# PHOLCIDAE

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## Resumen

La familia de arañas Pholcidae incluye actualmente unas 1300 especies descritas, la mayoría de las cuales se encuentran en regiones tropicales y subtropicales de todo el mundo. La diversidad en Argentina es relativamente baja y mayormente concentrada en el noreste, aunque algunas especies se encuentran a altas altitudes de los Andes y tan al sur como Río Negro y Chubut. En esta contribución se documentan para la Argentina tanto el récord mundial de altitud (~3900 m en Jujuy) como el registro más meridional (42,5°S en Chubut). Un total de 34 especies de fólcidos se conocen de las colecciones estudiadas o han sido creíblemente citadas para Argentina. De éstas, casi una docena permanecen no descritas y seis son sinantrópicas introducidas. Cuatro géneros (dos de ellos no descritos) y 21 especies son actualmente conocidas sólo de la Argentina. Este capítulo proporciona una introducción general a la sistemática y biología de los fólcidos, un breve esbozo de la biogeografía de la familia en Argentina, una clave para todos los géneros argentinos conocidos, una lista comentada de especies con datos de localidades georreferenciadas y mapas de distribución para todas las especies nativas.

## Abstract

The spider family Pholcidae currently includes some 1300 described species, most of which occur in tropical and subtropical regions around the world. The diversity in Argentina is relatively low and largely concentrated in the northeast, but some species occur at high altitudes in the Andes and as far south as Río Negro and Chubut. Both the highest record worldwide (~3900 m in Jujuy) and the most southern record (42.5°S in Chubut) are newly documented for Argentina. A total of 34 pholcid species are available in the collections studied or have credibly been cited for Argentina. From these, almost a dozen species remain undescribed and six are introduced synanthropic species. Four genera (two of them undescribed) and 21 species are currently known only from Argentina. This chapter gives a general introduction to pholcid systematics and biology, outlines the biogeography of the family in Argentina, and provides a key to all known Argentinean genera, an annotated list of species with geo-referenced locality data, and distribution maps for all indigenous species.

## Introduction

With about 1300 described species in 85 genera, Pholcidae are among the most species-rich spider families (Platnick, 2012). The family has a worldwide distribution, but most of the biodiversity is found in the tropics and subtropics, with very few species beyond 40° north and 35° south. Both ecologically and morphologically, there is considerable variation: pholcids occupy a wide range of microhabitats (details below) and this is reflected in their body shape and coloration. Species in the leaf-litter and under objects on the ground tend to be small and compact, with short-legs and rather dark coloration (Huber *et al.*, 2005). Species adapted to life

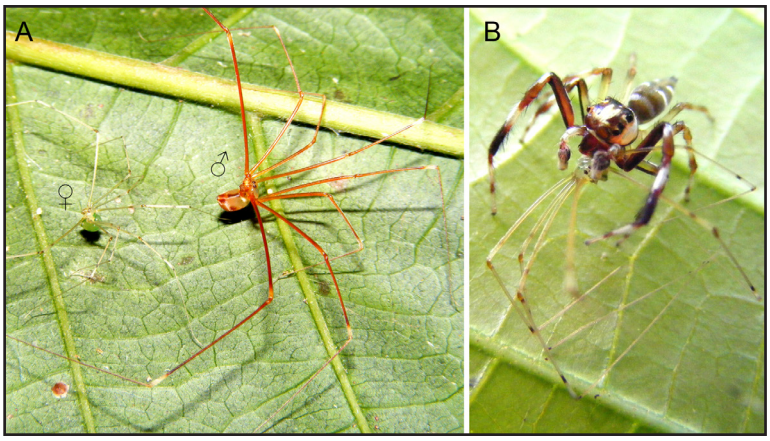


**Fig. 1.** *Mesabolivar luteus*, a common species in northeastern Argentina, representing the 'typical', long-legged morphotype. A. It is unusual in its sexual dimorphism (males being larger and darker) and in its resting position (dorsal side of abdomen facing up against the underside of the leaf instead of hanging upside down). B. A salticid spider preying on a female, illustrating the selective pressure imposed by visually hunting predators. Photos: B.A. Huber, Rio das Pedras, Rio de Janeiro.

on the underside of alive leaves tend to have long and slender bodies and legs, and to be pale greenish (Fig. 1A; Deeleman-Reinhold, 1986; Huber, 2009). Species among vegetation and in protected spaces close to the ground are morphologically intermediate but may reach leg spans of up to 15 cm (Huber & Astrin, 2009). Several genera include representatives that are mainly found on protected rock walls or in caves, and this may in part explain the high number of synanthropic species included in the family. Eleven species are either cosmopolitan or pantropical or have extended their ranges to continents not originally home to the respective genera. About five further species have attained wide distributional ranges apparently as a result of their anthropophilic nature. Few other spider families have comparable numbers of synanthropic species (Kobelt & Nentwig, 2007).

Despite the diversity of body size, shape, and color, pholcids are mostly easily distinguished from other spider families (Huber, 2000). The entire male pedipalp is modified in a unique way (Fig. 2A), and especially a process on the palpal tarsus (traditionally called 'procursus') is characteristic and easily studied. Other diagnostic characters that occur in the large majority of species are (1) modified male chelicerae (Fig. 2C; extremely diverse, with apophyses, modified hairs, cones, spines, etc.), (2) a very high clypeus (Fig. 2C; the area between chelicerae and ocular region is about as high as the chelicerae), (3) the general arrangement of eyes (two triads and one median pair; the latter may be absent), (4) pseudosegmented tarsi, and (5) a sclerotized plate covering the female internal genitalia (an epigynum, otherwise common in entelegyne but very rare in haplogyne spiders). One character that is not unique to Pholcidae but nevertheless very useful to distinguish pholcids from many other families in the field is the female behavior of carrying the egg sac in her chelicerae. Extremely long and thin legs also hint at the family, but some pholcids have relatively short legs, including an entire subfamily (Ninetinae).

## Systematics

Pholcidae are araneomorph spiders that primarily lack insemination ducts in the female internal genitalia, a character that traditionally places them in Haplogynae, a taxon that is also supported by synapomorphies (Platnick *et al.*, 1991). Some related families are superficially similar to many pholcids (long thin legs), like Ochyroceratidae, Telemidae, and Scytodidae, but the sister group of Pholcidae is supposed to be Diguetidae + Plectreuridae (Platnick *et al.*, 1991; Coddington & Levi, 1991), spiders that do not resemble pholcids superficially, having rather short thick legs.

As in most spider families, the taxonomic history of Pholcidae evolved slowly up to Simon's (1893) epochal *Histoire Naturelle des Araignées*. He recognized 21 genera in two subfamilies, Ninetinae (monotypic at the time), and Pholcinae, the latter divided into seven subgroups containing the other 20 genera. His system was used for over 100 years. It was the basis for updates that accounted for the increasing number of genera but did not question or improve the general system (Petrunkevitch, 1928, 1939; Mello-Leitão, 1946). The first cladistic analysis (Huber, 2000) indicated that Simon's classification was not a likely representation of phylogenetic relationships, and subsequent phylogenetic studies on various subgroups of the family have contributed to an understanding of some major clades (Huber, 2001, 2003a-c, 2005a, b). Only recently, molecular data are being accumulated and the results are largely congruent with those from morphological data, but both taxon and gene sampling are still very limited (Bruvo-Madarić *et al.*, 2005; Astrin *et al.*, 2006, 2007; Huber *et al.*, 2010).

The currently favored system (Huber, 2011) identifies five subfamilies: Ninetinae, Arteminae, Modisiminae, Smeringopinae, and Pholcinae (the latter with a very different scope from Simon's Pholcinae). The monophyly of some of these subfamilies is not particularly strongly supported, and the relationships among each other also

need further study. Ninetinae may indeed be sister to all other pholcids (as implied in Simon's system); Arteminae may be sister to Modisiminae or else be paraphyletic and contain Modisiminae; and Smeringopinae may be sister to Pholcinae or also be paraphyletic and contain Pholcinae.

## Natural history

Pholcids can be found in a wide variety of microhabitats. What most of them have in common is a certain degree of "protectedness". Collecting pholcids usually means searching diligently under objects (dead leaves, rocks, logs on the ground), in dark spaces like those between buttresses, in little holes or caves, or on the underside of alive leaves. It is not quite clear though what the spider needs to protect itself from. The widespread cryptic coloration mentioned above indicates that visually hunting predators may play a role (see Fig. 1B), but other factors like desiccation and wetness may be also involved.

While most diversity is concentrated in the humid tropics, some taxa are fairly tolerant to arid conditions, especially in the Ninetinae, Arteminae, and Smeringopinae (Huber, 2001; Huber & Brescovit, 2003). As for altitude, pholcids occur in a wide range from sea level up to over 3500 m (Huber, 2000).

Pholcids are commonly regarded as sedentary web-building spiders, and the majority of species does indeed seem to build a more or less domed sheet, with the spider hanging from the apex of the dome (Eberhard, 1992; Eberhard & Briceño, 1985; B.A. Huber, unpublished). However, other types of webs exist (e.g. Deeleman-Reinhold, 1986; Sedey & Jakob, 1998; Huber, 2005a, 2009; Huber & Schütte, 2009), and some leaf-litter species do not seem to be confined to any silk structure. In some cases, character mapping suggests that the domed sheet-web has been reduced (e.g. in leaf-dwelling pholcids, B.A. Huber, unpublished), but Ninetinae (whose web is barely known but does not seem to consist of more than a few silk lines closely attached to the substratum) may not be derived from sheet-web building ancestors.

Most or all pholcids are sedentary predators, and they use predatory techniques that are otherwise only known from the distantly related theridioids (cobweb spiders plus nesticids): gumfoot lines and sticky silk wrap attack. Silk lines that are provided with glue near their contact with the substrate (gumfoot lines) have been found in representatives of Arteminae, Smeringopinae and Pholcinae (Japyassú & Macagnan, 2004), suggesting that they may be common and widespread in Pholcidae. They do not seem to occur in *Mesabolivar* (suggesting that the gumfoot glue may originate from the small set of piriform gland spigots not present in *Mesabolivar*) and have never been searched for in Ninetinae. Sticky silk wrap attack (as opposed to wrapping with dry silk) is apparently an extremely efficient way to subdue oversize or strong prey, but it requires a means to manipulate sticky silk without getting the own legs stuck to the glue. This is presumably accomplished by comb-hairs on the fourth tarsi, which are thus a morphological correlate of sticky silk wrap attack (Kirchner & Opderbeck, 1990).

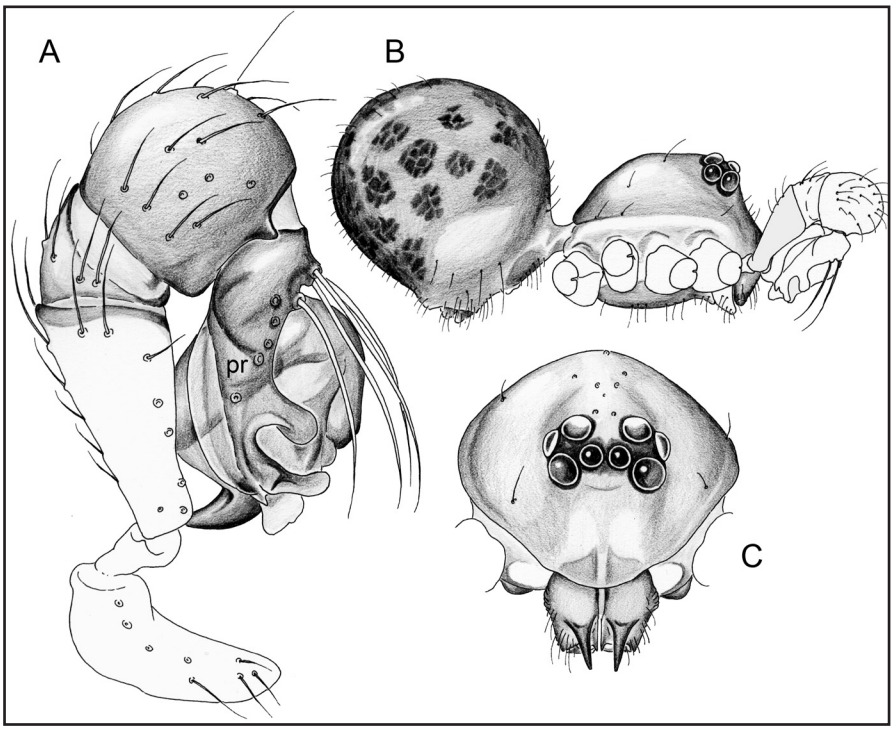


**Fig. 2.** *Guaranita goloboffi*. A. Right pedipalp in retrolateral view, showing process of tarsus (pr, 'procursus') distinctive of pholcid spiders. B. Male in lateral view, showing characteristically modified male pedipalp; legs detached. C. Prosoma in frontal view, showing high clypeus, modified male chelicerae and distinctive ninetine eye position (from Huber, 2000).

With the possible exception of some ninetines, all pholcids have such comb-hairs (Huber & Fleckenstein, 2008).

Little is known about pholcids' enemies, but widespread cryptic coloration suggests they regularly fall prey to visually hunting predators. Certain defensive behaviors point in the same direction. First, long-legged species often start to vibrate or whirl their entire body vigorously as soon as an object (e.g., a collector's hand; probably also a bird, wasp, salticid, etc.) gets near the spider. This blurs the contours of the spider, it may confuse the predator and it makes it difficult to focus on the spider (Jackson *et al.*, 1992, 1993). Secondly, some pholcids are extremely cryptic during the day, for example by pressing their body against the tree bark, but during the night they hang in their webs (and are thus easy to find with a torch). Other common defensive behaviors (that do not imply visually hunting enemies) include running away (the main tactic of short-legged species) and leg autotomy.

Pholcid sexual behavior has been intensively studied in several species, including courtship, palpal movements and other ways of communication during mating, sperm precedence, and cohabitation (Eberhard & Briceño, 1983; Eberhard *et al.*, 1993; Uhl, 1993, 1998; Huber, 1994, 1997b; Huber & Eberhard, 1997; Kaster & Jakob, 1997; Schäfer & Uhl, 2002; Peretti *et al.*, 2006; Calbacho-Rosa *et al.*, 2010). During mating, both male palps are inserted simultaneously, and the frontal face of the male is in close contact with the female. This probably explains the wide variety of male cheliceral modifications, and also the existence of an epigynum that acts as counterpart of the male chelicerae (in contrast to the entelegyne epigynum that is a counterpart of the male palp) (Huber, 1999). In some groups, additional structures like the clypeus and the ocular area may become involved in copulatory courtship. In at least one case, gustatorial courtship occurs (the male offers secretions from glands in the ocular area that are presumably taken up by the female during mating, Huber, 1997a). In the many other cases the significance of ocular modifications remains unknown.

Pholcid females carry their egg sacs in their chelicerae. The egg sac may be shortly suspended in the web while the female attacks or eats prey, but it is generally quickly taken up again. This brood-care probably explains why pholcids do not need to cover their egg sacs with protective layers of silk but just hold them together with a few lines that by themselves would not seem to detract any egg parasite. In at least one case, tiny *Baeus* wasps whose body size and shape apparently evolved as a means to burrow through silk covers of spider cocoons (Austin, 1985) have succeeded in parasitizing pholcid eggs. The female pholcid continues to protect "her" egg sac until her enemies eclose (fully developed) from the eggs (Huber & Wunderlich, 2006).

## Biogeography of Argentinean pholcids

All five pholcid subfamilies occur in Argentina, but two of them are only represented by introduced synanthropic species: Arteminae (*Physocyclus globosus*, originating from Central America, and *Artema atlanta*, originating from the Middle East or central Asia), and Smeringopinae (*Holocnemus pluchei*, originating from the Mediterranean, and *Crossopriza lyoni*, originating from the Middle East).

Pholcinae are represented mainly by *Metagonia*, a genus widely distributed from Mexico to Argentina (the Argentinean *M. strinatii* currently marks the southern limit of the genus). The distribution of the genus within the New World appears largely restricted by ecological factors (temperature and humidity): all known species occur either in humid forests or in caves. Two further Pholcinae genera are represented by synanthropic species only: *Pholcus phalangioides* and *Spermophora senoculata* (both originating from Asia).

Ninetinae are represented by two described genera (*Guaranita* and *Gertschiola*) and at least two undescribed genera. None of them is known from outside Argentina. Ninetines appear largely restricted to the west of the country, but a few records suggest they also occur in the Chaco and Pampa biogeographic provinces. The southern records of *Gertschiola neuquena* (Fig. 4C; Appendix I) are the most southern of any pholcid documented so far.

Modisiminae include the majority of Argentinean species. Three genera can be attributed to the South American Transition Zone (*sensu* Morrone, 2006): *Chibchea*, *Priscula*, and *Aymaria*. *Chibchea* is a largely Andean genus, ranging from Venezuela to Argentina. An undescribed Argentinean species marks the current southern limit of its distribution (Fig. 4A). The ecological requirements vary largely, with some species being surprisingly tolerant against arid and cold conditions. The highest altitude ever recorded for pholcids outside human buildings is documented below for *Chibchea araona* (Abra del Cóndor, about 3900 m). *Aymaria* is also largely Andean, but apparently less tolerant against arid and cold conditions; *A. calilegua* in Jujuy marks the southern known limit of the genus. *Priscula* is also Andean, ranging from Venezuela to Argentina, and *P. binghamae* is the only species whose range extends into northwestern Argentina (Fig. 3B). Finally, *Mesabolivar* is an element of the Neotropical region (*sensu* Morrone, 2006), ranging from northern South America to Argentina. Its highest diversity in Argentina is thus concentrated in the northwest, particularly in Parana Forest biogeographic province (six of eleven species). Few species occur in the Chaco and Pampa biogeographic provinces, and only *M. globulosus* reaches the South American Transition Zone (Fig. 3C, D).

Argentina has a relatively low number of species (28 indigenous) compared to tropical South America. For example, 42 species are known from Rio de Janeiro state alone (12 of them undescribed; B.A. Huber, unpublished; Huber & Rheims, 2011), and 52 species have been reported from Valle del Cauca province in Colombia (Florez, 1996). In Argentina, most of the known diversity is found in the Neotropical region (16 species), followed by the South American Transition Zone (nine species) and finally the Patagonian subregion of the Andean region (two species). This pattern simply reflects the fact that Pholcidae are largely restricted to warm climates.

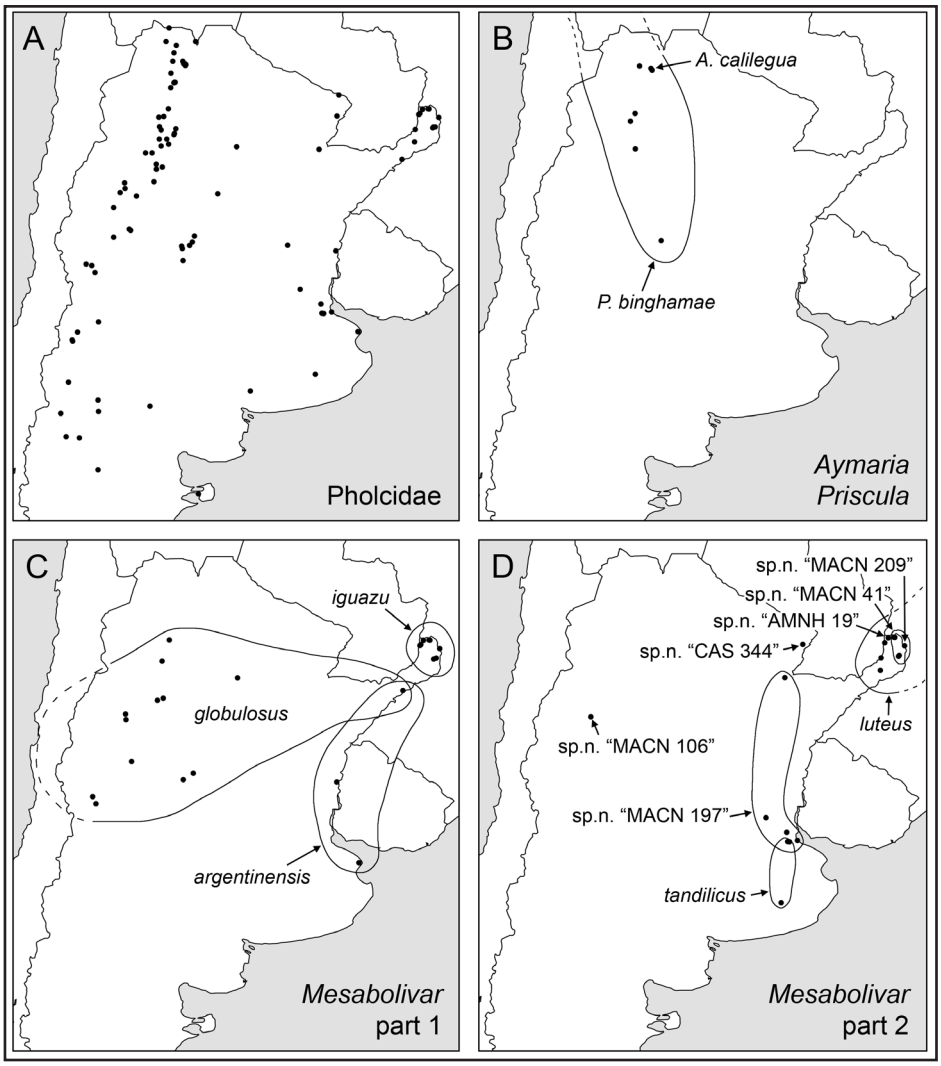


**Fig. 3.** Known distributions of Argentinean pholcid spiders, part 1. A. All indigenous species records combined. B. *Aymaria* and *Priscula*. C-D. *Mesabolivar*.

Several species from different areas are known from very few specimens. Thus, almost any area is in need of further exploration. However, what seems most relevant is a focused search for "difficult" species: (1) species from the leaf litter like ninetines; and (2) poorly known species like *Mesabolivar tandilicus*.

## Collections, taxonomists, conservation

This overview is based mainly on material from two collections: that of the American Museum of Natural History, New York (AMNH) (largely treated in Huber, 2000), and that of the Museo Argentino de Ciencias Naturales, Buenos Aires (MACN). The latter probably holds the largest and most comprehensive collection of Argentinean pholcids. The material was largely identified for the purpose of this chapter, but it includes about a dozen undescribed species. Types of Argentinean pholcids are held by two further institutions: Museo de La Plata, La Plata (MLP), and Musée d'Histoire Naturelle, Genève (MHNG). Included was further the material from the California Academy of Sciences, San Francisco (CAS), and from the National Museum of Natural History, Washington D.C. (USNM). Further material (largely unsorted) is probably deposited in several smaller Argentinean collections (La Plata, Instituto Miguel Lillo, Salta, Cordoba, Corrientes; M.J. Ramirez, pers. comm., June 2010).

Few people have worked taxonomically on Argentinean pholcids. Between 1938 and 1945, Mello-Leitão (1938, 1940, 1941, 1942, 1944, 1945) described six Argentinean species, four of which are still considered valid (the other two were synonymized by Huber *et al.*, 1999). Brignoli (1972) and Gertsch (1982) added one species each, the latter assuming he was dealing with Mexican material (*Pholcophora munda*, now *Guaranita*). Finally, Huber (2000) added six further species and first Argentinean records of a seventh.

The conservation status has not been studied in any Argentinean pholcid. In general, pholcids are mainly threatened by deforestation. Many pholcid species seem to have small distribution ranges, making them particularly vulnerable to extinction. Nine of the 28 indigenous species in Appendix I are known from only one locality.

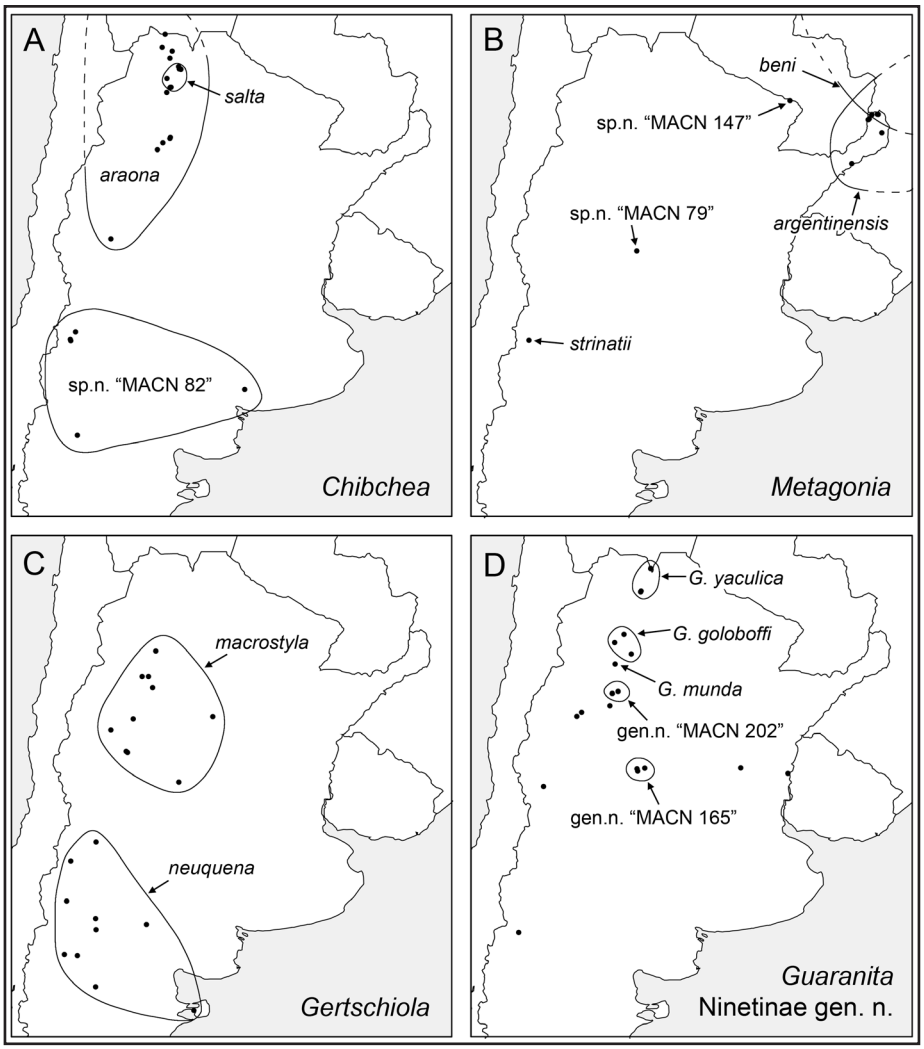


**Fig. 4.** Known distributions of Argentinean pholcid spiders, part 2. A. *Chibchea*. B. *Metagonia*. C. *Gertschiola*. D. *Guaranita*, undescribed ninetine genera, and unidentified females.

*Mesabolivar tandilicus* is known from two localities in the most densely populated area of the country (Buenos Aires province), and the records date from 1938 and 1964 respectively; it may be extinct. Other species have wide distributions and occur either in habitats not intensively used by humans (e.g. *Gertschiola neuquena*, *Chibchea araona*) or in protected forests (e.g. *Mesabolivar luteus*). They do not appear threatened.

## Key to the pholcid genera of Argentina

Figures refer to Huber (2000), freely available online at: http://digitallibrary.amnh.org/dspace/

1- Procursus slender, whip-like; male chelicerae with many long, modified (feathery) hairs; female internal genitalia with long coiled duct (poorly visible in uncleared specimen); small spiders with short legs, eight eyes (Figs. 342-356).....*Gertschiola*
- Procursus, male chelicerae, and female internal genitalia different.....2
2- Carapace without median thoracic groove or pit.....3
- Carapace with median thoracic groove or pit.....7
3- Six eyes.....4
- Eight eyes.....5
4- Male bulb with only one projection (embolus); male chelicerae with several modified (globular) hairs frontally, with or without one pair of apophyses distally; epigynum without knob-like structure posteriorly (Figs. 200-224, 249-255).....*Metagonia*
- Male bulb with two projections (embolus, apophysis); male chelicerae with three pairs of apophyses (one distally, two proximally); epigynum with knob-like structure posteriorly.....*Spermophora senoculata*
5- Large pholcid (body length >6 mm); long-legged, lateral eye triads far from anterior median eyes.....*Pholcus phalangioides*
- Tiny pholcids (body length <2 mm); short-legged, lateral eye triads close to anterior median eyes.....6
6- Procursus with prominent dorsal flap (Figs. 367-380).....*Guaranita*
- Procursus without dorsal flap.....Ninetinae (undescribed genera)
7- Male chelicerae with several sclerotized cones;

female carapace with posterior median projection (pick against small sclerotized plate on abdomen); epigynum roughly triangular with frontal projection.....*Physocyclus globosus*

- Male chelicerae different; female carapace without posterior median projection; epigynum without frontal projection.....8

8- Legs with many small black lines; male femora with row of ventral spines.....9

- Legs without small black lines; male femora without ventral spines.....10

9- Abdomen pointed posteriorly; male chelicerae with two pairs of distinct apophyses; female carapace with pair of small projections posteriorly (acting against small plates on abdomen); female palps not enlarged, female sternum without median projection posteriorly.....*Crossopriza lyoni*

- Abdomen cylindrical, not pointed posteriorly, male chelicerae with one pair of small apophyses, female carapace without projections posteriorly, female palps distally enlarged, female sternum with median projection posteriorly.....*Holocnemus pluchei*

10- Carapace with complex pattern, male palpal coxa without retrolateral projection; very large pholcid with high globular abdomen, long legs, complex procursus, male chelicerae with one pair of apophyses (Figs. 501-512).....*Priscula binghamae*

- Carapace without or with very simple pattern (median mark or band), male palpal coxa with retrolateral projection (Fig. 583).....11

11- Male chelicerae basal segment unmodified, only fang with tiny projection; small pholcids with relatively short legs, globular abdomen, very simple epigynum (Fig. 656-674).....*Chibchea*

- Male chelicerae basal segment with apophyses.....12

12- Carapace with round median depression (pit), epigynum frontally with distinctive row of strong hairs; medium-size pholcid with long legs, simple procursus (Figs. 593-598).....*Aymaria calilegua*

- Carapace with narrow median groove, epigynum without row of strong hairs.....*Mesabolivar*

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## Appendix 1

Annotated list of pholcid species in Argentina. Coordinates in round brackets are copied from labels, coordinates and altitude data in square brackets are derived from gazetteers and Google Earth; especially altitude data in square brackets should be seen as rough approximations.

**Modisiminae**

***Aymaria calilegua*** Huber, 2000

*Ju*. Parque Nacional Calilegua, area of park entrance and mirador [23°45.6'S, 64°51.0'W, 600 m] and Seccional Aguas Negras (23°46'S, 64°51.1'W, 605 m).

Note. When this species was described, no females from the type locality (PN Calilegua) were available. New material from the type locality indicates that Argentinean specimens are not conspecific with specimens from Bolivia and Peru assigned to this species in the original description.

***Chibchea araona*** **Huber, 2000**

*Ju*. Humahuaca [23°12.2'S, 65°20.9'W, 2950 m]; Abra Pampa [22°43'S, 65°42'W, 3500 m]; La Quiaca, camino a Yaví [~22°07.6'S, 65°33.8'W, 3450 m]; Sierra de Zenta, Abra del Cóndor [~22°53.5'S, 65°15.0'W, 3900 m]. *Sal*. 22 km N La Caldera, 1550 m [24°31.4'S, 65°21.3'W]; San Lorenzo [24°44'S, 65°30'W, 1400 m]. *Tuc*. Cochuna [~27°18'S, 65°55'W, 1200 m]; Ruta 307, 10 km NW El Indio and 5 km W El Indio, camino a Tafí [~27°S, 65°40'W, 1200 m]; Horco Molle [~26°45'S, 65°20'W, 800 m]; Cerro San Javier [26°48'S, 65°21'W, 800 m]; *S.J*. Sierra Pie de Palo, camino Mogote, Los Corralitos [~31.3°S, 68°W, 3000 m].

***Chibchea salta*** **Huber, 2000**

*Ju*. Lagunas de Yala [~24°06.5'S, 65°29.0'W, 2000 m]; Parque Nacional Calilegua, 11.3/19.7/20.7 km above entrance [~23°38-43'S, 64°55-57'W, 800-1000 m], near Sevenguillar (3 km above Mesada Las Colmenas) and Mesada Las Colmenas, 1500 m [~23°42'S, 64°52'W], Monolito (23°40.9'S, 64°54.1'W, 1710 m); Valle Grande, towards Calilegua [23°30-40'S, 64°58'W, 800-1500 m]. *Sal*. 22 km N La Caldera, 1550 m [24°31.4'S, 65°21.3'W]; Dpto La Caldera, La Sierra [~24°30'S, 65°20'W, 1500 m]; Ojo de Agua, RN 9, km 1640-1642, border to Jujuy [~24.5°S, 65.3°W, 1500 m].

Note. Several additional records are given in Rubio & Acosta (2011). In contrast to *C. araona*, this species seems to be rather 'typical' in requiring higher levels of humidity and temperature.

***Chibchea "MACN 82"*** **n. sp.**

*R.N*. [Cerro] Campana Mahuida(?) [~40.1°S, 69.5°W, 800 m]. *Mza*. Malargüe [35°28'S, 69°35'W, 1400 m]; Bardas Blancas [35°52'S, 69°48'W, 1500 m]; Malargüe, Caverna Las Brujas [35°48'S, 69°49'W, 1800 m]. *Bs. As*. Parque Provincial E. Tornquist, Sierra de la Ventana [38°03'S, 62°00'W, 600 m].

***Mesabolivar argentinensis*** **(Mello-Leitão, 1938)**

*Bs. As*. Monte Veloz [35°27'S, 57°17'W, 15 m]. *E.R*. Parque Nacional El Palmar [31°54'S, 58°15'W, 20 m]. *Mnes*. Santa María [27°53.3'S, 55°20.8'W, 150 m]; Iguazú, area of waterfalls [25°41'S, 54°27'W, 180 m].

***Mesabolivar globulosus*** **(Nicolet, 1849)**

*Sal*. La Salamanca, 7 km S Alemanía [~25°40'S, 65°36'W, 1300 m]. *Tuc*. Amaicha del Valle [26°36'S, 65°55'W, 1900 m]. *Cm*. Mutquín, 2000 m [28°19'S, 66°07'W]; El Rodeo [28°13'S, 65°52'W, 1100 m]. *L.R*. Chilecito [29°10'S, 67°30'W, 1100 m]; Ruta 40 camino a Famatina [~28°55'S, 67°31'W, 1700 m]. *S.E*. Weisburd [27°20'S, 62°36'W, 160 m]. *Mnes*. Santa María [27°53.3'S, 55°20.8'W, 150 m]. *Cba*. 1 km N Las Jarillas, road from Villa Carlos Paz to Bosque Alegre [31°31'S, 64°33'W, 750 m]; 2 km E Nono (31°48'S, 64°59'W), 900 m. *S.J*. 50 km N Marayes [31°S, 67,25°W, 700 m]. *Mza*. [Dpto Las Heras: 32°51'S, 68°49'W] Papagallos; Ruta Prov. 52, camino a Villavicencio (32°32.8'S, 68°57.4'W, 1250 m).

Note. This species was originally described from Chile (Valdivia), and the type material is probably lost. Mello-Leitão (1941) gave records for Salta and Jujuy, and I follow his identification even though the identity of these specimens should be checked with new material from (near) the type locality.

***Mesabolivar iguazu*** **Huber, 2000**

*Mnes*. Parque Nacional Iguazú: waterfall area (25°40.7'S, 54°26.9'W), Palmital 5 km W Yacuí [25°40'S, 54°12'W, 350 m], RN 101 and Arroyo Yacuí [25°40.8'S, 54°10.1'W, 230 m]; Parque Provincial Cruce Caballero, NE San Pedro [~26.5°S, 54°W, 500 m]; Parque Provincial Urugua-í [25°52'S, 54°34'W, 200 m], Refugio Caá-Porá, 3 km W Deseado; "Pto. 17 de Octubre" [Puerto Libertad, 25°55'S, 54°36'W, 220 m]; Arroyo Uruguay km 30 [25°52'S, 54°34'W, 200 m]; Dpto Frontera, San Antonio [26°03'S, 53°44'W, 530 m], Refugio Piñalitos; Dpto Frontera, Tobuna [26°28'S, 53°53'W, 580 m].

***Mesabolivar luteus*** **(Keyserling, 1891)**

*Mnes*. Parque Provincial Cruce Caballero, NE San Pedro [~26.5°S, 54°W, 500 m]; Dpto de San Pedro, Parque Provincial Cruce Caballero (26°28'S, 53°58'W); Parque Nacional Iguazú: area of waterfalls (25°40.7'S, 54°26.9'W), Palmital 5 km W Yacuí [25°40'S, 54°12'W, 350 m], área de la Garganta del Diablo (25°42'S, 54°27'W), RN 101 and Arroyo Yacuí [25°40.8'S, 54°10.1'W, 230 m]; Yacuí [25°40.8'S, 54°10.1'W, 230 m]; Montecarlo [26°34.5'S, 54°46.1'W, 180 m]; Dpto Cainguás, Parque Provincial Salto Encantado (27°07'S, 54°48'W); "Pto. 17 de Octubre/km 30" [Puerto Libertad, 25°55'S, 54°36'W, 220 m]; "[Dpto] Manuel Belgrano"; Dpto Frontera, San Antonio [26°03'S, 53°44'W, 530 m].

Note. The MACN has a female specimen labeled as originating from "Tucumán: Tupiquen". This is most probably a labeling error.

***Mesabolivar tandilicus*** **(Mello-Leitão, 1940)**

*Bs. As*. Tandil [37°19'S, 59°09'W, 15 m]; Moreno [34°39'S, 58°47'W, 15 m].

Note. In the only known male specimen, both palps and the chelicerae are missing. Considering the inadequate original description, the male of this species should be regarded as unknown.

***Mesabolivar "AMNH 19"*** **n. sp.**

*Mnes*. Parque Nacional Iguazú (25°40.7'S, 54°26.9'W).

***Mesabolivar "CAS 344"*** **n. sp.**

*Fo*. 25 km N Formosa, Estancia Guaycolec (25°59'S, 58°12'W), 185 m.

***Mesabolivar "MACN 41"*** **n. sp.**

*Mnes*. Parque Provincial Cruce Caballero, NE San Pedro [~26.5°S, 54°W, 500 m]; San Antonio [26°03'S, 53°44'W, 530 m]; Parque Nacional Iguazú, RN 101, 6 km E of seccional Yacuy [~25°40'S, 54°10'W, 290 m].

***Mesabolivar "MACN 197"*** **n. sp.**

*Cha*. Resistencia [27°27'S, 58°59'W, 50 m]. *Bs. As*. Vuelta da Rocha [34°38'S, 58°22'W, 15 m]; Vuelta de Obligado, Caverna La Salamanca [33°35'S, 59°49'W, 5 m]; Ciudad Buenos Aires: Palermo [34°35'S, 58°26'W, 15 m]; Reserva Natural Otamendi Sección "Los Guardianes de la Barranca" (34°14'S, 58°54'W), 16 m.

***Mesabolivar "MACN 209"*** **n. sp.**

*Mnes*. San Antonio [26°03'S, 53°44'W, 530 m].

***Mesabolivar***(?) ***"MACN 106"*** **n. sp.**

*L.R*. Chilecito [29°10'S, 67°30'W], Mina El Oro, 3080 m.

***Priscula binghamae*** **(Chamberlin, 1916)**

*Ju*. Parque Nacional Calilegua, Monolito (23°40.9'S, 64°54.1'W, 1710 m); Tilcara [23°35'S, 65°24'W, 2450 m]. *Tuc*. Pueblo Viejo [27°13'S, 65°35'W?, 400 m]. *Sal*. Santa Barbara [~26°S, 65.8°W, 1500 m] (holotype of *Crossopriza saltensis*); La Salamanca, 7 km S Alemanía [~25°40'S, 65°36'W, 1300 m]. *Cba*. Cueva de los Trémulos, Cosquín [~31°15'S, 64°27'W, 750 m].

**Ninetinae**

***Gertschiola macrostyla*** **(Mello-Leitão, 1941)**

*Tuc*. Bañado [26°27'S, 65°59'W, 1750 m]. *Cm*. Andalgalá [27°36'S, 66°19'W, 1000 m]; Joyango, 60 km S Andalgalá [28°06'S, 66°08'W, 1600 m]; Quebrada del Cura, between Belén and Andalgalá [~27.6°S, 66.6°W, 1000 m]. *L.R*. no further locality data, *S.E*. Sumampa Viejo [29°24'S, 63°26'W, 220 m].

*S.J.* Astica [30°57'S, 67°19'W, 1000 m]; Ischigualasto [~30°S, 68°W, 1000 m]; 50 km N Marayes [31°S, 67.25°W, 700 m]. *S.L.* Merlo [32°20'S, 64°57'W, 1000 m].

***Gertschiola neuquena* Huber, 2000**

*Nq.* Confluencia: Planicie Banderita/Loma de la Lata [~38°27'S, 68°41'W, 460 m]; Ciudad de Neuquén [38°57'S, 68°04'W, 260 m]; Piedra del Áquila [40°03'S, 70°05'W, 500 m]; Paso Huitrin [37°40'S, 69°59'W, 750 m]. *R.N.* [Cerro] Campana Mahuida(?) [~40.1°S, 69.5°W, 800 m], Ñe Luan [41°30'S, 68°41'W, 1000 m]. *Mza*: Bardas Blancas [35°52'S, 69°48'W, 1500 m]; Nihuil [35°01'S, 68°40'W, 1300 m]. *L.P.* Gobernador Duval [38°43'S, 66°24'W, 250 m]. *Chu.* Peninsula Walden, Puerto Piramides (42°34'S, 64°17'W), <100 m.

***Guaranita goloboffi* Huber, 2000**

*Tuc.* Rio India Muerta, camino a Ticucho [26°33'S, 65°16'W, 640 m]; *Sal.* El Hongo, 7 km S Alemanía [~25°40'S, 65°36'W, 1300 m]; Chuscha, 6 km NW Cafayate [~26°02'S, 66°01'W, 1900 m].

***Guaranita munda*** (Gertsch, 1982)

*Cm.* Cerro Colorado [~27°S, 66°W, >2000 m].

Note. Avalos *et al.* (2006) reported this species from Corrientes. I have not seen their specimens, but considering the distribution of the genus (Fig. 4D), the record should be checked.

***Guaranita yaculica* Huber, 2000**

*Ju.* Parque Nacional Calilegua, area of park entrance [23°45.6'S, 64°51.0'W, 600 m], Seccional Aguas Negras (23°46'S, 64°51.1'W, 605 m), and Aguas Negras, ~1100 m [~23°43.3'S, 64°49.6'W]. *Sal.* Aguas Blancas-Yaculica (22°43'S, 64°24'W, 520 m).

***New Genus 1 "MACN 202"* sp. n.**

*Cm.* Mutquín, 2000 m [28°19'S, 66°07'W]; El Rodeo [28°13'S, 65°52'W, 1100 m].

***New Genus 2 "MACN 165"* sp. n.**

*Cba.* Pampa de Achala, 15 km E El Cóndor [31°40'S, 64°40'W, 1500 m].

***Ninetinae* gen. sp., unidentifiable females**

*Cm.* Chumbicha [28°52'S, 66°14'W, 400 m]; (Dpto Pomán), Mutquín [28°19'S, 66°08'W, 1500 m]. *L.R.* Cuesta de Miranda [29°21'S, 67°43'W, 1700 m]; Chilecito [29°10'S, 67°30'W], Mina "El Oro" [3000 m]. *Cba.* 2 km E Nono (31°48'S, 64°59'W), 900 m; Cura Brochero [31°42'S, 65°01'W, 900 m]. *E.R.* Villa Urquiza [31°39'S, 60°22'W, 50 m]; Parque Nacional El Palmar [31°54'S, 58°15'W, 20 m]. *Mza.* Paramillo de Uspallata [~32°29'S, 69°12'W, 2500 m]. *Nq.* Parque Nacional Laguna Blanca [39°02'S, 70°19'W, 1300 m].

**Pholcinae**

***Metagonia argentinensis* Mello-Leitão, 1945**

*Mnes.* Parque Nacional Iguazú: area of waterfalls (25°40.7'S, 54°26.9'W), Palmital 5 km W Yacuí [25°40'S, 54°12'W, 350 m], área de la Garganta del Diablo (25°42'S, 54°27'W), RN 101 and Arroyo Yacuí [25°40.8'S, 54°10.1'W, 230 m; Parque Provincial Cruce Caballero, NE San Pedro [~26.5°S, 54°W, 500 m]; Parque Provincial Urugua-í [25°52'S, 54°34'W, 130 m], Refugio Caá-Porá, 3 km W Deseado; "Pto. 17 de Octubre" [Puerto Libertad, 25°55'S, 54°36'W, 220 m]; Santa María [27°53.3'S, 55°20.8'W, 150 m]; Puerto Bemberg [25°55'S, 54°37'W, 180 m].

***Metagonia beni* Huber, 2000**

*Mnes.* Parque Nacional Iguazú: area of waterfalls (25°40.7'S, 54°26.9'W); Ruta Nacional 101, 6 km E of seccional Yacuy [~25°40'S, 54°10'W, 290 m].

***Metagonia strinatii* (Brignoli, 1972)**

*Mza.* Malargüe, Bardas Blancas, Caverna Las Brujas [35°48'S, 69°49'W, 1800 m].

***Metagonia "MACN" 79* n. sp.**

*Cba.* 2 km E Nono (31°48'S, 64°59'W), 900 m.

***Metagonia "MACN 147"* n. sp.**

*Fo.* Parque Nacional Río Pilcomayo [~25°04'S, 58°07'W, 80 m].

**Introduced synanthropic species**

Only provinces are listed.

***Artema atlanta* Walckenaer, 1837**

Cha. (Mello-Leitão 1942).

***Crossopriza lyoni* (Blackwall, 1867)**

Cha., L.R., S.E. (holotype of *C. mucronata)*; Tuc.

***Holocnemus pluchei* (Scopoli, 1763)**

Bs. As., Cba. (Laborda & Simó 2008; Calbacho-Rosa et al. 2010), L.P., Mza., S.L.

Note. The record from San Luis dates from 1962 and is thus apparently the oldest known record of the species in the New World.

***Pholcus phalangioides* (Fuesslin, 1775)**

Bs. As. (Mello-Leitão 1944), Cba (Mello-Leitão 1941), Cs. (Mello-Leitão 1945), Mnes. (Mello-Leitão 1945), R.N. (Mello-Leitão 1940), S.E. (Mello-Leitão 1942).

***Physocyclus globosus* (Taczanowski, 1874)**

Cm. and Tuc. (Mello-Leitão 1941), R.N. and Nq. (Mello-Leitão 1940), S.E. (Mello-Leitão 1942).

Note. Assuming that Mello-Leitão's identifications were correct, it appears that this species was more common in Argentina in the 1940ies than it is now. I have not seen a single Argentinean specimen.

***Spermophora senoculata* (Dugès, 1836)**

Bs. As.

Note. This species has only recently been recorded for the first time from South America (Uruguay, Laborda & Simó 2008). The female from Buenos Aires dates from 1964, suggesting that this small and pale species has been in the area for a long time.

**Dubious records, misidentified and misplaced species**

*Psilochorus pullulus* (Hentz, 1850). Mello-Leitão (1941, 1942, 1944, 1945) published several Argentinean records for this North American species. I have never seen specimens of *P. pullulus* from outside the USA, but it is unclear which species might have been available to Mello-Leitão. The most similar genus in Argentina is *Chibchea*, but Mello-Leitão mentioned specimens from provinces where *Chibchea* does not seem to occur: Bs. As., Cs., Cha., Mnes, S.E. Only one record is from Salta.

*Tupigea altiventer* (Keyserling, 1891). This poorly known species was originally described from Rio de Janeiro (female only). Mello-Leitão (1945) cites the species for Corrientes. *Tupigea* might indeed occur in this area, but some *Mesabolivar* species also have globular abdomens.

*Psilochorus bruneocyaneus* Mello-Leitão, 1941 was described from "Ilha Volantim, Rio Uruguai". Both the species identity and the locality are dubious.