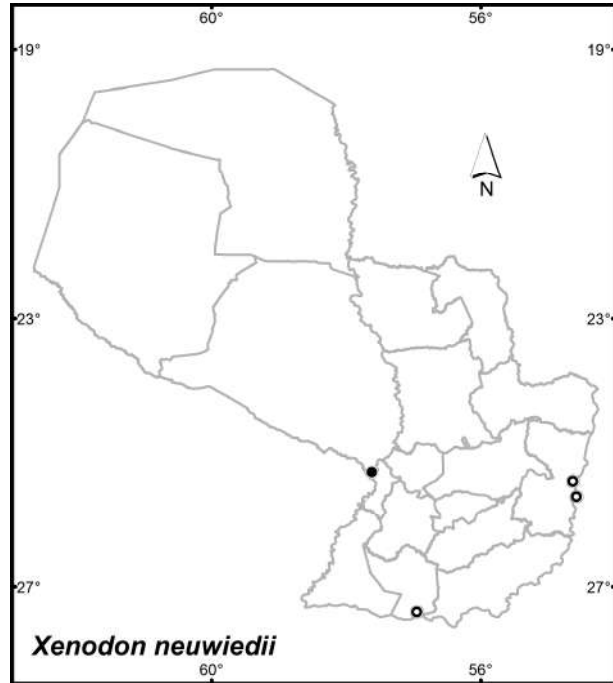
Ophis neuwiedi: Schouten (1937): Paraguay.

Ophis neuwiedi: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni. MISIONES.

Xenedon neuwiedi [sic]: Gatti (1955): Paraguay.

Xenodon neuwiedii: Talbot (1979): Eastern Paraguay.

Xenodon neuwiedi: Duré Rodas (1995): ALTO PARANÁ: Vicinity of Itaipú.



General Distribution: Central and southern Brazil, Paraguay, and northern Argentina (Peters and Orejas-Miranda, 1970).

Local Distribution: Few records along the rios Paraguay and Paraná in Wet Chaco, Mesopotamian Grasslands, and Atlantic Forest.

Conservation Status: Data Deficient.

Comments: The only recent published records for this species are from Provincia de Misiones, Argentina, adjacent to extreme southeastern Paraguay (Giraudo, 2002).

Specimen Examined: CENTRAL: Asunción (NHMUK 98.6.9.19).

***Xenodon pulcher* (Jan, 1863)**

Lystrophis semicinctus: Orejas Miranda (1966): Unspecified locality in BOQUERÓN.

Lystrophis semicinctus: Scott and Lovett (1975): See Specimens Examined.

Lystrophis semicinctus: Talbot (1979): Western Paraguay.

Lystrophis semicinctus: Aquino-Shuster et al. (1991): See Specimens Examined.

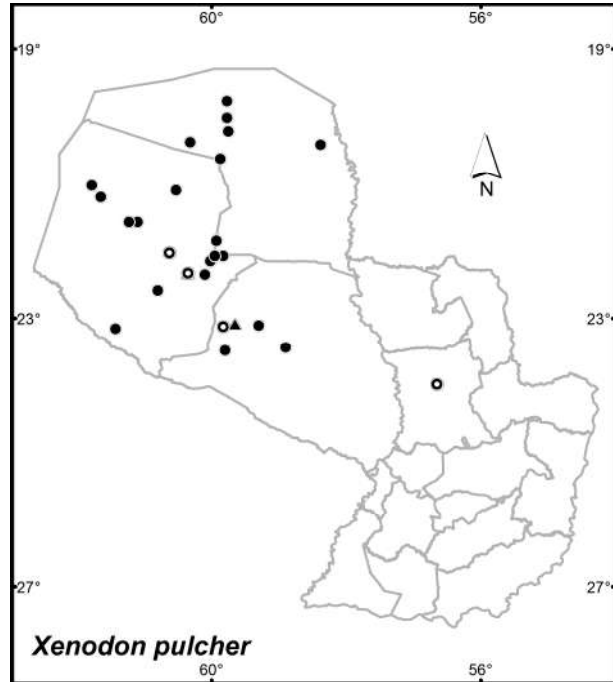
Lystrophis pulcher: Scrocchi and Cruz (1993): SAN PEDRO: Carumbé (FML 634).

Lystrophis semicinctus: Aquino et al. (1996): See Specimens Examined.

Lystrophis pulcher: Leynaud and Bucher (1999:map): Paraguay.

Lystrophis semicinctus: Ziegler et al. (2002b): BOQUERÓN: Filadelfia; Fortín Toledo; vicinity of Mariscal Estigarribia (MTKD 43450–43452 without specifying which specimen belongs to which locality).

Lystrophis pulcher: Motte et al. (2009): Paraguay.



Xenodon pulcher: Cacciali (2009a:map): Paraguay.

Xenodon pulcher: Cabral and Weiler (2014): BOQUERÓN: Filadelfia (CZCEN 294, 295). PRESIDENTE HAYES: Rancho Quemado (CZCEN 506).

General Distribution: Southwestern Brazil, southern and eastern Bolivia, northern Paraguay, and northern Argentina (Scrocchi and Cruz, 1993; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: Departments west of the Río Paraguay and one record east of the river, mostly in Dry Chaco but also on the fringes of Wet Chaco.

Conservation Status: Least Concern.

Comments: Long referred to as *Lystrophis semicinctus*, the species name *L. pulcher* was revalidated by Scrocchi and Cruz (1993).

The generic designation follows Zaher et al. (2009), who found the nominal genus *Lystrophis* deeply nested within *Xenodon*.

Specimens Examined: ALTO PARAGUAY: 50 km WNW Fortín Madrejón (UMMZ 147649); Agua Dulce (MNHNP 5208); Cerro León (MNHNP 2565, 2566); Colonia

Potrerito (MNHNP 5206); Estancia Campo Grande (MNHNP 10161, 10162); Fortín Madrejón (MNHNP 3503). BOQUERÓN: 4 km SE Parque Nacional Teniente Enciso (MNHNP 2564); 7 km E Filadelfia (MNHNP 10576); 28 km N Filadelfia (MNHNP 5209); 100 km W Cruce de Los Pioneros (MNHNP 6508); Campo Loro (MNHNP 10543); Comunidad Ayoreo Jesudi (MNHNP 10723, 10729, 10730); COPAGRO (UCS 7915, 7496, 7497, 8033); Estancia Agropil (MNHNP 11026); Filadelfia (MNHNP 3596); Laguna General Bogado (EBD 29326); Parque Nacional Teniente Enciso (MNHNP 2567, 3542, 3597, 5207, 5564); Road to Cerro León, 2 km W Fortín Madrejón (MNHNP 2561); Route IX Km 613 (MNHNP 2562); Route IX Km 620 (UMMZ 153072); Route IX Km 695 (MNHNP 2563); Teniente Montanía (EBD Field Numbers 78018-1, 78018-2). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 3402, 3980, UCS 5717, 5718); 8 km NE Estancia Juan de Zalazar (UMMZ 166845); Estancia El Tejano (MNHNP 5210); Estancia Sammaklay (MNHNP 9183); Río Verde (MNHNP 4028).

Photographic Records: BOQUERÓN: Fortín Toledo (FPREP 701–705). PRESIDENTE HAYES: Laguna Bombacha (FPREP 254–256).

Dipsadidae–*Incertae Sedis*

Xenopholis undulatus (Jensen, 1900)

Paroxyrhopus reticulatus Schenkel (1901): “Bemalcue, Paraguay,”
=CORDILLERA: Nueva Colombia (type locality; NMB 1865, holotype).

Paroxyrhopus reticulatus: Serié
(1915): Paraguay.

Paroxyrhopus reticulatus: Bertoni
(1918): Paraguay.

Paroxyrhopus reticulatus: Werner
(1923): Paraguay.

Paroxyrhopus reticulatus: Werner
(1925): Paraguay.

Paroxyrhopus reticulatus:
Schouten (1931): Paraguay.

Paroxyrhopus reticulatus:
Schouten (1937): Paraguay.

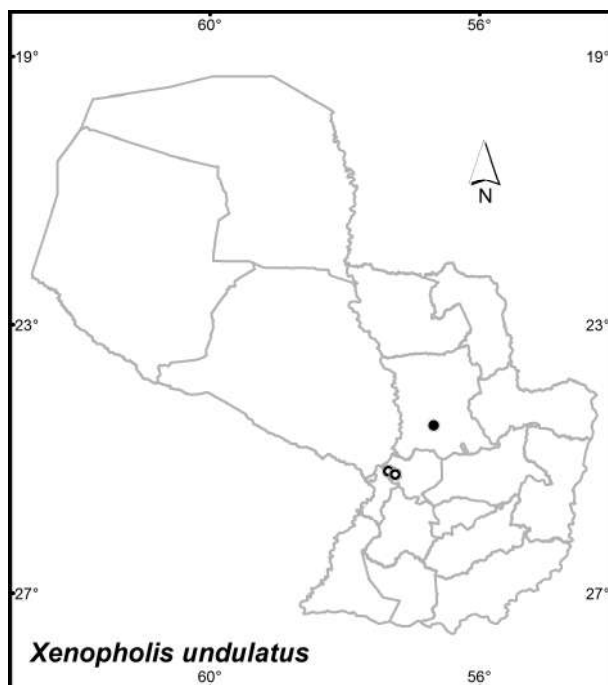
Paroxyrhopus reticulatus: Bertoni
(1939): Central: Asunción.

Paroxyrhopus reticulatus: Gatti
(1955): Paraguay.

Paroxyrhopus reticulatus: Talbot
(1979): Eastern Paraguay.

Xenopholis undulatus: Motte et al. (2009): Paraguay.

Xenopholis undulatus: Jansen et al. (2009): CORDILLERA: San Bernardino (ZSM



5114/2005); “Bemalcue, Paraguay,” =CORDILLERA: Nueva Colombia (NMB 1865, holotype of *Paroxyrhopus reticulatus*).

Xenopholis undulatus: Cacciali (2009a): Paraguay.

General Distribution: Southcentral Brazil and Paraguay (Tipton, 2005).

Local Distribution: Known from two localities in Central Forest.

Conservation Status: Data Deficient.

Comments: First recorded for Paraguay by Schenkel (1901) in the original description of *Paroxyrhopus reticulatus* and put in the synonymy of *Xenopholis undulatus* by Hoge and Federsoni (1975). Schenkel recorded “Bemalcue” instead of “Bernal Cué” for the type locality. Colonia Bernal Cué was a town near Asunción, currently called “Nueva Colombia” in Departamento Cordillera (Cacciali and Wüest, 2009).

Specimens Examined: SAN PEDRO: Colonia Primavera (NHMUK 1955.1.6.6–1955.1.6.9, 1955.1.6.12, 1958.1.2.28, 1960.1.2.96).

Scolecophidia

Family Anomalepidae

Liotyphlops beui (Amaral, 1924)

Helminthophis sp.: Bertoni (1914): ALTO PARANÁ: Puerto Bertoni.

Helminthophis ternetzi: Bertoni (1914): ALTO PARANÁ: Puerto Bertoni.

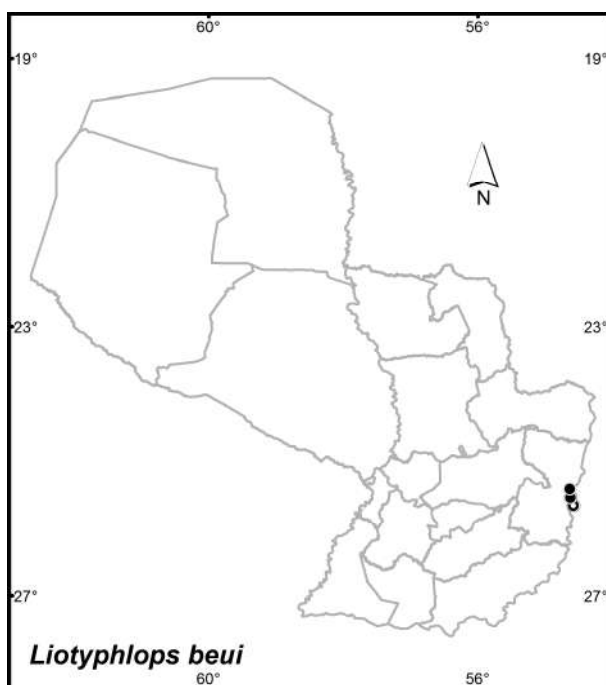
Helminthophis ternetzi: Bertoni (1931a): ALTO PARANÁ: Puerto Bertoni.

Helminthophis wilderi: Bertoni (1931a): ALTO PARANÁ: Puerto Bertoni.

Helminthophis wilderi: Bertoni (1931b): ALTO PARANÁ: Puerto Bertoni.

Helminthophis sp.: Schouten (1931): Paraguay.

Helminthophis ternetzi: Schouten (1931): Paraguay.



Helminthophis ternetzi: Schouten (1937): Paraguay.

Helminthophis: Schouten (1937): Paraguay.

Helminthophis guentheri: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni.

Helminthophis ternetzi: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni.

Helminthophis wilderi: Bertoni (1939): ALTO PARANÁ: Puerto Bertoni.

Helminthophis [sic] *guentheri*: Gatti (1955): Paraguay.

Helminthophis [sic] *ternetzi*: Gatti (1955): Paraguay.

Helminthophis [sic] *wilderi*: Gatti (1955): Paraguay.

Liotyphlops wilderi: Talbot (1979): Eastern Paraguay.

Liotyphlops wilderi: Hahn (1980): Paraguay.

Liotyphlops beui: Dixon and Kofron (1983): ALTO PARANÁ: Puente Stroessner (=Puerto Stroessner, now Ciudad del Este; MNHN 736).

Liotyphlops ternetzii [partim]: Aquino et al. (1996): See Specimens Examined.

Liotyphlops beui: Motte et al. (2009): Paraguay.

Liotyphlops beui: Cacciali (2009a): Paraguay.

General Distribution: Southeastern Brazil and eastern Paraguay (Dixon and Kofron, 1983).

Local Distribution: Extreme eastern Paraguay in Atlantic Forest.

Conservation Status: Data Deficient.

Comments: Bertoni (1914, 1931a,b, 1939), followed by Schouten (1931, 1937) and Gatti (1955), thought that there were two species of this genus in Puerto Bertoni on the Río Paraná, but *Liotyphlops beui* is the only species currently known from the Atlantic Forest. We have placed all of the names used by these authors in its synonymy.

Amaral (1929) placed *Liotyphlops beui* in the synonymy of *L. ternetzi*, but it was removed by Dixon and Kofron (1983).

Even after the Dixon and Kofron (1983) revision of *Liotyphlops*, showing that *L. wilderi* is restricted to Brazilian coastal Atlantic forest, snake compendia (McDiarmid et al., 1999; Tipton, 2005) continue to include Paraguay in their descriptions of that species distribution; these errors are probably copies of Bertoni's (1931a, 1931b, 1939) original misidentifications.

Specimens Examined: ALTO PARANÁ: 12 km W Ciudad del Este (MNHNP 3878–3880); Itaipú reserves (MAI 13).

***Liotyphlops ternetzii* (Boulenger, 1896)**

Helminthophis ternetzi Boulenger (1896): Paraguay (type locality).

Helminthophis Fernetyi [sic]: Koslowsky (1898b): Paraguay.

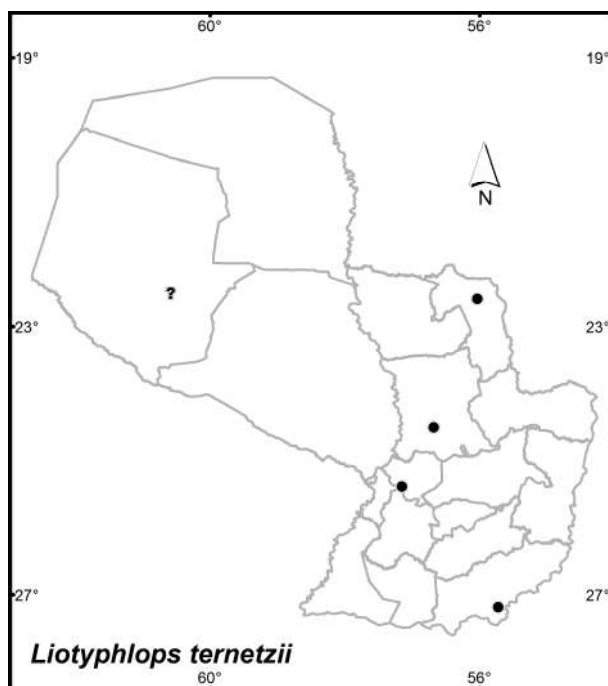
H[elminthophis]. ternetzi: Werner (1921b): Paraguay.

Liotyphlops ternetzii: Talbot (1979): Western Paraguay.

Liotyphlops ternetzii: Hahn (1980): Paraguay.

Liotyphlops ternetzii: Dixon and Kofron (1983): Paraguay (NHMUK 1946.1.11.77, holotype). SAN PEDRO: Colonia Primavera (CM 53524, NHMUK 1956.1.3.33, 1956.1.3.34, 1956.1.16.34, 1958.1.2.12, 1958.1.2.12a, 1962.1.2.72).

Liotyphlops ternetzii [partim]: Aquino et al. (1996): See Specimens Examined.



Liotyphlops ternetzii: Areskoug (2001): BOQUERÓN: Estancia Gran Siete.

Liotyphlops ternetzi: Cacciali (2009a:map): Paraguay.

Liotyphlops ternetzii: Motte et al. (2009): Paraguay.

General Distribution: Central and southern Brazil, northern Argentina, western and southern Paraguay, French Guiana, and doubtfully, in Suriname (Dixon and Kofron, 1983; Cei, 1993).

Local Distribution: Widely distributed east of the Río Paraguay in Cerrado, Central Forest, and Mesopotamian Grasslands. The Boquerón record is probably an animal transported in agricultural activities: See Comments under *Amerotyphlops brongersmianus*.

Conservation Status: Data Deficient.

Comments: The “Loma Ghoby” site listed by Dixon and Kofron (1983) is a hill located in the former Colonia Primavera, in Departamento San Pedro, not Presidente Hayes.

Specimens Examined: Paraguay (MNHNP 9761, NHMUK 1946.1.11.77 [holotype]). AMAMBAY: Parque Nacional Cerro Corá (MNHNP 6581, 6583, USNM 342455). CORDILLERA: Caacupé (MNHNP 6582). ITAPÚA: El Tirol (MNHNP 6580, USNM 253547–253551, 342455, 342456). SAN PEDRO: Colonia Primavera (NHMUK 1955.1.5.93, 1956.1.3.32–1956.1.3.34, 1956.1.16.34, 1956.1.16.35, 1958.1.2.12, 1958.1.2.12a, 1960.1.2.72).

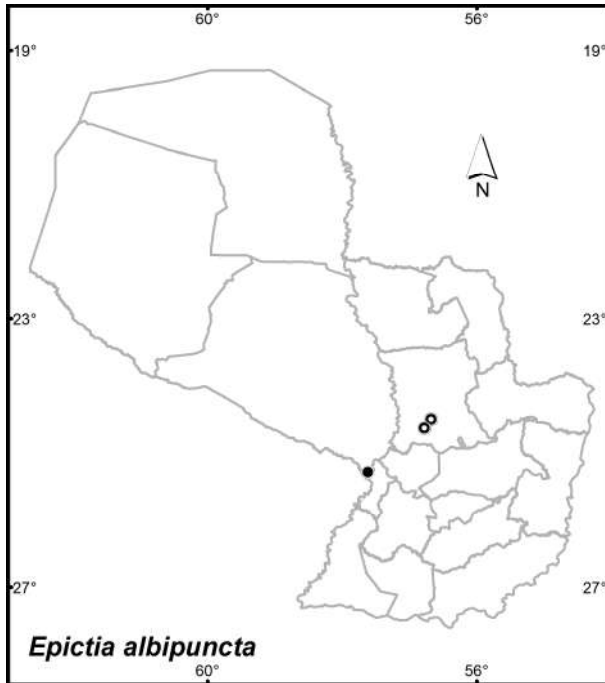
Family Leptotyphlopidae

Generic designations follow Adalsteinsson et al. (2009), who recognized *Epictia* and *Rena* as distinct from *Leptotyphlops*.

Epictia albipuncta (Burmeister, 1861)

Leptotyphlops melanotermus: Talbot (1979): Eastern and western Paraguay.

Leptotyphlops melanotermus: Hahn (1980): Paraguay (?).



Leptotyphlops weyrauchi: Laurent (1984): SAN PEDRO: Puerto Primavera (FML 640).

Leptotyphlops melanotermus [sic]: Aquino et al. (1996): See Specimens Examined.

Leptotyphlops melanotermus: Motte et al. (2004): Paraguay.

Leptotyphlops melanotermus: Motte et al. (2009): Paraguay.

Epictia albipuncta: Cacciali (2009a:map): Paraguay.

Epictia albipuncta: Cabral and Weiler (2014): CENTRAL: San Lorenzo (CZCEN 515).

General Distribution: Argentina, Brazil, Bolivia, Paraguay, and Uruguay (Kretzschmar, 2006).

Local Distribution: Known only from Asunción and Puerto Primavera in Wet Chaco.

Conservation Status: Least Concern.

Comments: Kretzschmar (2006) synonymized *Leptotyphlops melanotermus* and *L. weyrauchi* with *L. albipunctus*.

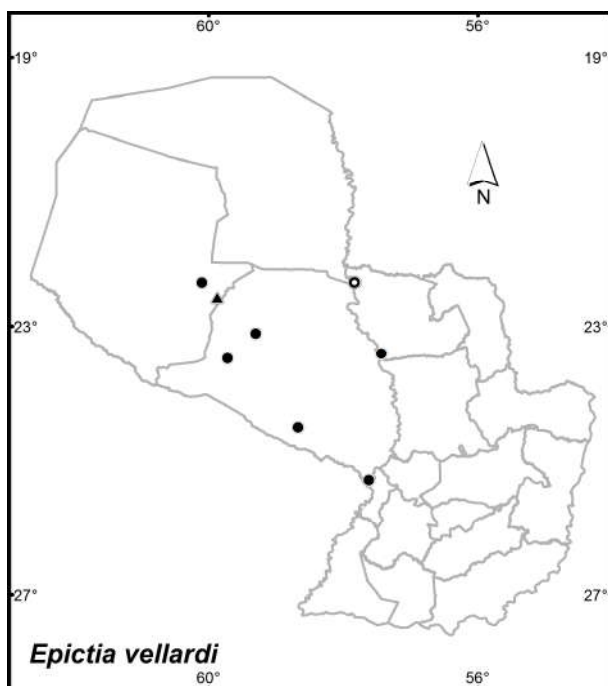
Specimens Examined: Paraguay (MNHNP 3850, 3851, 11215, 11216). CENTRAL: Asunción (MNHNP 6584, 6585, 8517, 9099, 100, 10617, NHMUK 94.3.14.42).

***Epictia vellardi* (Laurent 1984)**

Glauconia albifrons: Boulenger (1894a): CENTRAL: Asunción.

Glauconia albifrons: Peracca (1895): CONCEPCIÓN: Colonia Risso.

Glauconia albifrons: Boulenger (1896): CENTRAL: Asunción.



Glauconia albifrons: Koslowsky (1898b): Paraguay.

Glauconia albifrons: Bertoni (1914): Paraguay.

Glauconia albifrons: Serié (1915): Paraguay.

Glauconia albifrons: Werner (1917): Paraguay.

Glauconia albifrons: Schouten (1931): Paraguay.

Glauconia albifrons: Schouten (1937): Paraguay.

Leptotyphlops albifrons: Bertoni (1939): Chaco.

Leptotyphlops albifrons: Gatti (1955): Paraguay.

Leptotyphlops albifrons: Elter (1981): CONCEPCIÓN: Colonia Risso (MZUT R1264).

Leptotyphlops munoai: Aquino et al. (1996): See Specimens Examined.

Leptotyphlops munoai: Motte et al. (2004): Paraguay.

Leptotyphlops munoai: Motte et al. (2009): Paraguay.

Epictia munoai: Cacciali (2009a:map): Paraguay.

General Distribution: Mato Grosso in Brazil, northern Argentina, and Paraguay (Francisco et al., 2012).

Local Distribution: Present in Dry and Wet Chaco in the Occidental Region and in Wet Chaco east of the Río Paraguay.

Conservation Status: Least Concern.

Comments: Apparently the Paraguayan species that has been called *E. munoai* is probably *E. vellardi* (Francisco et al., 2012). More detailed taxonomic studies are needed.

Specimens Examined: Paraguay (MNHN 3850, 9597, 9598, 11214). BOQUERÓN: Filadelfia (MNHN 3848). CENTRAL: Asunción (MNHN 3554, 3785, 3833, 3849, 6343, 6579, 6587, 7056, 8518, 10618, 10927, 10928, 11105, 11213); Luque

(MNHNP 7675). CONCEPCIÓN: Concepción (MNHNP 3775). PRESIDENTE HAYES: Estancia Juan de Zalazar (MNHNP 3847); Estancia La Golondrina (MNHNP 6577, 6588); Estancia Nanawa (NHMUK 1928.1.8.16); Rancho Carandá (MNHNP 6578).

Photographic Records: BOQUERÓN: Cruce Los Pioneros (FPREP 172, 173); Fortín Toledo (FPREP 608–612).

***Rena unguirostris* (Boulenger, 1902)**

Leptotyphlops unguirostris: Talbot (1979): Eastern Paraguay.

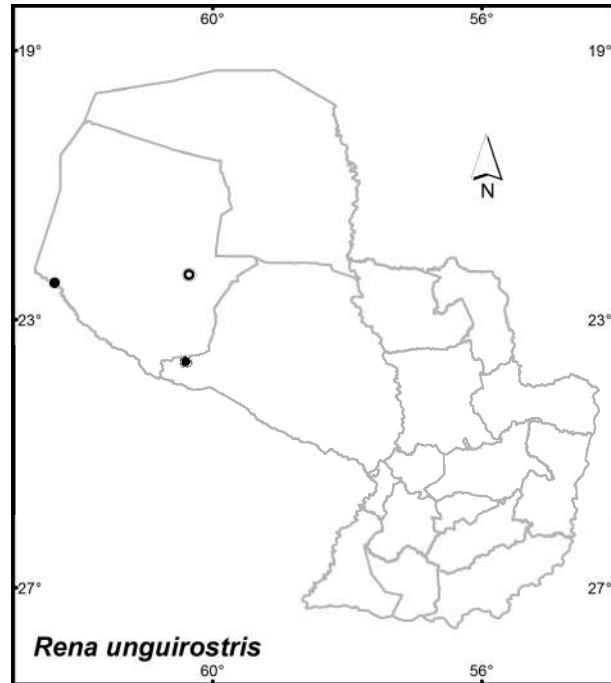
Leptotyphlops unguirostris: Hahn (1980): Paraguay.

Leptotyphlops unguirostris: Ziegler et al. (2002b): BOQUERÓN: Fortín Toledo (MTKD 43464, 43468).

Leptotyphlops unguirostris: Cacciali and Brusquetti (2005a). See Specimens Examined.

Leptotyphlops unguirostris: Motte et al. (2009): Paraguay.

Rena unguirostris: Cacciali (2009a): Paraguay.



General Distribution: Western Paraguay, central and northern Argentina, and Bolivia (Orejas-Miranda, 1970; Kretzschmar, 1996; McDiarmid et al., 1999; Leynaud and Bucher, 1999; Scrocchi et al., 2006).

Local Distribution: Known from three localities in Dry Chaco.

Conservation Status: Least Concern.

Comments: Literature accounts state that this species is present in southern or eastern Paraguay (Peters and Orejas-Miranda, 1970; Cej, 1993; McDiarmid et al., 1999); however, the four known specimens are from the Dry Chaco of western Paraguay.

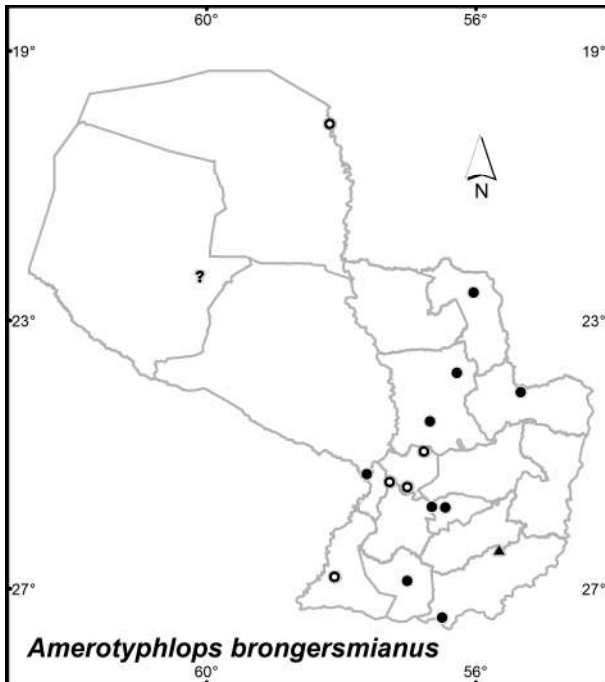
Specimens Examined: BOQUERÓN: Pedro P. Peña (UCS 7949). PRESIDENTE HAYES: Estancia Toro Mocho (MNHNP 10625).

Family Typhlopidae

***Amerotyphlops brongersmianus* (Vanzolini, 1972)**

Typhlops (*Typhlops*) *reticulatus*: Boettger (1885a): Paraguay.

Typhlops reticulatus: Boulenger (1894a): CENTRAL: Asunción.



Typhlops reticulatus: Boulenger (1896): CENTRAL: Asunción.

Typhlops reticulatus: Berg (1898): Paraguay.

Typhlops reticulatus: Koslowski (1898b): Paraguay.

Typhlops reticulatus: Schenkel (1901): Paraguay.

Typhlops reticulatus: Peracca (1904): GUAIRÁ: Tebicuary.

Typhlops [*sic*] *reticulatus*: Bertoni (1914): CENTRAL: Asunción.

Typhlops reticulatus: Serié (1915): CENTRAL: Trinidad.

Typhlops reticulatus: Werner (1921b): Paraguay.

Typhlops reticulatus: Schouten (1931): Paraguay.

Typhlops reticulatus: Schouten (1937): Paraguay.

Typhlops [*sic*] *reticulatus*: Bertoni (1939): CENTRAL: Asunción; Chaco.

Typhlops [*sic*] *reticulatus*: Gatti (1955): Paraguay.

Typhlops brongersmianus: Dixon and Hendricks (1979): Paraguay (IB 348, MZUT 1763[3], ZMH 4240[2], 3123[2]). CENTRAL: Asunción (MVZ 110990, 111216, NHMUK 1930.11.27.182); Bahía de Asunción (IB 10117–10122). GUAIRÁ: Villarrica. SAN PEDRO: Primavera (CM 53525,26, NHMUK 1956.1.3.35, 1956.1.16.32, 1956.1.16.33, 1958.1.2.13,14, 1960.1.3.38).

Typhlops reticulatus: Elter (1981): GUAIRÁ: Tebicuary (MZUT R1763).

Typhlops brongersmianus: Giraudo and Contreras (1994): ÑEEMBUCÚ: Tacuara.

Typhlops sp.: Aquino et al. (1996): See Specimens Examined.

Typhlops brongersmianus: Aquino et al. (1996): See Specimens Examined.

Typhlops brongersmianus: Motte et al. (2004): Paraguay.

Typhlops brongersmianus: Cacciali (2009a:map): Paraguay.

Typhlops brongersmianus: Motte et al. (2009): Paraguay.

Typhlops brongersmianus: Cabral and Weiler (2014): ALTO PARAGUAY: Tres Gigantes (CZCEN 603). CANINDYÚ: Mbaracayú (CZCEN 370–377, 410, 411). CENTRAL: San Lorenzo (CZCEN 230); Ypacaray (CZCEN 605). CORDILLERA: Juan de Mena (CZCEN 604); Piribebuy (CZCEN 613, 614).

General Distribution: Peru, central and northeastern Brazil, Bolivia, Paraguay, Argentina, Trinidad, Venezuela, Guyana, Suriname (McDiarmid et al., 1999; Tipton, 2005). There are two centers of distribution: one in the Río Paraguay basin and the other in the Amazon basin (McDiarmid et al., 1999; Tipton, 2005; Scrocchi et al., 2006).

Local Distribution: Widespread in the Oriental Region and one locality west of the Río Paraguay (see Comments). It inhabits Wet Chaco, Cerrado, Central Forest, and Atlantic Forest.

Conservation Status: Data Deficient.

Comments: Single individuals of four species of fossorial reptiles have been found in Boquerón in Mennonite farming communities: *Amphisbaena angustifrons* (MNHNP 10615), *Leposternon microcephalum* (KU 73448), *Liotyphlops ternetzi* (Areskoug, 2001), and *Amerotyphlops brongersmianus* (MNHNP 10011). All other records are from east of the Río Paraguay. These communities have frequent interchanges with other Mennonite communities in eastern Paraguay and, until the Chaco records are verified, we consider them to be based on animals transported in agricultural or road-building activities. Jakob Unger, herpetologist and long-time resident of Filadelfia, is unfamiliar with any of these species, and he says “...[blind snakes] could very well be imported from eastern Paraguay, since there have been numerous plants brought in from there and also the clean coarse sand from the Río Paraguay has been imported by the truck loads... the other two spots on the map indicate regions where road constructions took place and sand supplies were trucked in from the Río Paraguay” (14 October 2012, pers. comm.).

This species was recently placed in the new genus, *Amerotyphlops*, by Hedges et al. (2014).

Specimens Examined: AMAMBAY: Parque Nacional Cerro Corá (MNHNP 5712, USNM 342457–342459). BOQUERÓN: 2.6 km S Filadelfia (MNHNP 10011; See Comments). CANINDEYÚ: Reserva Natural del Bosque Mbaracayú (MNHNP 7800). CENTRAL: Asunción (NHMUK 94.3.14.41, 1930.11.27.182); Areguá (MNHNP 5713); 2 km E Areguá (USNM 342460); San Lorenzo (MNHNP 3877, 11223). GUAIRÁ: Villarrica (AMNH 25174); Tebicuary (MZUT 2851). ITAPÚA: Isla Yacyretá (EBD 30426). MISIONES: San Ignacio (MNHNP 3846). SAN PEDRO: Colonia Primavera (NHMUK 1956.1.3.35, 1956.1.16.32, 1956.1.16.33, 1958.1.2.13, 1958.1.2.14, 1960.1.3.38); Laguna Blanca (CZPLT 118, 195, 205, 207, 208, 216, 278, 301, 305, 306, 430).

Photographic Records: ITAPÚA: Kangüery (FPREP 174). SAN PEDRO: Laguna Blanca (FPREP 519–522).

CONSERVATION

The destruction of Paraguay's natural habitats has been accelerating in recent years, and a detailed knowledge of the Paraguayan fauna and its distribution is important in protecting the country's biodiversity. Two of the most-globally threatened habitats are present in Paraguay: Atlantic Forest and Cerrado (Myers et al., 2000). Of the 23 reptilian species listed by Motte et al. (2009) as vulnerable or endangered in Paraguay, 15 occur only in those ecoregions (Table 2). Already the conversion of much of the Atlantic Forest in southeastern Paraguay into soybean fields has probably extirpated several species of reptiles that formerly lived there. The World Wildlife Fund, Paraguay (www.wwf.org.py/) has been active in documenting these losses and has been instrumental in protecting the remnant forests.

On the other side of the Río Paraguay, big agricultural interests are currently deforesting the Dry Chaco at an accelerating rate. The nonprofit organization Guyra Paraguay (www.guyra.org.py/) is at the forefront in documenting and fighting this destruction.

Table 2. Reptile species restricted to Atlantic Forest and Cerrado ecoregions in Paraguay, and that are listed as vulnerable or endangered by Motte *et al.* (2009).

ATLANTIC FOREST	CERRADO
Vulnerable	Vulnerable
<i>Phrynops williamsi</i>	<i>Bachia bresslaui</i>
<i>Hydromedusa tectifera</i>	<i>Cercosaura ocellata</i>
<i>Cercosaura ocellata</i>	<i>Salvator duseni</i>
<i>Micrurus corallinus</i>	<i>Micrurus lemniscatus</i>
<i>Micrurus lemniscatus</i>	
<i>Drymoluber brazili</i>	
<i>Oxyrhopus petolarius</i>	
Endangered	Endangered
<i>Norops meridionalis</i>	<i>Norops meridionalis</i>
<i>Sibynomorphus mikanii</i>	
Critically Endangered	Critically Endangered
<i>Eunectes murinus</i>	<i>Eunectes murinus</i>
	<i>Paleosuchus palpebrosus</i>

BIOGEOGRAPHY OF PARAGUAYAN REPTILES

Appendix 3 lists the reptile species with significant distributions in each Paraguayan ecoregion. The relatively large expanse of the Wet Chaco is by far the most diverse; here tropical and temperate forms and dry- and wet-adapted species commingle. For the Cerrado, its conservation importance is highlighted; it is the third smallest ecoregion but the second most diverse. Diversity of other ecoregions, in a list of descending diversity, are Atlantic Forest, Central Forest, Mesopotamian Grasslands, Dry Chaco, and Pantanal, the smallest ecoregion.

The herpetofaunas of Brazil and Argentina have been the subjects of investigations since the 1800s by many competent herpetologists, most of them residents of the two countries, and the number and distribution of reptilian species are relatively well known. On the other hand, Bertoni and Schouten, in the early 1900s, and Talbot (1979) were the only workers that undertook competent overviews of the entire Paraguayan reptilian fauna and, as the ever-increasing number of recognized species in Paraguay indicates, there is still much to learn.

Brazil's reptile fauna is largely tropical to subtropical while Argentina's is subtropical to temperate. Thus, a lack of knowledge of the reptiles occupying Paraguay's unique biogeographic setting has impeded an in-depth analysis of the manner in which these two largely disparate faunas meet and coalesce. We will not attempt that analysis here but leave the path open for comprehensive biogeographic analyses of the reptilian fauna of the entire Southern Cone of South America.

REPTILE SPECIES THAT MAY OCCUR IN PARAGUAY

These species have previously been recorded from Paraguay or occur very near the Paraguayan border in Argentina, Bolivia, or Brazil. However, we know of no specimens from Paraguay.

TESTUDINES

Family Emydidae

***Trachemys dorbigni* (Duméril and Bibron, 1835)**

Several authors have listed the species as possibly being in Paraguay, but there are no definite records (Cabrera, 1998). However, Cabrera (1998) has Argentine records from the provinces of Chaco and Corrientes near the confluence of the Paraná and Paraguay rivers. It should be present in the swamps in Departamento Ñeembucú, Paraguay.

Family Chelidae

***Acanthochelys spixii* (Duméril and Bibron, 1835)**

The species is widely distributed in southern Brazil and in scattered eastern tributaries of the Río Paraná in Argentina and Uruguay. There are three records from Provincia de Corrientes, Argentina, very near the Paraguayan

border (Cabrera, 1998). The species may be expected in the Ñeembucú marshes (Motte et al., 2004).

SQUAMATA-SAURIA

Family Leiosauridae

***Anisolepis grilli* Boulenger, 1891**

There are two series of specimens listed in Etheridge and Williams (1991) from Provincia Misiones, Argentina (MLP S.957–S.963). The series with definite locality data, Dos de Mayo, is less than 40 km from the Paraguayan border. However, the Atlantic Forest habitat on the Paraguayan side has been largely replaced by soybean fields.

Family Tropiduridae

***Stenocercus azureus* (Müller, 1882)**

Koslowsky (1898b) lists the species as present in Provincia Misiones, Argentina and doubtful for Paraguay, but Cei (1993) was unable to confirm that record.

***Stenocercus doellojuradoi* (Freiberg, 1944)**

Fairly widespread in the central and southern Argentine Chaco, and the species approaches the Río Pilcomayo border with Paraguay in provinces Chaco and Formosa (Cei, 1993).

Family Amphisbaenidae

***Amphisbaena vermicularis* Wagler, 1824**

Listed as probable in Montero and Terol (1999) but discounted by Gans (2005). Older records (Bertoni, 1914; Talbot, 1979) possibly referred to *Amphisbaena leseri*.

***Anops kingi* Bell, 1833**

Bertoni (1914, 1939; probably copying Koslowsky, 1898b), and Gatti (1955) and Talbot (1979; probably copying Bertoni), list this distinctive species without precise locality data. Gans and Rhodes (1964) record MACN 3490 from Manatiales, Corrientes, Argentina, which is about 70 km from the Paraguayan border.

SQUAMATA-SERPENTES

Family Dipsadidae

***Apostolepis breviceps* Harvey, Gonzales and Scrocchi, 2001**

This species was recently described from the poorly explored dry Chaco of southeastern Bolivia about 80 km from the Paraguay border (Harvey et al., 2001).

***Apostolepis quirogai* Giraudo and Scrocchi, 1998**

Described from Posadas, Misiones, Argentina, across the Río Paraná from Encarnación, Itapúa, Paraguay (Giraudo and Scrocchi, 1998).

***Atractus snethlageae* Cunha and Nascimento, 1983**

The single Argentine specimen (MACN 8764) is from Las Palmas, Chaco, across the Río Paraguay from Pilár, Departamento Ñeembucú. The locality is more than 1,000 km south of the recorded distribution of this Amazonian species (Cunha and Nascimento, 1983; Giraudo and Scrocchi, 2000). It is possible that the specimen was transported from the Brazilian Pantanal in floating islands of camalotes (water hyacinths, *Eichhornia*), as were the animals transported to the Uruguayan shores of the Río de La Plata estuary (Achaval et al., 1979).

***Paraphimophis rustica* (Cope, 1877)**

This Argentine species has been recorded many times (in the genus *Clelia*) as occurring in Paraguay (Koslowky, 1898b; Bertoni, 1914, 1939; Schouten, 1931, 1937; Gatti, 1955; Aquino et al., 1996; Leynaud and Bucher, 1999), but we are unable to find a specimen. A map in Giraudo (2002) has two records in Misiones, Argentina directly across the Río Paraná from Capitán Meza, Itapúa, Paraguay. As noted above, the habitat on the Paraguayan side of the river has been largely extirpated.

***Oxyrhopus clathratus* Duméril, Bibron and Duméril, 1854 and
Pseudoboa haasi (Boettger, 1905)**

Giraudo (2002) has several records of these montane Atlantic Forest species from near the Río Iguazú, northern Misiones, Argentina. They may occur in Alto Paraná, Paraguay.

***Sibynomorphus neuwiedi* Ihering, 1911**

Cacciali (2006) argued that Bertoni's (1914, 1939) records of *Sibynomorphus intermedius* were probably this species. Scrocchi et al. (1993) examined a specimen (MHMCI 279) from Foz do Iguazú, Brazil on the border with Paraguay. However, Duré Rodas (1995) does not include it in his list for Alto Paraná, and there are no Paraguayan specimens.

***Taeniophallus cyanopleura* (Cope, 1885)**

Argentine specimens (CENAI 3036–3038) from Dos de Mayo, Misiones, are about 40 km from the Río Paraná and the Paraguayan border (Giraudo et al., 1996).

***Taeniophallus poecilopogon* (Cope, 1863)**

Boulenger (1894b, 1896) attributed this species to Paraguay based on a collection by Professor Grant. Most of the Grant collection (NHMUK 63.10.5.1–63.10.5.12) is catalogued as coming from Paraguay. However, although *Taeniophallus poecilopogon* has a southern range that is close to Paraguay, it is unknown from there, and the most reasonable interpretation is that the "Paraguay" in the catalogue is a *lapsus* for Uruguay (Allan L. Markezich, 1975, in litt.; see Introduction).

This probably erroneous *Taeniophallus poecilopogon* record has been perpetuated by many subsequent authors including Berg (1898), Koslowky (1898b), Bertoni (1914, 1918, 1939), Serié (1915), Werner (1929), Gatti (1955), Canese (1966), Peters and Orejas-Miranda (1970), Schouten (1931,

1937), Talbot (1979), Di-Bernardo and Lema (1987), Di-Bernardo (1992), Cei (1993), and Giraudo and Scrocchi (2002). Di-Bernardo and Lema (1987) and Di-Bernardo (1992) map *Taeniophallus poecilopogon* at Asunción, but they only examined Brazilian specimens.

REPTILE SPECIES THAT DO NOT OCCUR IN PARAGUAY

TESTUDINES

Family Chelidae

***Hydromedusa maximiliani* (Mikan, 1825)**

Bertoni (1914, 1939), Talbot (1979), and Duré Rodas (1995) recorded this *Hydromedusa* from Paraguay; it is a species of central coastal Brazil and does not occur in Paraguay (Iverson, 1992).

CROCODYLIA

***Melanosuchus niger* (Spix, 1825)**

Paraguayan records in Medem (1983) and Plotkin et al. (1983) are almost certainly incorrect (Scott et al., 1991). There are no voucher specimens. Native caiman hunters in Bahía Negra, Alto Paraguay knew (and feared) the species in the Chiquitanía of eastern Bolivia but not in Paraguay.

***Crocodylus acutus* Cuvier, 1807**

Three specimens collected by the Page Expedition (USNM 12384, 211275, 211276) and labeled “Paraguay” are not from that country (Scott et al., 1991). East of the Andes, *Crocodylus acutus* does not occur south of the Río Orinoco delta in Venezuela (Medem, 1983).

SQUAMATA–SAURIA

Family Leiosauridae

***Urostrophus vautieri* Duméril and Bibron, 1837**

There is a specimen (USNM 12329) from “Paraguay: Collector Unknown” and another from “Paraguay or Argentina” (ZMH 02772; Etheridge and Williams, 1991). These records are probably incorrect for this otherwise Brazilian species.

Family Liolaemidae

***Liolaemus wiegmanni* Duméril and Bibron, 1837**

Cope (1862d) lists this species under the name *Ortholaemus fitzroyi* Girard as part of the “Paraguay” Page collection. The specimen was probably collected in Argentina. See the Introduction for more details on the Page collection.

Family Diploglossidae

***Diploglossus lessonae* Peracca, 1890**

Two specimens of this species (USNM 12316, 12326) are from Captain Page’s Paraguay Expedition. However, they are not from Paraguay; the species is restricted to northeastern Brazil.

SQUAMATA-SERPENTES

Family Anilidae

***Anilius scytale* (Linnaeus, 1758)**

Bertoni (1914) cites a record from “Miranda (M. Grosso)” under the name *Ilysia citale*; it was omitted from his 1939 list. Schouten (1931), under *Ilysia cytale*, says: “Tengo conocimiento que se capturaron algunos ejemplares en territorio Brasileiro, muy próximo a nuestra frontera” [“I have information the some specimens were captured in Brazilian territory, very close to our border.”]. Miranda, now in Mato Grosso do Sul, is on the Rio Miranda, a tributary to the Río Paraguay. *Anilius scytale* has not been found outside of the Amazon–Orinoco drainages (McDiarmid et al., 1999).

Family Viperidae

***Bothrops itapetiningae* (Boulenger, 1907)**

The record on the Paraguay/Brazil border in the map in Campbell and Lamar (2004) is the result of a misidentification of a specimen of the *B. neuwiedii* complex by one of the present authors (NS).

Family Colubridae

***Chironius carinatus* (Linnaeus, 1758)**

This Central American species is not Paraguayan. Amaral (1926a) records USNM 12402 as being from Paraguay. However, the original USNM ledger entry (“Paraguay Ex.[?]”) lists this number, along with USNM 12400 (*Pseudoeryx plicatilis*) and USNM 12401 (*Mastigodryas bifossatus*), as only possibly coming from Paraguay.

***Chironius laevicollis* (Wied, 1824)**

Dixon et al. (1993) record this Brazilian Atlantic Forest species from Paraguay based on specimen ZIMH 677. Nevertheless, they doubt the validity of the precedence data, saying that it probably is a mistake.

***Pseustes sexcarinatus* (Wagler, 1824)**

Talbot (1979) listed this species as possibly occurring in Paraguay, probably on the basis of the Peters and Orejas-Miranda (1970) record for Misiones, Argentina. However, Hoge (1964) had already restricted the range of the species to Pará, Brazil, saying that other records were erroneous. Giraudo and Scrocchi (2002) reviewed the old Argentine material that had supported the Misiones record and determined that it was misidentified *Chironius maculiventris*.

***Rhinobothryum lentiginosum* (Scopeli, 1785)**

This species has been erroneously considered to be part of the Paraguayan fauna by several recent authors (Talbot, 1979; Cunha and Nascimento, 1993; Tipton, 2005; Miranda et al., 2009). These errors seem to be derived from misreadings of the description of the distribution by Peters and

Orejas-Miranda (1970): “Basins of Ríos Amazon and Paraguay in tropical South America” (p. 269). Peters and Orejas-Miranda (1970) were referring to the Paraguay River basin and not the country. The species has not been found south of Mato Grosso State, Brazil (Miranda et al., 2009).

Family Dipsadidae

***Dipsas albifrons* (Sauvage, 1884)**

Peters (1960, 1965) listed this Brazilian species as coming from Puerto Bertoni, Alto Paraná, based on the record for *Cochliophagus* (*Leptognathus*) *albifrons* in Serié (1915). Bertoni (1918) agreed with Serié, saying that he had specimens in his own collection. However, Bertoni dropped the name in his later checklist (Bertoni, 1939); he had probably reidentified them as *Dipsas indica* (= *Dipsas bucephala*; Cacciali, 2006).

***Dipsas catesbyi* (Sentzen, 1796)**

MZUT 2528 (MZUT R1481) is catalogued as coming from Asunción. However, Peracca (1894, 1895, 1897, 1904) does not mention the species in his Paraguayan publications, and it is the only “Paraguayan” specimen in the MZUT G. Balzan collection from Bolivia. Boulenger (1898b) listed two Bolivian *Leptognathus catesbyi* in his report on the Balzan collection. No specimens of this Amazonian species have been found in Paraguay.

Bertoni (1914, 1939) stated that his records of *Sibynomorphus catesbyi* were reidentified as *Sibynomorphus turgidus* by Koslowsky (Cacciali, 2006). Schouten’s (1931) *Leptognathus catesbyi* citation is probably a copy of Bertoni (1914).

***Helicops modestus* Günther, 1861**

Schouten (1931, 1937) lists the species for Paraguay, but it is restricted to eastern Brazil (Peters and Orejas-Miranda, 1970).

***Erythrolamprus triscalis* (Linnaeus, 1758)**

Günther (1858) listed *Dromicus triscalis* from Paraguay from “Mr. Frank’s collection”. Boulenger (1894b) evidently doubted the locality, as he lists this species as “Paraguay (?)”. According to the NHMUK curator, Colin McCarthy (in litt. 2008), Mr. Franks was a dealer that sold specimens to the museum. The Günther/Boulenger specimen is probably NHMUK 1847.2.9.21, now catalogued as *Liophis triscalis*.

Erythrolamprus triscalis is a Caribbean species (Curaçao) that may occur on mainland South America (Peters and Donoso-Barros, 1970). Citations by Bertoni (1939), Schouten (1931, 1937), and Gatti (1955) were probably copied from Günther or Boulenger.

***Philodryas viridissima* (Linnaeus, 1758)**

Peters and Orejas-Miranda (1970) give this species distribution as “Amazonas and Paraguay valleys, from southern Venezuela and Guianas to Argentina”, but we can find no credible records south of Bolivia, and Giraudo and Scrocchi (2002) do not list it for Argentina. Bertoni (1914, 1939) was

doubtful of its presence in Paraguay, but Gatti (1955) and Talbot (1979) included it in their lists.

***Xenodon severus* (Linnaeus, 1758)**

Bertoni's (1939) Paraguayan list mistakenly includes this Amazonian species (Peters and Orejas-Miranda, 1970).

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RECENT LITERATURE

The following works were published too late to be included by citation in our main text. They contain important distribution records from several areas with a high diversity of reptiles in Paraguay.

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APPENDICES

Appendix 1. Localities referred to in the text. Many of the localities are imprecise, and the error associated with the geographic coordinates is not known.

Departamento	Locality	Lat/Long
Alto Paraguay	Agua Dulce	20°01'S, 59°46'W
Alto Paraguay	Agua Dulce, 10.5 km SW	20°06'S, 59°49'W
Alto Paraguay	Bahía Negra	20°15'S, 58°12'W
Alto Paraguay	Bahía Negra, 2 km N	20°15'S, 58°12'W
Alto Paraguay	Campo Grande	19°46'S, 59°46'W
Alto Paraguay	Carmelo Peralta	20°06'S, 58°11'W
Alto Paraguay	Cerro León	20°23'S, 60°19'W
Alto Paraguay	Cerro Siete Cabezas	21°48'S, 58°09'W
Alto Paraguay	Chovoreca	19°42'S, 58°48'W
Alto Paraguay	Tres Gigantes	20°01'S, 58°10'W
Alto Paraguay	Estancia Calai	22°12'S, 59°38'W
Alto Paraguay	Estancia Campo Grande	19°46'S, 59°46'W
Alto Paraguay	Estancia Cerrito	19°46'S, 58°12'W
Alto Paraguay	Estancia Dona Julia	20°12'S, 58°11'W
Alto Paraguay	Estancia General Díaz	21°08'S, 58°30'W
Alto Paraguay	Estancia Kuré Kue	Not located
Alto Paraguay	Estancia Punto Alto	19°41'S, 58°42'W
Alto Paraguay	Estancia Tres Gigantes	20°06'S, 58°11'W
Alto Paraguay	Estancia Tres Marias	21°18'S, 59°33'W
Alto Paraguay	Filadelfia, 70 km NW	22°02'S, 60°36'W
Alto Paraguay	Filadelfia, 90 km N	21°36'S, 59°50'W
Alto Paraguay	Fortín Patria	19°59'S, 58°12'W
Alto Paraguay	Fuerte Olimpo	21°02'S, 57°54'W
Alto Paraguay	General Díaz	21°08'S, 58°30'W
Alto Paraguay	General Díaz, 3 km E	22°18'S, 59°01'W
Alto Paraguay	General Díaz, 7 km ESE	22°18'S, 59°01'W
Alto Paraguay	Guyra Toro	19°41'S, 58°42'W

Departamento	Locality	Lat/Long
Alto Paraguay	Hito Tripartito	20°10'S, 58°10'W
Alto Paraguay	Inmaculada Concepción	20°06'S, 58°11'W
Alto Paraguay	Lagerenza	19°55'S, 60°47'W
Alto Paraguay	Lagerenza, 37 km W	19°53'S, 61°09'W
Alto Paraguay	Lagerenza, 9 km N	19°50'S, 60°47'W
Alto Paraguay	Lagerenza-í	20°04'S, 61°04'W
Alto Paraguay	Laguna León	21°35'S, 59°08'W
Alto Paraguay	Linea 1	Not located
Alto Paraguay	Madrejón	20°38'S, 59°52'W
Alto Paraguay	Madrejón, 1 km NE	20°38'S, 59°52'W
Alto Paraguay	Madrejón, 10 km N	20°29'S, 59°52'W
Alto Paraguay	Madrejón, 10 km W	20°36'S, 59°55'W
Alto Paraguay	Madrejón, 11 km NE	20°33'S, 59°50'W
Alto Paraguay	Madrejón, 13 km S	20°46'S, 59°52'W
Alto Paraguay	Madrejón, 15 km S	20°47'S, 59°52'W
Alto Paraguay	Madrejón, 2 km N	20°38'S, 59°52'W
Alto Paraguay	Madrejón, 20 km N	20°27'S, 59°51'W
Alto Paraguay	Madrejón, 3 km NW	20°38'S, 59°52'W
Alto Paraguay	Madrejón, 45 km S	21°03'S, 59°45'W
Alto Paraguay	Madrejón, 50 km NNW	20°13'S, 59°45'W
Alto Paraguay	Madrejón, 50 km SE	21°04'S, 59°43'W
Alto Paraguay	Madrejón, 50 km WNW	20°33'S, 60°21'W
Alto Paraguay	Mihanovich, 80 km W of San Carlos	20°52'S, 57°59'W
Alto Paraguay	Mojón 54	20°14'S, 59°45'W
Alto Paraguay	Montanía	22°04'S, 59°57'W
Alto Paraguay	Nueva Tribu	20°23'S, 60°19'W
Alto Paraguay	Ñu Guazú	20°45'S, 61°49'W
Alto Paraguay	Olimpo	21°02'S, 57°54'W
Alto Paraguay	Parque Nacional Defensores del Chaco	20°14'S, 60°15'W
Alto Paraguay	Parra Cué	21°05'S, 57°53'W

Departamento	Locality	Lat/Long
Alto Paraguay	Pikyrenda	20°06'S, 61°46'W
Alto Paraguay	Potrerito	20°25'S, 58°23'W
Alto Paraguay	Puerto 4 de Mayo	20°23'S, 60°32'W
Alto Paraguay	Puerto 4 de Mayo, 25 km SE	20°30'S, 60°19'W
Alto Paraguay	Puerto 14 de Mayo	20°22'S, 58°08'W
Alto Paraguay	Puerto Caballo	20°12'S, 58°12'W
Alto Paraguay	Puerto Casado	22°20'S, 57°55'W
Alto Paraguay	Puerto Esperanza	20°26'S, 58°06'W
Alto Paraguay	Puerto Guaraní	21°18'S, 57°55'W
Alto Paraguay	Puerto Leda	20°43'S, 57°59'W
Alto Paraguay	Puerto Ramos	20°17'S, 58°10'W
Alto Paraguay	Puerto Sastre	22°02'S, 58°01'W
Alto Paraguay	Railroad km 145	22°05'S, 59°15'W
Alto Paraguay	Reserva Pantanal	20°06'S, 58°11'W
Alto Paraguay	Riacho Mosquito	22°09'S, 58°03'W
Alto Paraguay	Río Negro	19°55'S, 58°10'W
Alto Paraguay	San Carlos	21°13'S, 57°51'W
Alto Paraguay	Teniente Martínez	20°57'S, 59°46'W
Alto Paraguay	Toro Pampa	20°58'S, 58°29'W
Alto Paraná	Acaray	25°29'S, 54°42'W
Alto Paraná	Centro Forestal	25°24'S, 54°38'W
Alto Paraná	Ciudad del Este	25°32'S, 54°37'W
Alto Paraná	Ciudad del Este, 7 km N	25°32'S, 54°37'W
Alto Paraná	Ciudad del Este, 12 km W	25°29'S, 54°48'W
Alto Paraná	Ciudad del Este, 29 km W	25°29'S, 54°55'W
Alto Paraná	Ciudad del Este, 35 km W	25°28'S, 55°00'W
Alto Paraná	Hernandarias	25°24'S, 54°38'W
Alto Paraná	Hernandarias, 30 km N	25°07'S, 54°38'W
Alto Paraná	Itabó	25°04'S, 54°40'W
Alto Paraná	Itaipú	25°25'S, 54°38'W

Departamento	Locality	Lat/Long
Alto Paraná	Itaipú Reserves	25°11'S, 54°33'W
Alto Paraná	Itakyry	24°56'S, 55°13'W
Alto Paraná	Monday	25°32'S, 54°37'W
Alto Paraná	Pikyry	25°04'S, 54°40'W
Alto Paraná	Presidente Franco	25°32'S, 54°37'W
Alto Paraná	Puerto Bertoni	25°39'S, 54°35'W
Alto Paraná	Río Acaray, 12 km N Route VII	25°29'S, 54°42'W
Alto Paraná	Río Monday	25°36'S, 54°36'W
Alto Paraná	Tatí Jupí	25°20'S, 54°40'W
Amambay	Arroyo Chacalalina	22°42'S, 56°41'W
Amambay	Bella Vista	22°08'S, 56°31'W
Amambay	Bella Vista, 2 km NE	22°08'S, 56°31'W
Amambay	Bella Vista, 15 km S	22°15'S, 56°31'W
Amambay	Bella Vista, 30 km SW	22°15'S, 56°46'W
Amambay	Capitán Bado	23°16'S, 55°32'W
Amambay	Cerro Corá	22°35'S, 56°02'W
Amambay	Cerro Corá, 13 km E	22°40'S, 58°09'W
Amambay	Cerro Corá, 8 km E	22°40'S, 55°57'W
Amambay	Estancia San Juan	22°52'S, 56°35'W
Amambay	Estancia Paicuará	23°01'S, 55°53'W
Amambay	Ka'í Ragué	24°15'S, 54°35'W
Amambay	Pedro Juan Caballero, 12 km S	22°38'S, 55°41'W
Amambay	Pedro Juan Caballero, 28 km SW	22°40'S, 55°57'W
Amambay	Route III 20 km N Route V	22°31'S, 56°18'W
Amambay	Vivero Forestal Pedro Juan	22°33'S, 55°45'W
Boquerón	25 Leguas, 35 km NW	22°33'S, 59°53'W
Boquerón	4 de Mayo, 68 km W	20°22'S, 61°11'W
Boquerón	Agua Linda	21°51'S, 60°02'W
Boquerón	Aldea Neu Moll	22°32'S, 59°38'W
Boquerón	Américo Picco	21°01'S, 60°32'W

Departamento	Locality	Lat/Long
Boquerón	Américo Picco, 50 km NW on Route IX	21°46'S, 60°57'W
Boquerón	Ávalos Sánchez, 8.5 km NW	23°28'S, 60°07'W
Boquerón	Ayoreo Jesudi	21°51'S, 59°56'W
Boquerón	Ayoreo Tunucojaí	22°03'S, 59°46'W
Boquerón	Campo Loro	22°04'S, 59°50'W
Boquerón	Campo María	22°23'S, 59°51'W
Boquerón	Canada Mil	22°24'S, 62°11'W
Boquerón	Colonia Campo Alegre	22°39'S, 60°22'W
Boquerón	Compania Jesudi	21°51'S, 59°56'W
Boquerón	Copagro	21°34'S, 61°06'W
Boquerón	Cruce Boquerón	22°38'S, 59°49'W
Boquerón	Cruce Filadelfia	22°29'S, 59°59'W
Boquerón	Cruce de Los Pioneros	22°21'S, 60°02'W
Boquerón	Estancia Agropil	23°09'S, 61°26'W
Boquerón	Estancia Buena Eperanza	22°43'S, 60°46'W
Boquerón	Estancia Casilda	22°13'S, 57°56'W
Boquerón	Estancia Faro Moro	22°14'S, 60°01'W
Boquerón	Estancia General Díaz	22°18'S, 59°01'W
Boquerón	Estancia Gran Siete	22°30'S, 60°35'W
Boquerón	Estancia Heisecke	Not located
Boquerón	Estancia Iparoma	22°11'S, 60°04'W
Boquerón	Estancia Jabalí	22°37'S, 61°25'W
Boquerón	Estancia La Gama	23°09'S, 61°26'W
Boquerón	Estancia Las Palmas	22°15'S, 60°23'W
Boquerón	Estancia Mbutú Retá	22°18'S, 61°18'W
Boquerón	Estancia Quintana	23°29'S, 61°11'W
Boquerón	Estancia Pozo Azul	22°11'S, 59°21'W
Boquerón	Establecimiento Ko'e Pyahú	20°40'S, 61°57'W
Boquerón	Estación Experimental Chaco	22°35'S, 59°50'W
Boquerón	Estigarribia	22°02'S, 60°38'W

Departamento	Locality	Lat/Long
Boquerón	Estigarribia, 17 km SE	22°09'S, 60°29'W
Boquerón	Estigarribia, 50 km S	22°27'S, 60°37'W
Boquerón	Fernheim	22°15'S, 59°50'W
Boquerón	Filadelfia	22°21'S, 60°06'W
Boquerón	Filadelfia, 3 km S	22°29'S, 59°59'W
Boquerón	Filadelfia, 6 km W	22°21'S, 60°06'W
Boquerón	Filadelfia, 7 km N	22°18'S, 60°05'W
Boquerón	Filadelfia, 9 km S	22°26'S, 60°01'W
Boquerón	Filadelfia, 10 km S	22°26'S, 60°01'W
Boquerón	Filadelfia, 12 km S	22°27'S, 60°01'W
Boquerón	Filadelfia, 13 km S	22°27'S, 60°01'W
Boquerón	Filadelfia, 14 km S	22°28'S, 60°06'W
Boquerón	Filadelfia, 15 km S	22°30'S, 60°00'W
Boquerón	Filadelfia, 16 km S	22°29'S, 60°04'W
Boquerón	Filadelfia, 20 km E	22°21'S, 59°51'W
Boquerón	Filadelfia, 21 km S	22°32'S, 60°04'W
Boquerón	Filadelfia, 23 km N	22°09'S, 60°02'W
Boquerón	Filadelfia, 26 km N	22°10'S, 60°01'W
Boquerón	Filadelfia, 28 km N	22°09'S, 60°01'W
Boquerón	Filadelfia, 30 km S	22°33'S, 60°05'W
Boquerón	Filadelfia, 31 km S	22°34'S, 59°51'W
Boquerón	Filadelfia, 34 km S	22°36'S, 59°54'W
Boquerón	Filadelfia, 36 km S	22°34'S, 59°51'W
Boquerón	Filadelfia, 41 km W	22°20'S, 60°26'W
Boquerón	Filadelfia, 48 km S	22°37'S, 59°47'W
Boquerón	Filadelfia, 52 km N	21°56'S, 59°57'W
Boquerón	Filadelfia, 59 km NNW	21°52'S, 59°56'W
Boquerón	Filadelfia, 60 km S and 30 km W	22°54'S, 60°23'W
Boquerón	Fortín Américo Picco	21°01'S, 60°32'W
Boquerón	Fortín Ávalos Sánchez	22°46'S, 59°56'W

Departamento	Locality	Lat/Long
Boquerón	Fortín Boquerón	22°46'S, 59°56'W
Boquerón	Fortín Guachalla	22°27'S, 62°21'W
Boquerón	Fortín Pratts Gill	22°40'S, 61°31'W
Boquerón	Fortín Teniente Ayala	21°05'S, 61°30'W
Boquerón	Fortín Teniente Montanía	22°20'S, 60°21'W
Boquerón	Fortín Toledo	22°20'S, 60°21'W
Boquerón	General Díaz	22°18'S, 59°01'W
Boquerón	Iparoma	22°11'S, 60°04'W
Boquerón	Jesudí	21°51'S, 59°56'W
Boquerón	Ko'e Pyahú	20°40'S, 61°57'W
Boquerón	Laguna General Bogado	21°06'S, 60°32'W
Boquerón	Laguna Negra	22°21'S, 60°24'W
Boquerón	La Patria	21°22'S, 61°29'W
Boquerón	Linea 10	Not located
Boquerón	Loma Plata	22°23'S, 59°51'W
Boquerón	Loma Plata, 9 km S	22°28'S, 59°50'W
Boquerón	Between Loma Plata and Palo Santo	22°17'S, 59°32'W
Boquerón	Lomita	22°32'S, 62°13'W
Boquerón	Los Pioneros, 100 km W	22°35'S, 60°48'W
Boquerón	Los Pioneros, 27 km S	22°44'S, 59°41'W
Boquerón	Los Pioneros, 9 km S	22°36'S, 59°48'W
Boquerón	Madrejón, 10 km W	20°37'S, 59°57'W
Boquerón	Madrejón, 25 km S	21°50'S, 59°52'W
Boquerón	Madrejón, 28.8 km W	20°40'S, 60°09'W
Boquerón	Mbutú Retá	22°18'S, 61°18'W
Boquerón	Mariscal Estigarribia	22°02'S, 60°38'W
Boquerón	Montanía	22°04'S, 59°57'W
Boquerón	Neuland	22°40'S, 60°07'W
Boquerón	Neuland, 15 km E	22°39'S, 60°00'W
Boquerón	Neuwestland	22°45S, 60°28'W

Departamento	Locality	Lat/Long
Boquerón	Nueva Asunción	20°42'S, 61°55'W
Boquerón	Ochoa	21°45'S, 60°58'W
Boquerón	Parque Cué	20°13'S, 61°48'W
Boquerón	Parque Trebol	22°22'S, 59°59'W
Boquerón	Pedro P. Peña	22°27'S, 62°20'W
Boquerón	Pedro P. Peña, 14 km NE	22°23'S, 62°15'W
Boquerón	Petroleros-Dos Palmas	Not located
Boquerón	Piroy	21°28'S, 61°18'W
Boquerón	Platanillos	22°41'S, 60°32'W
Boquerón	Pozo Azul	22°11'S, 59°21'W
Boquerón	Pozo Hondo	22°18'S, 62°32'W
Boquerón	Pozo Hondo, 28 km NW	22°06'S, 62°35'W
Boquerón	Pozo Hondo, 34 km NW	22°06'S, 62°35'W
Boquerón	Pozo Hondo, 8 km NW	22°13'S, 62°33'W
Boquerón	Pozo Hondo, 8 km NW	22°18'S, 62°32'W
Boquerón	Pozo Hondo, 8 km NW	22°18'S, 62°32'W
Boquerón	Pozo Hondo, 8 km NW	22°19'S, 62°35'W
Boquerón	Pratts Gill, 11 km SE	22°45'S, 61°26'W
Boquerón	Road to Montanía	20°09'S, 59°57'W
Boquerón	Quintana	23°26'S, 61°09'E
Boquerón	Rosaleda	22°05'S, 60°36'W
Boquerón	Route IX 41 km W Filadelfia	22°17'S, 60°20'W
Boquerón	Route IX Estgarribia-Ochoa	21°52'S, 60°48'W
Boquerón	Route IX Km 454	22°29'S, 60°00'W
Boquerón	Route IX Km 462	22°27'S, 60°06'W
Boquerón	Route IX Km 467	22°29'S, 60°00'W
Boquerón	Route IX Km 472	22°21'S, 60°15'W
Boquerón	Route IX Km 495	22°14'S, 60°23'W
Boquerón	Route IX Km 514	22°09'S, 60°29'W
Boquerón	Route IX Km 517	22°08'S, 60°30'W

Departamento	Locality	Lat/Long
Boquerón	Route IX Km 530	22°02'S, 60°35'W
Boquerón	Route IX Km 607	21°39'S, 61°06'W
Boquerón	Route IX Km 617	21°34'S, 61°14'W
Boquerón	Route IX Km 620	21°33'S, 61°15'W
Boquerón	Route IX Km 695	21°02'S, 61°47'W
Boquerón	Route IX, 30 km S Filadelfia turnoff	22°39'S, 59°46'W
Boquerón	Route Estgarribia-Montanía	22°04'S, 60°17'W
Boquerón	Sargento Rodríguez	20°33'S, 62°14'W
Boquerón	San Francisco	21°34'S, 61°06'W
Boquerón	Teniente Enciso	21°12'S, 61°39'W
Boquerón	Teniente Enciso, 25 km N	20°58'S, 61°38'W
Boquerón	Teniente Ochoa	21°45'S, 60°58'W
Boquerón	Teniente Ochoa, 20 km NW	21°39'S, 61°07'W
Boquerón	Toledo	22°20'S, 60°21'W
Boquerón	Toro Mocho	23°32'S, 60°32'W
Boquerón	Tunucojaí	22°03'S, 59°46'W
Boquerón	Tunakokai Reserve	22°04'S, 59°50'W
Caaguazú	Campo 9	25°25'S, 55°34'W
Caaguazú	Carayao	25°12'S, 56°24'W
Caaguazú	Colonia 1 de Mayo	25°24'S, 56°02'W
Caaguazú	Colonia Caacupé, 6 km W	25°09'S, 55°19'W
Caaguazú	Colonia Campos	25°25'S, 55°26'W
Caaguazú	Colonia Insfran	25°28'S, 56°06'W
Caaguazú	Coronel Oviedo	25°27'S, 56°27'W
Caaguazú	Coronel Oviedo, 5 km N	25°23'S, 56°24'W
Caaguazú	Coronel Oviedo, 24 km N	25°13'S, 56°24'W
Caaguazú	Estancia Golondrina	24°38'S, 55°21'W
Caaguazú	Estancia San Ignacio	25°29'S, 56°46'W
Caaguazú	Pastoreo	25°23'S, 55°50'W
Caaguazú	Pirapó, between Carayaó and Caballero	25°27'S, 56°27'W

Departamento	Locality	Lat/Long
Caaguazú	Ramón Chávez	24°58'S, 56°15'W
Caaguazú	Represa Yguazú	25°14'S, 55°17'W
Caaguazú	Río Yuquerí	25°05'S, 55°20'W
Caaguazú	Yhú road, 7 km N Route VII	25°25'S, 56°00'W
Caazapá	Buena Vista	26°11'S, 56°05'W
Caazapá	Estancia Golondrina	25°38'S, 55°29'W
Caazapá	María Auxiliadora, 34 km NW	26°16'S, 55°38'W
Caazapá	Parabel	26°07'S, 55°31'W
Caazapá	Parque Nacional Caaguazú	26°03'S, 55°44'W
Caazapá	Parque Nacional San Rafael	26°16'S, 55°38'W
Caazapá	San Carlos	26°05'S, 55°45'W
Caazapá	Tava'í	26°07'S, 55°31'W
Caazapá	Viscaino Cué	Not located
Canindeyú	Capitán Bado	23°16'S, 55°32'W
Canindeyú	Carapá	23°59'S, 55°16'W
Canindeyú	Catuete	24°08'S, 54°37'W
Canindeyú	Catuete, 11 km S	24°11'S, 54°42'W
Canindeyú	Catuete, 4 km N	24°14'S, 54°45'W
Canindeyú	Catuete, 6 km E	24°09'S, 54°40'W
Canindeyú	Colonia Chupa Pou	23°43'S, 55°30'W
Canindeyú	Colonia Mboí Jaguá	24°05'S, 55°26'W
Canindeyú	Colonia Ybycuí	23°43'S, 55°30'W
Canindeyú	Curuguaty	24°31'S, 55°42'W
Canindeyú	Curuguaty, 13 km N	24°23'S, 55°41'W
Canindeyú	Curuguaty, 13.3 km N	24°25'S, 55°43'W
Canindeyú	Curuguaty, 25 km N	24°17'S, 55°42'W
Canindeyú	Curuguaty, 5 km N	24°31'S, 55°42'W
Canindeyú	Curuguaty, 65 km E	24°25'S, 55°07'W
Canindeyú	Curuguaty, 90 km E	24°18'S, 54°58'W
Canindeyú	Estancia Giménez	24°07'S, 55°42'W

Departamento	Locality	Lat/Long
Canindeyú	Estancia Rama III	24°08'S, 55°33'W
Canindeyú	Lagunita	24°08'S, 55°25'W
Canindeyú	Mbaracayú	24°04'S, 55°20'W
Canindeyú	Mbaracayú, 12 km E	24°04'S, 55°13'W
Canindeyú	Nandurocaí Cái, 3.1 km NE	24°00'S, 55°31'W
Canindeyú	Piratiy	24°08'S, 54°22'W
Canindeyú	Puente Kyjhá, 30 km N (Piratiy)	24°08'S, 54°22'W
Canindeyú	Salto de Guairá	24°03'S, 54°21'W
Canindeyú	Santa Rosa	24°31'S, 55°42'W
Canindeyú	Villa Aché	24°05'S, 55°30'W
Canindeyú	Villa Aché, 2 km S	24°05'S, 55°30'W
Canindeyú	Ygatimí	24°05'S, 55°30'W
Canindeyú	Ygatimí, 10 km NE	24°04'S, 55°34'W
Canindeyú	Ygatimí, 6 km E	24°05'S, 55°30'W
Canindeyú	Limoy, 12 km N	23°56'S, 54°19'W
Central	Areguá	25°18'S, 57°25'W
Central	Asunción	25°17'S, 57°37'W
Central	Campo Grande	25°17'S, 57°37'W
Central	Capiatá	25°20'S, 57°25'W
Central	Colonia Thompson	25°27'S, 57°30'W
Central	Compania Pintoty	25°37'S, 57°30'W
Central	Itaugua	25°22'S, 57°20'W
Central	Loma Pytá	25°08'S, 57°29'W
Central	Luque	25°17'S, 57°37'W
Central	Luque, 14 km S	25°23'S, 57°31'W
Central	Mariano Roque Alonso	25°10'S, 57°30'W
Central	Nueva Italia	25°37'S, 57°30'W
Central	Piquete Cué, 7 km NNE	25°07'S, 57°30'W
Central	San Lorenzo	25°17'S, 57°37'W
Central	Surubí'y	25°11'S, 57°30'W

Departamento	Locality	Lat/Long
Central	Villeta	25°30'S, 57°30'W
Central	Ypacaraí	25°24'S, 57°16'W
Concepción	Antebi Cué	22°39'S, 57°32'W
Concepción	Apa Lue	Not located
Concepción	Apa-Bergland	22°32'S, 57°20'W
Concepción	Arroyo Bandera	Not located
Concepción	Arroyo Peguajhó	23°23'S, 57°01'W
Concepción	Capitigo	22°51'S, 56°49'W
Concepción	Centurión	22°18'S, 57°33'W
Concepción	Colonia Independencia	23°22'S, 57°26'W
Concepción	Colonia Risso	22°21'S, 57°50'W
Concepción	Colonia Takuarita	23°11'S, 56°19'W
Concepción	Concepción	23°24'S, 57°26'W
Concepción	Concepción, 12 km E	23°26'S, 57°20'W
Concepción	Concepción, 19 km NE	23°16'S, 57°21'W
Concepción	Concepción, 91 km E	23°11'S, 56°42'W
Concepción	Concepción, 95 km E	23°27'S, 56°37'W
Concepción	Cororo, Río Ypané	23°25'S, 56°31'W
Concepción	Estancia 7 Leguas	23°10'S, 56°19'W
Concepción	Estancia Cerrito	23°01'S, 56°20'W
Concepción	Estancia Estrella	22°10'S, 57°42'W
Concepción	Estancia Garay Cué	22°43'S, 57°21'W
Concepción	Estancia San Fernando, 30 km N	22°43'S, 57°27'W
Concepción	Estancia Siete Lagunas	23°07'S, 56°20'W
Concepción	Horcheta	23°24'S, 56°53'W
Concepción	Loreto	23°15'S, 57°11'W
Concepción	Paso Barreto	23°06'S, 57°17'W
Concepción	Puerto Fonciere	22°29'S, 57°48'W
Concepción	3 km NNW Fonciere	22°28'S, 57°50'W
Concepción	Puerto Max	22°38'S, 57°45'W

Departamento	Locality	Lat/Long
Concepción	Puerto San Lázaro	22°10'S, 57°55'W
Concepción	Rancho Z	22°52'S, 57°00'W
Concepción	Río Ápa	22°30'S, 57°00'W
Concepción	Río Aquidabán	23°06'S, 57°20'W
Concepción	Río La Paz	22°26'S, 58°06'W
Concepción	Río Saladillo	23°19'S, 57°28'W
Concepción	Río Tagatiya	22°46'S, 57°27'W
Concepción	Saite	22°06'S, 57°37'W
Concepción	Route III, 10 km S Route V	23°03'S, 56°31'W
Concepción	San Lázaro	22°10'S, 57°55'W
Concepción	San Salvador	22°50'S, 57°36'W
Concepción	San Luis	22°35'S, 57°22'W
Concepción	Serranía San Luis	22°35'S, 57°22'W
Concepción	Tagatiyá-guazú	22°46'S, 57°27'W
Concepción	Vallemí	22°06'S, 57°57'W
Concepción	Yby Yaú	22°59'S, 56°32'W
Concepción	Yby Yaú, 17 km S, 20 km E	23°07'S, 56°19'W
Cordillera	Altos	25°14'S, 57°15'W
Cordillera	Arroyos y Esteros	25°03'S, 57°05'W
Cordillera	Arroyos y Esteros, 25 km NE	24°55'S, 56°58'W
Cordillera	Caacupé	25°23'S, 57°09'W
Cordillera	Cabañas	25°27'S, 56°51'W
Cordillera	Compania Matiauda	25°08'S, 57°18'W
Cordillera	Estancia Sombrero	25°04'S, 56°36'W
Cordillera	Eusebio Ayala	25°23'S, 56°57'W
Cordillera	Itacurubí de la Cordillera	25°27'S, 56°51'W
Cordillera	Juan de Mena	24°55'S, 56°44'W
Cordillera	Nueva Colombia	25°11'S, 57°21'W
Cordillera	Pira-retá	25°33'S, 56°54'W
Cordillera	Saltos de Pira-retá	25°30'S, 56°56'W

Departamento	Locality	Lat/Long
Cordillera	Piribebuy	25°29'S, 57°03'W
Cordillera	Saladillo	23°19'S, 57°28'W
Cordillera	San Bernardino	25°16'S, 57°19'W
Cordillera	San Bernardino, 9 km NW	25°12'S, 57°22'W
Cordillera	Teniente Farina	25°17'S, 57°05'W
Cordillera	Tobatí	25°15'S, 57°04'W
Cordillera	Ypacaraí	25°24'S, 57°16'W
Guairá	Aldea Tuna	25°41'S, 56°19'W
Guairá	Cerro Tres Kandú	25°51'S, 56°12'W
Guairá	Colonia Independencia	25°43'S, 56°15'W
Guairá	Roque González	25°57'S, 56°14'W
Guairá	Salto Paí	25°43'S, 56°14'W
Guairá	Santa Cecilia	25°47'S, 56°10'W
Guairá	Tebicuary	25°46'S, 56°39'W
Guairá	Villarrica	25°47'S, 56°27'W
Guairá	Villarrica, 13 km W	25°49'S, 56°33'W
Guairá	Ybyturuzú	25°50'S, 56°14'W
Itapúa	Alto Verá	26°35'S, 55°38'W
Itapúa	Arroyo Pirapó	26°56'S, 55°29'W
Itapúa	Arroyo Poromoco	26°58'S, 55°45'W
Itapúa	Ayolas, 45 km NE	27°10'S, 56°30'W
Itapúa	Capitán Meza	26°55'S, 55°13'W
Itapúa	Capitán Miranda	27°12'S, 55°48'W
Itapúa	Carmen del Paraná	27°12'S, 56°07'W
Itapúa	Colonia Amistad	27°19'S, 55°52'W
Itapúa	Colonia Santa Ana	26°25'S, 55°39'W
Itapúa	Desarrollo Forestal	26°51'S, 55°39'W
Itapúa	Desarrollo Forestal, 10 km W	26°52'S, 55°44'W
Itapúa	El Tiról	27°11'S, 55°43'W
Itapúa	Encarnación	27°19'S, 55°52'W

Departamento	Locality	Lat/Long
Itapúa	Estancia Cuatro Puentes	26°31'S, 55°48'W
Itapúa	Estancia San Isidro	26°31'S, 55°48'W
Itapúa	Hohenau	27°05'S, 53°39'W
Itapúa	Isla Talavera	27°31'S, 56°26'W
Itapúa	Isla Yacyretá	27°25'S, 56°30'W
Itapúa	Kangüery	26°30'S, 55°47'W
Itapúa	Maria Auxiliadora, 34 km NW	26°06'S, 55°09'W
Itapúa	Nueva Gambach/Pro Cosara	26°35'S, 55°38'W
Itapúa	Ñu Guazú, Artigas	26°56'S, 56°17'W
Itapúa	Parabel	26°10'S, 55°30'W
Itapúa	Parque Nacional San Rafael	26°25'S, 55°39'W
Itapúa	Pirapó	26°35'S, 55°32'W
Itapúa	Pirapó, 52 km NNW	26°25'S, 55°20'W
Itapúa	Puerto San Rafael, 11.9 km E	26°40'S, 54°50'W
Itapúa	Route I km 331	26°13'S, 56°07'W
Itapúa	Salto Tembey	25°42'S, 54°59'W
Itapúa	San Pedro Mí	26°31'S, 55°48'W
Itapúa	San Rafael	26°25'S, 55°39'W
Itapúa	Taruma	26°35'S, 55°32'W
Itapúa	Trunfo	26°45'S, 55°06'W
Itapúa	Yaceretá	27°25'S, 56°30'W
Itapúa	Yatayty	26°41'S, 55°04'W
Misiones	Ayolas	27°22'S, 56°51'W
Misiones	Ayolas, 5 km ENE	27°22'S, 56°48'W
Misiones	Corateí	27°24'S, 56°58'W
Misiones	Corateí, 3 km E	27°22'S, 56°51'W
Misiones	Corateí, 4 km W	27°24'S, 56°58'W
Misiones	Estancia Saranday	27°16'S, 56°49'W
Misiones	Estero Kurunaí	27°05'S, 56°29'W
Misiones	Florida	26°26'S, 57°03'W

Departamento	Locality	Lat/Long
Misiones	Florida, 32 km SW	26°39'S, 57°07'W
Misiones	Misiones	26°54'S, 57°03'W
Misiones	Route IV 80 km E Pilár	26°53'S, 57°30'W
Misiones	San Antonio	27°09'S, 56°54'W
Misiones	San Ignacio	26°53'S, 57°02'W
Misiones	San Ignacio, 10 km N	26°48'S, 57°01'W
Misiones	San Ignacio, 40 km W	26°54'S, 57°23'W
Misiones	San Juan Bautista	26°40'S, 57°08'W
Misiones	Santa Ana	27°22'S, 56°51'W
Misiones	Santiago	27°07'S, 56°46'W
Misiones	Santiago, 15 km SSW	27°12'S, 56°53'W
Misiones	Santiago, 20 km SSW	27°19'S, 56°46'W
Misiones	Sarandy	27°16'S, 56°49'W
Misiones	Villa Permanente	27°22'S, 56°51'W
Misiones	Villa Permanente, 13 km N	27°18'S, 56°46'W
Misiones	Yabebyry	27°24'S, 57°11'W
Ñeembucú	Caí Mbocá	26°41'S, 58°14'W
Ñeembucú	Curupayty	27°07'S, 58°37'W
Ñeembucú	Curuzú Aba	27°15'S, 57°50'W
Ñeembucú	Estancia Purity	26°34'S, 57°47'W
Ñeembucú	Estancia San Antonio	26°47'S, 57°55'W
Ñeembucú	Estancia San Jose	27°04'S, 58°23'W
Ñeembucú	Estero Cambá	27°04'S, 58°21'W
Ñeembucú	Ñeembucú	26°50'S, 56°57'W
Ñeembucú	Paso Lengá	26°52'S, 58°17'W
Ñeembucú	Pilár	26°52'S, 58°17'W
Ñeembucú	Pilár, 10 km N	26°48'S, 58°15'W
Ñeembucú	Pilár, 13 km S	26°58'S, 58°17'W
Ñeembucú	Pilár, 24 km NE	26°41'S, 58°10'W
Ñeembucú	Pilár, 9 km NE	26°47'S, 58°26'W

Departamento	Locality	Lat/Long
Ñeembucú	Potrero Esteche	27°08'S, 57°38'W
Ñeembucú	Puerto Arara'a	26°52'S, 58°17'W
Ñeembucú	Puerto Naranjito	26°57'S, 58°27'W
Ñeembucú	San Lorenzo	26°47'S, 57°40'W
Ñeembucú	Tacuara	26°49'S, 58°06'W
Ñeembucú	Tacuara, 8 km NE	26°49'S, 58°06'W
Ñeembucú	Valle Apuá	26°52'S, 58°17'W
Ñeembucú	Villa Oliva	26°04'S, 57°51'W
Ñeembucú	Yacaré	26°34'S, 58°07'W
Paraguarí	Acahay	25°55'S, 57°09'W
Paraguarí	Acahay, Arroyo Verde	25°55'S, 57°09'W
Paraguarí	Apyraguá	25°55'S, 56°53'W
Paraguarí	Barrientos	26°01'S, 56°50'W
Paraguarí	Caapucú	26°13'S, 57°12'W
Paraguarí	Caapucú, 22 km N	26°03'S, 57°12'W
Paraguarí	Caballero	25°41'S, 56°50'W
Paraguarí	Cabaña Aramí	25°55'S, 57°09'W
Paraguarí	Cerro Acahay	25°55'S, 57°09'W
Paraguarí	Cerro Hú	25°37'S, 57°08'W
Paraguarí	Cerro Pedregal	25°31'S, 57°02'W
Paraguarí	Cerro Yaguarón	25°34'S, 57°16'W
Paraguarí	Cesar Barrientos	26°01'S, 56°50'W
Paraguarí	Chololó	25°34'S, 57°02'W
Paraguarí	Coronel Barrientos	26°01'S, 56°50'W
Paraguarí	Estancia Ypoá	25°55'S, 57°25'W
Paraguarí	Lago Ypoa	25°55'S, 57°25'W
Paraguarí	Laguna Vera	26°09'S, 57°27'W
Paraguarí	Mbocaya Sapucay	26°32'S, 57°25'W
Paraguarí	Mbuyapey, 5 km E	26°13'S, 56°45'W
Paraguarí	Parque Nacional Ybycuí	26°05'S, 56°46'W

Departamento	Locality	Lat/Long
Paraguarí	Piribebuy, 10 km S	25°32'S, 57°01'W
Paraguarí	Route I km 83	25°43'S, 57°12'W
Paraguarí	Sapucaí	25°41'S, 56°50'W
Paraguarí	Taruma Fondo	25°57'S, 57°27'W
Paraguarí	Yaguarón	25°34'S, 57°16'W
Paraguarí	Ybycuí, 15 km S	26°05'S, 56°46'W
Paraguarí	Ypoá (Lago and Estancia)	25°55'S, 57°25'W
Presidente Hayes	25 Leguas	22°46'S, 59°38'W
Presidente Hayes	Benjamín Aceval, 12 km W	24°58'S, 57°40'W
Presidente Hayes	Bruguez	24°45'S, 58°49'W
Presidente Hayes	Buffalo Bill's	23°26'S, 58°54'W
Presidente Hayes	Campo María	22°34'S, 59°21'W
Presidente Hayes	Carandá	23°06'S, 59°18'W
Presidente Hayes	Casanillo	22°10'S, 59°17'W
Presidente Hayes	Cerrito	24°50'S, 57°44'W
Presidente Hayes	Chaco'í	25°15'S, 57°43'W
Presidente Hayes	Chaco'í, 11 km NNW	25°12'S, 57°44'W
Presidente Hayes	Colonia Fernheim, Laguna Porá	22°20'S, 59°26'W
Presidente Hayes	Concepción, 44 km W	23°24'S, 57°51'W
Presidente Hayes	Elisa	22°24'S, 58°56'W
Presidente Hayes	Estancia Bella Vista	23°11'S, 57°48'W
Presidente Hayes	Estancia Campo Verde	22°26'S, 58°42'W
Presidente Hayes	Estancia El Tejano	23°06'S, 59°18'W
Presidente Hayes	Estancia Josefina	23°35'S, 60°11'W
Presidente Hayes	Estancia Juan de Zalazar	23°06'S, 59°18'W
Presidente Hayes	Estancia La Golondrina	24°27'S, 57°03'W
Presidente Hayes	Estancia La Rural	24°45'S, 58°49'W
Presidente Hayes	Estancia La Victoria	24°12'S, 58°18'W
Presidente Hayes	Estancia Laguna Porá	22°20'S, 59°26'W
Presidente Hayes	Estancia Palo Santo	22°10'S, 59°17'W

Departamento	Locality	Lat/Long
Presidente Hayes	Estancia Palo Santo, 26 km WSW	22°10'S, 59°17'W
Presidente Hayes	Estancia Pozo Azul	24°01'S, 58°23'W
Presidente Hayes	Estancia Pozo Azul, 4 km SSE	24°01'S, 58°23'W
Presidente Hayes	Estancia Remancito	24°50'S, 57°44'W
Presidente Hayes	Estancia Sanidad	23°51'S, 59°50'W
Presidente Hayes	Estancia San Juan	23°00'S, 59°34'W
Presidente Hayes	Estancia Santa Elisa	23°46'S, 46°02'W
Presidente Hayes	Estancia Tinfunque	23°47'S, 60°09'W
Presidente Hayes	Estancia Villa Rey	24°36'S, 58°02'W
Presidente Hayes	Estancia Zalazar, 10 km NW	22°59'S, 59°20'W
Presidente Hayes	Estancia Zalazar, 8 km NE	22°10'S, 59°17'W
Presidente Hayes	Falcón, 8 km N	25°13'S, 57°39'W
Presidente Hayes	Filadelfia, 44 km S	22°38'S, 59°47'W
Presidente Hayes	Fortín Caballero	24°08'S, 59°30'W
Presidente Hayes	Fortín Ramos	23°56'S, 60°29'W
Presidente Hayes	General Bruguez	24°45'S, 58°49'W
Presidente Hayes	Guajhó	22°46'S, 58°24'W
Presidente Hayes	Josefina	23°35'S, 60°11'W
Presidente Hayes	La Rural	24°45'S, 58°49'W
Presidente Hayes	La Victoria	24°12'S, 58°31'W
Presidente Hayes	Laguna Bombacha	23°05'S, 59°39'W
Presidente Hayes	Laguna Capitán	22°33'S, 59°42'W
Presidente Hayes	Laguna Escalante	23°52'S, 60°16'W
Presidente Hayes	Laguna Fortín Rojas Silva	22°40'S, 59°03'W
Presidente Hayes	Laguna Ganso	22°31'S, 59°37'W
Presidente Hayes	Lolita	23°30'S, 59°40'W
Presidente Hayes	Loma Pora	22°20'S, 59°26'W
Presidente Hayes	Loma Verde	23°26'S, 58°27'W
Presidente Hayes	Makthlawaiya	23°25'S, 58°19'W
Presidente Hayes	Nanawa	23°30'S, 59°30'W

Departamento	Locality	Lat/Long
Presidente Hayes	Paratodo, 10 km S	23°13'S, 59°37'W
Presidente Hayes	Pozo Azul	24°01'S, 58°23'W
Presidente Hayes	Pozo Colorado	23°28'S, 58°48'W
Presidente Hayes	Pozo Colorado, 49.8 km NW	23°09'S, 59°20'W
Presidente Hayes	Pozo Colorado, 80 km W	23°28'S, 59°43'W
Presidente Hayes	Pozo Colorado, 100 km W	23°28'S, 59°56'W
Presidente Hayes	Puente Remanso	25°10'S, 57°33'W
Presidente Hayes	Puente Remanso, 60 km NW on Route IX	24°49'S, 57°46'W
Presidente Hayes	Puente Remanso, 45 km NW on Route IX	24°52'S, 57°29'W
Presidente Hayes	Puerto Falcón	25°15'S, 57°46'W
Presidente Hayes	Puerto Pinasco	22°39'S, 57°50'W
Presidente Hayes	Rancho Quemado	23°07'S, 59°50'W
Presidente Hayes	Reserva Privada Chaco Lodge	22°30'S, 59°18'W
Presidente Hayes	Riacho Negro	23°30'S, 57°50'W
Presidente Hayes	Río Montelindo @ Río Paraguay	23°53'S, 57°19'W
Presidente Hayes	Río Verde	23°26'S, 58°54'W
Presidente Hayes	Road to Bruguez, 16 km NW Falcón road	25°08'S, 57°47'W
Presidente Hayes	Road to Bruguez, 18 km N Falcón road	25°07'S, 57°48'W
Presidente Hayes	Road to Bruguez, 24 km E Río Negro	24°42'S, 58°31'W
Presidente Hayes	Road to Bruguez, 29 km NW Falcón road	25°03'S, 57°53'W
Presidente Hayes	Road to Bruguez, 30 km W Route IX	24°45'S, 58°49'W
Presidente Hayes	Road to Bruguez, 40 km N Falcón road	25°00'S, 57°58'W
Presidente Hayes	Road to Bruguez, 42 km N Falcón road	24°59'S, 57°58'W
Presidente Hayes	Road to Díaz, 10 km W Route IX	23°27'S, 58°58'W
Presidente Hayes	Road to Díaz, 19 km W Route IX	23°26'S, 59°03'W
Presidente Hayes	Road to Díaz, 20 km W Route IX	23°26'S, 59°03'W
Presidente Hayes	Road to Díaz, 36 km W Route IX	23°27'S, 59°13'W
Presidente Hayes	Road to Díaz, 49 km W Route IX	23°28'S, 59°21'W
Presidente Hayes	Road to Falcón	25°14'S, 57°42'W
Presidente Hayes	Rojas Silva	22°40'S, 59°03'W

Departamento	Locality	Lat/Long
Presidente Hayes	Rosario, 14 km S on Río Paraguay	24°32'S, 57°11'W
Presidente Hayes	Route IX, 22 km N Río Verde	23°21'S, 59°06'W
Presidente Hayes	Route IX, 30 km S Río Verde	23°34'S, 58°46'W
Presidente Hayes	Route IX @ road to Díaz	23°27'S, 58°52'W
Presidente Hayes	Route IX 15 km NW Remanso	25°04'S, 57°32'W
Presidente Hayes	Route IX 17 km N Remanso	25°04'S, 57°32'W
Presidente Hayes	Route IX Km 39	25°03'S, 57°32'W
Presidente Hayes	Route IX Km 44	25°01'S, 57°33'W
Presidente Hayes	Route IX Km 65	24°58'S, 57°32'W
Presidente Hayes	Route IX Km 69	24°53'S, 57°41'W
Presidente Hayes	Route IX Km 70	24°53'S, 57°42'W
Presidente Hayes	Route IX Km 72	24°52'S, 57°43'W
Presidente Hayes	Route IX Km 75	24°51'S, 57°44'W
Presidente Hayes	Route IX Km 76	24°51'S, 57°44'W
Presidente Hayes	Route IX Km 77	24°50'S, 57°45'W
Presidente Hayes	Route IX Km 83	24°48'S, 57°47'W
Presidente Hayes	Route IX Km 84	24°48'S, 57°47'W
Presidente Hayes	Route IX Km 86	24°48'S, 57°47'W
Presidente Hayes	Route IX Km 90	24°47'S, 57°49'W
Presidente Hayes	Route IX Km 92	24°46'S, 57°50'W
Presidente Hayes	Route IX Km 95	24°44'S, 57°54'W
Presidente Hayes	Route IX Km 96	24°44'S, 57°54'W
Presidente Hayes	Route IX Km 100	24°44'S, 57°54'W
Presidente Hayes	Route IX Km 105	24°43'S, 57°55'W
Presidente Hayes	Route IX Km 107	24°41'S, 57°58'W
Presidente Hayes	Route IX Km 111	24°41'S, 57°59'W
Presidente Hayes	Route IX Km 113	24°40'S, 58°00'W
Presidente Hayes	Route IX Km 116	24°39'S, 58°01'W
Presidente Hayes	Route IX Km 118	24°37'S, 58°02'W
Presidente Hayes	Route IX Km 122	24°35'S, 58°02'W

Departamento	Locality	Lat/Long
Presidente Hayes	Route IX Km 125	24°32'S, 58°00'W
Presidente Hayes	Route IX Km 145	24°25'S, 58°05'W
Presidente Hayes	Route IX Km 157	24°21'S, 58°11'W
Presidente Hayes	Route IX Km 160	24°20'S, 58°13'W
Presidente Hayes	Route IX Km 167	24°17'S, 58°16'W
Presidente Hayes	Route IX Km 171	24°16'S, 58°16'W
Presidente Hayes	Route IX Km 182	24°10'S, 58°18'W
Presidente Hayes	Route IX Km 199	24°01'S, 58°23'W
Presidente Hayes	Route IX Km 209	23°57'S, 58°26'W
Presidente Hayes	Route IX Km 212	23°56'S, 58°27'W
Presidente Hayes	Route IX Km 220	23°52'S, 58°27'W
Presidente Hayes	Route IX Km 222	23°51'S, 58°28'W
Presidente Hayes	Route IX Km 223 NW Villa Hayes	23°39'S, 58°42'W
Presidente Hayes	Route IX Km 228	23°49'S, 58°30'W
Presidente Hayes	Route IX Km 233	23°58'S, 58°33'W
Presidente Hayes	Route IX Km 234	23°47'S, 58°33'W
Presidente Hayes	Route IX Km 235	23°47'S, 58°33'W
Presidente Hayes	Route IX Km 242	23°44'S, 58°36'W
Presidente Hayes	Route IX Km 245	23°41'S, 58°39'W
Presidente Hayes	Route IX Km 250	23°41'S, 58°38'W
Presidente Hayes	Route IX Km 283	23°24'S, 58°59'W
Presidente Hayes	Route IX Km 290	23°26'S, 58°54'W
Presidente Hayes	Route IX Km 295	23°24'S, 58°59'W
Presidente Hayes	Route IX Km 297	23°24'S, 58°59'W
Presidente Hayes	Route IX Km 306	23°59'S, 59°02'W
Presidente Hayes	Route IX Km 323	23°17'S, 59°09'W
Presidente Hayes	Route IX Km 327	23°15'S, 59°11'W
Presidente Hayes	Route IX Km 330	23°12'S, 59°08'W
Presidente Hayes	Route IX Km 335	23°10'S, 59°12'W
Presidente Hayes	Route IX Km 343	23°03'S, 59°15'W

Departamento	Locality	Lat/Long
Presidente Hayes	Route IX Km 344	23°05'S, 59°14'W
Presidente Hayes	Route IX Km 367	23°03'S, 59°15'W
Presidente Hayes	Route IX Km 382	22°53'S, 59°30'W
Presidente Hayes	Route IX Km 400	22°46'S, 59°37'W
Presidente Hayes	Route IX Km 418	22°40'S, 59°45'W
Presidente Hayes	Route IX Km 420	22°39'S, 59°46'W
Presidente Hayes	Sammaklay	23°28'S, 59°48'W
Presidente Hayes	Santa Catalina	23°39'S, 58°13'W
Presidente Hayes	Tacuara	24°36'S, 58°02'W
Presidente Hayes	Teniente Ramos	23°52'S, 60°42'W
Presidente Hayes	Tinfunqué	23°47'S, 60°09'W
Presidente Hayes	Toro Mocho	23°38'S, 60°24'W
Presidente Hayes	Tuparendá	22°40'S, 58°28'W
Presidente Hayes	Villa Hayes	25°05'S, 57°35'W
Presidente Hayes	Villa Hayes, 24 km NW	24°55'S, 57°36'W
Presidente Hayes	Villa Hayes, 30 km NW	24°54'S, 57°40'W
San Pedro	25 de Diciembre, 13 km SW	24°51'S, 56°51'W
San Pedro	25 de Diciembre, 14 km SW	24°48'S, 56°38'W
San Pedro	Arroyos y Esteros, 29 km NE	24°52'S, 56°52'W
San Pedro	Carumbé	23°59'S, 56°39'W
San Pedro	Colonia Friesland	24°38'S, 56°47'W
San Pedro	Colonia Jaguarete	23°49'S, 56°03'W
San Pedro	Colonia Río Verde	23°43'S, 56°30'W
San Pedro	Estancia Alegría	23°43'S, 56°31'W
San Pedro	Estancia Carduz	Not located
San Pedro	Estancia Montanía	Not located
San Pedro	Estancia Pedernal	23°47'S, 57°10'W
San Pedro	Estero Yetyty	24°25'S, 57°06'W
San Pedro	Jejuí, 25 km N	23°54'S, 56°30'W
San Pedro	Laguna Blanca	23°49'S, 56°18'W

Departamento	Locality	Lat/Long
San Pedro	Lima	23°54'S, 56°20'W
San Pedro	Lima, 2 km NW	23°54'S, 56°20'W
San Pedro	Nueva Germania	23°53'S, 56°33'W
San Pedro	Primavera	24°36'S, 56°44'W
San Pedro	Puerto Primavera (Puerto Rosario)	24°38'S, 56°47'W
San Pedro	Río Jejuí-Guazú, 10 km N	24°06'S, 56°29'W
San Pedro	Río Manduvirá	25°03'S, 57°05'W
San Pedro	Road to Santa Rosa	23°49'S, 56°23'W
San Pedro	Rosario	24°25'S, 57°06'W
San Pedro	Route III 40 km N Aguara'í Guazú	23°32'S, 56°28'W
San Pedro	San Pedro del Ycuamandyyu	24°06'S, 57°05'W
San Pedro	Santa Barbara	23°47'S, 56°17'W
San Pedro	Santa Rosa	23°52'S, 56°24'W
San Pedro	Ybapobo	23°38'S, 57°23'W
San Pedro	Yryvukuá	24°36'S, 56°11'W

Appendix 2. Collection codes follow the standardized list maintained by the American Society of Ichthyologists and Herpetologists based on Sabaj Pérez (2014) and added to or modified by us, as necessary.

AMNH: American Museum of Natural History (New York, USA).

ANSP: Academy of Natural Sciences (Philadelphia, Pennsylvania USA)

BYU: Brigham Young University Collection (Provo, Utah USA).

CEBM: Estación Biológica de la Reserva Natural del Bosque Mbaracayú (Canindeyú, Paraguay).

CENAI: Collection of the Centro Nacional de Investigaciones Iológicas, now deposited in the MACN.

CFA: "Colección Felix Azara": Collection of CONICET (Comisión Nacional de Investigaciones Científicas y Técnicas), currently in the MACN.

CG: Personal collection of Carl Gans (Buffalo, New York USA).

CHINM: Instituto Nacional de Microbiología (Buenos Aires, Argentina), currently in the MACN.

CITES: Temporary numbers on a collection reported in Scott et al. (1994).

CM: Carnegie Museum (Pittsburgh, Pennsylvania USA).

CNHM: See FMNH.

CZCEN: Colección Zoológica, Facultad de Ciencias Exactas y Naturales (FACENA), Universidad Nacional de Asunción (San Lorenzo, Paraguay).

CZPLT: Colección Zoológica Para la Tierra (Santa Rosa del Aguaray, San Pedro, Paraguay).

EBD: Estación Biológica de Doñana (Seville, Spain).

FML: Fundación Miguel Lillo (Tucumán, Argentina).

FMNH: Field Museum of Natural History (Chicago, Illinois USA).

IB: Instituto Butantan (São Paulo, Brazil).

IBN: Field numbers now catalogued in the MNHNP.

IP: Personal collection of Ingo Pauler (Wachenheim, Germany).

KU: Natural History Museum, University of Kansas (Lawrence, Kansas USA).

LACM: Los Angeles County Museum (Los Angeles, California USA).

LF: Personal collection of Lee Fitzgerald (College Station, USA).

MACN: Museo Argentino de Ciencias Naturales (Buenos Aires, Argentina).

MACUT: Museum of Comparative Anatomy, Università di Torino (Turin, Italy).

- MAI: Museo Ambiental de Itaipú, Vivero Forestal Itaipú Binacional (Hernandarias, Paraguay).
- MCZ: Museum of Comparative Zoology (Cambridge, Massachusetts USA).
- MHNCI: Museu de Historia Natural “Capão de Imbuia” (Curitiba, Brazil).
- MHNG: Museum d’Histoire Naturelle (Geneva, Switzerland).
- MHNSRMza: Museo de Historia Natural de San Rafael (Mendoza, Argentina).
- MLP: Museo de La Plata (La Plata, Argentina).
- MNHN: Museum National d’Histoire Naturelle (Paris, France).
- MNHN-P: MNHN Paléontologie.
- MNHNP: Museo Nacional de Historia Natural del Paraguay (San Lorenzo, Paraguay).
- MNHN-Z: MNHN Zoologie (Reptiles et Amphibiens).
- MNRJ: Museu Nacional do Rio de Janeiro (Rio de Janeiro, Brazil).
- MSB: Museum of Southwestern Biology, University of New Mexico (Albuquerque, New Mexico USA).
- MSUNA: Museo de Zoología “Francisco Schade”, Universidad de Asunción (San Lorenzo, Paraguay).
- MTKD: Staatliches Museum für Tierkunde (Dresden, Germany)
- MUHINA: Museo de Historia Natural y Antropología (Montevideo, Uruguay).
- MVZ: Museum of Vertebrate Zoology, University of California at Berkeley (Berkeley, California USA).
- MZUSP: Museu de Zoologia, Universidade de São Paulo (São Paulo, Brazil).
- MZUT: Museo di Zoologia della Università di Torino (Turin, Italy).
- NHMUK: Natural History Museum (London, England).
- NJS: Field series, now with different USNM numbers. NMB: Naturhistorisches Museum (Basel, Switzerland).
- NMBE: Naturhistorisches Museum (Bern, Switzerland).
- NMW: Naturhistorisches Museum (Vienna, Austria).
- NRM: Naturhistoriska Rijkmuseum (Stockholm, Sweden).
- NS: Field series, now with different USNM numbers .
- SDSU: San Diego State University (San Diego, California USA).
- SMF: Senckenbergische Naturforschende Gesellschaft (Frankfurt-am-Main, Germany).
- SMNS: Staatliches Museum für Naturkunde in Stuttgart (Ludwigsburg, Germany).

TCWC: Texas Cooperative Wildlife Collection, Texas A&M University (College Station, Texas USA) (Biodiversity Research and Teaching Collections since 2011).

UCM: University of Colorado Museum (Boulder, Colorado USA).

UCS: University of Connecticut (Storrs, Connecticut USA).

UMMZ: Museum of Zoology, University of Michigan (Ann Arbor, Michigan USA).

UNNEC: Colección Herpetológica de la Facultad de Ciencias Exactas, Naturales y Agrimensura, Universidad Nacional del Nordeste (Corrientes, Argentina).

USNM: National Museum of Natural History, Smithsonian Institution (Washington, D.C. USA).

UTA: University of Texas at Arlington (Arlington, Virginia USA).

ZFMK: Zoologisches Forschungsinstitut und Museum Alexander Koenig (Bonn, Germany).

ZIN: Academy of Sciences (Saint Petersburg, Russia).

ZMB: Museum für Naturkunde, Universität Humboldt (Berlin, Germany).

ZMH: Zoologisches Institut und Museum, Universität Hamburg (Hamburg, Germany).

ZMU: Zoologisches Museum der Universität (Berlin, Germany).

ZMUC: Universitet Zoologisk Museum (Copenhagen, Denmark).

ZSM: Zoologisches Staatsammlung des Bayerischen Staates (Münich, Germany).

ZSM-H: Zoologisches Staatsammlung des Bayerischen Staates Herpetologie (Münich, Germany).

ZVC-R: Colección de Reptiles, Zoología Vertebrados, Facultad de Ciencias, Universidad de la República (Montevideo, Uruguay).

Appendix 3. Reptile species in each Paraguayan ecoregion.

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
TESTUDINES							
Testudinidae							
<i>Chelonoidis carbonaria</i>	X	X		X	(²)	(²)	
<i>Chelonoidis chilensis</i>	X	X					
Kinosternidae							
<i>Kinosternon scorpioides</i>	X	(¹)					
Chelidae							
<i>Acanthochelys macrocephala</i>	X	(¹)	X				
<i>Acanthochelys pallidipectoris</i>	X	X					
<i>Mesoclemmys vanderhaegei</i>		X		X	X		
<i>Phrynops geoffroanus</i>		X		X	X		X
<i>Phrynops hilarii</i>		X					
<i>Phrynops williamsi</i>							X
<i>Hydromedusa tectifera</i>					(²)		X
CROCODYLIA							
Alligatoridae							
<i>Caiman latirostris</i>	(³)	X		X		X	X
<i>Caiman yacare</i>	X	X	X	X			
<i>Paleosuchus palpebrosus</i>				X			

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
SQUAMATA-SAURIA							
Dactyloidae							
<i>Norops meridionalis</i>				X			X
Iguanidae							
<i>Iguana iguana</i>			X				
Leiosauridae							
<i>Anisolepis longicauda</i>		X				X	
Liolaemidae							
<i>Liolaemus azarai</i>						X	
<i>Liolaemus chacoensis</i>	X						
Polychrotidae							
<i>Polychrus acutirostris</i>	X	X	X	X	X	X	X
Tropiduridae							
<i>Stenocercus caducus</i>	(³)	X		X	X	X	X
<i>Tropidurus etheridgei</i>	X	X					
<i>Tropidurus guarani</i>					X		
<i>Tropidurus spinulosus</i>	X	X					
<i>Tropidurus torquatus</i>				X	X	X	X
<i>Tropidurus</i> sp.1				X	X		
Gekkonidae							
<i>Hemidactylus mabouia</i>		X			X	X	X

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
<i>Lygodactylus wetzeli</i>	X						
Phyllodactylidae							
<i>Homonota borellii</i>	X						
<i>Homonota fasciata</i>	X	(¹)					
<i>Homonota rupicola</i>					X		
<i>Phyllopezus pollicaris</i>	X	X		X	(⁴)		
Gymnophthalmidae							
<i>Bachia bresslaui</i>				X			
<i>Cercosaura ocellata</i>				X			X
<i>Cercosaura schreibersii</i>		X	X	X	X	X	X
<i>Colobosaura modesta</i>		X		X			
<i>Micrablepharus maximiliani</i>				X	X		
<i>Vanzosaura rubricauda</i>		X		X			
Teiidae							
<i>Ameiva ameiva</i>	X	X	X	X	X		X
<i>Ameivula abalosi</i>	X	X		X		X	
<i>Ameivula</i> sp.				X	X		X
<i>Dracaena paraguayensis</i>		X	X				
<i>Kentropyx viridistriga</i>		X	X	X	X		
<i>Salvator duseni</i>				X			
<i>Salvator merianae</i>		X	X	X	X	X	X

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
<i>Salvator rufescens</i>	X	(¹)					
<i>Teius oculatus</i>		X				X	X
<i>Teius teyou</i>	X	X		X	X		
Mabuyidae							
<i>Aspronema dorsivittatum</i>	(³)	X		X		X	X
<i>Copeoglossum nigropunctatum</i>	X		X				
<i>Manciola guaporicola</i>	X	X	X	X			
<i>Notomabuya frenata</i>	X	X	X	X	X	X	X
Diploglossidae							
<i>Ophiodes fragilis</i>				X			
<i>Ophiodes intermedius</i>	X	X		X	X		
<i>Ophiodes striatus</i>						X	X
<i>Ophiodes luciae</i>		X					
Amphisbaenidae							
<i>Amphisbaena alba</i>				X	X		X
<i>Amphisbaena albocingulata</i>		X			X		
<i>Amphisbaena angustifrons</i>	(⁵)	X			X	(²)	
<i>Amphisbaena bolivica</i>	X	(¹)					
<i>Amphisbaena camura</i>		X			X		
<i>Amphisbaena darwini</i>		X					X
<i>Amphisbaena leeseri</i>				X			

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
<i>Amphisbaena mertensii</i>				X	X		X
<i>Amphisbaena prunicolor</i>						X	
<i>Amphisbaena roberti</i>				X			
<i>Amphisbaena steindachneri</i>				X			
<i>Leposternon microcephalum</i>	(⁵)	X			X	X	X
SQUAMATA-SERPENTES							
Boidae							
<i>Boa constrictor</i>	X	X		X			X
<i>Epicrates alvarezi</i>	X	X					
<i>Epicrates crassus</i>				X	X		X
<i>Eunectes murinus</i>				X			X
<i>Eunectes notaeus</i>	X	X			X	X	
Viperidae							
<i>Bothrops alternatus</i>	X	X			X	X	X
<i>Bothrops diporus</i>	X	X	X	X	X	X	X
<i>Bothrops jararaca</i>				X			X
<i>Bothrops jararacussu</i>							X
<i>Bothrops moojeni</i>			X	X			X
<i>Bothrops pauloensis</i>				X			
<i>Crotalus durissus</i>	X	X		X	X		X

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
Elapidae							
<i>Micrurus altirostris</i>				X	X	X	
<i>Micrurus baliocoryphus</i>		X					
<i>Micrurus corallinus</i>							X
<i>Micrurus frontalis</i>		X		X	X		X
<i>Micrurus lemniscatus</i>				X			X
<i>Micrurus pyrrhocryptus</i>	X	X	X				
<i>Micrurus silviae</i>						X	
Colubridae							
<i>Chironius bicarinatus</i>							X
<i>Chironius exoletus</i>							X
<i>Chironius flavolineatus</i>				X			
<i>Chironius maculoventris</i>	X	X					
<i>Chironius quadricarinatus</i>		X			X		
<i>Drymarchon corais</i>	X	X	X	X			
<i>Drymoluber brazili</i>				X			
<i>Leptophis ahaetulla</i>	X	X	X	X	X	X	X
<i>Mastigodryas bifossatus</i>	X	X	X	X	X	X	X
<i>Simophis rhinostoma</i>		X			X		X
<i>Spilotes pullatus</i>		X		X	X	X	X
<i>Tantilla melanocephala</i>		X					

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
Dipsadidae							
<i>Atractus paraguayensis</i>		X			X		
<i>Atractus reticulatus</i>							X
<i>Atractus thalesdelemai</i>						X	
<i>Imantodes cenchoa</i>		X	X	X			X
<i>Leptodeira annulata</i>	X	X				X	
<i>Dipsas bucephala</i>						X	X
<i>Dipsas cisticeps</i>					X		
<i>Sibynomorphus lavillai</i>	X						
<i>Sibynomorphus mikanii</i>							X
<i>Sibynomorphus turgidus</i>	X	X	X	X	X	X	X
<i>Sibynomorphus ventrimaculatus</i>				X	X	X	X
<i>Psomophis genimaculatus</i>	X	X					
<i>Psomophis obtusus</i>		X					
<i>Apostolepis ambiniger</i>					X		X
<i>Apostolepis assimilis</i>							X
<i>Apostolepis dimidiata</i>				X	X	X	X
<i>Phalotris lemniscatus</i>	X	X			X		
<i>Phalotris matogrossensis</i>		X			X		X
<i>Phalotris nigrilatus</i>		X			X		
<i>Phalotris normanscottii</i>	X						

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
<i>Phalotris tricolor</i>	X	X					
<i>Thamnodynastes chaquensis</i>	X	X	X				
<i>Thamnodynastes hypoconia</i>		X	X			X	X
<i>Thamnodynastes lanei</i>		X			X	X	
<i>Thamnodynastes strigatus</i>		X				X	X
<i>Thamnodynastes</i> spp.		X		X	X		
<i>Tomodon dorsatus</i>						X	X
<i>Taeniophallus occipitalis</i>	X	X		X			
<i>Boiruna maculata</i>	X	X				X	
<i>Clelia clelia</i>		X		X	X	X	X
<i>Clelia plumbea</i>							X
<i>Mussurana bicolor</i>	X	X					
<i>Mussurana quimi</i>						X	
<i>Oxyrhopus guibei</i>				X	X	X	X
<i>Oxyrhopus petolarius</i>							X
<i>Oxyrhopus rhombifer</i>	X	X				X	
<i>Phimophis guerini</i>				X	X	X	
<i>Phimophis vittatus</i>	X						
<i>Pseudoboa nigra</i>	X			X			
<i>Rhachidelus brazili</i>		X			X		X
<i>Philodryas aestiva</i>		X				X	X

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
<i>Philodryas agassizii</i>						(⁶)	
<i>Philodryas baroni</i>	X						
<i>Philodryas livida</i>				X			
<i>Philodryas mattogrossensis</i>	X	X		X			?
<i>Philodryas nattereri</i>				X			
<i>Philodryas olfersii</i>		X	X	X	X	X	X
<i>Philodryas patagoniensis</i>		X	X	X	X	X	X
<i>Philodryas psammophidea</i>	X	X					
<i>Helicops infrataeniatus</i>				X	X	X	X
<i>Helicops leopardinus</i>		X	X	X	X	X	
<i>Hydrops caesurus</i>		X		X		X	
<i>Pseudoeryx plicatilis</i>		X	X	X			
<i>Hydrodynastes gigas</i>		X	X	X	X	X	(⁷)
<i>Erythrolamprus aesculapii</i>		X		X	X	X	(⁷)
<i>Erythrolamprus albertguentheri</i>	X						
<i>Erythrolamprus almadensis</i>	X	X		X		X	
<i>Erythrolamprus frenatus</i>		X		X		X	X
<i>Erythrolamprus jaegeri</i>		X		X	X		
<i>Erythrolamprus miliaris</i>				X	X		X
<i>Erythrolamprus poecilogyrus</i>	X	X	X	X	X	X	X
<i>Erythrolamprus reginae</i>		X			X	X	X

	Dry Chaco	Wet Chaco	Pantanal	Cerrado	Central Forest	Mesopotamian Grasslands	Atlantic Forest
<i>Erythrolamprus sagittifer</i>	X						
<i>Erythrolamprus semiaureus</i>		X				X	
<i>Erythrolamprus typhlus</i>				X			
<i>Lygophis anomalus</i>						?	
<i>Lygophis dilepis</i>	X	X	X	X			
<i>Lygophis flavifrenatus</i>					X	X	X
<i>Lygophis meridionalis</i>		X		X	X	X	
<i>Lygophis paucidens</i>				X			
<i>Xenodon dorbignyi</i>		X			X		X
<i>Xenodon histricus</i>		X					X
<i>Xenodon merremi</i>	X	X	X	X	X	X	X
<i>Xenodon neuwiedii</i>		X				X	X
<i>Xenodon pulcher</i>	X	X					
<i>Xenopholis undulatus</i>					X		
Anomalepididae							
<i>Liotyphlops beui</i>							X
<i>Liotyphlops ternetzii</i>	(5)			X	X	X	
Leptotyphlopidae							
<i>Epictia albipuncta</i>		X					
<i>Epictia munoai</i>	X	X					
<i>Rena unguirostris</i>	X						

Typhlopidae							
<i>Amerotyphlops brongersmianus</i>	(⁵)	X		X	X		X

(¹) Species characteristic of the Dry Chaco that occur in the Wet Chaco where the two ecoregions interdigitate.

(²) Records that are probably incorrect or are released animals.

(³) Species characteristic of the Wet Chaco that occur in the Dry Chaco where the two ecoregions interdigitate.

(⁴) An isolated population.

(⁵) Probably introduced. See text.

(⁶) A specimen without specific locality data probably came from this ecoregion.

(⁷) Species characteristic of Central Forest that also occur on the western, drier fringe of the Atlantic Forest.

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The publications of the Museum of Southwestern Biology of the University of New Mexico are issued under the auspices of the Dean of the College of Arts and Sciences and the Director of the Museum of Southwestern Biology. Short research studies that are specimen-based are published as Occasional Papers whereas longer contributions appear as Special Publications. All are peer-reviewed, numbered separately, and published on an irregular basis.

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