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**NEW RECORD OF *PLESIOPELMA ASPIDOSPERMA*  
AND DISTRIBUTION EXTENSION OF *CYRIOCOSMUS*  
*VERSICOLOR* (ARANEAE: THERAPHOSIDAE) FROM  
ARGENTINA**

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ABSTRACT: This work reports a new record of *Plesiofelma aspidosperma* Ferretti & Barneche, 2013 and a distribution extension of *Cyriocosmus versicolor* (Simon, 1897) in Parque Nacional Copo, Santiago del Estero province, Argentina. We also present the first published color photograph of a male of *Cyriocosmus versicolor*. Finally, data on their natural history is provided.

KEY WORDS: Tarantula, taxonomy, geographic range, parque Nacional Copo

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Theraphosidae is a family of spiders with the highest richness among Mygalomorphae, with 1031 species described (World Spider Catalog, 2022). The subfamily Theraphosinae is endemic from the New World and comprises one of the largest species known in the world. Currently, in Argentina two subfamilies are recognized, Ischnocolinae and Theraphosinae. Theraphosinae is represented by 11 genera and 48 species and Ischnocolinae is represented by two species of the genus *Catumiri* (World Spider Catalog, 2022).

The genus *Cyriocosmus* Simon (1903) includes one of the smallest Theraphosinae species known with 23 species recorded in Argentina, Bolivia, Brazil, Colombia, Paraguay, Peru, Trinidad and Tobago and Venezuela (World Spider Catalog, 2022). *Cyriocosmus versicolor* (Simon, 1897) is registered for Argentina, Brazil and Paraguay (Schmidt, 2003; World Spider Catalog, 2022). In Argentina, this species is distributed in the provinces of Salta and Santiago del Estero (Schiapelli & Gerschman, 1973). Males of *C. versicolor* can be distinguished by the presence of a paraembolic apophysis on the palpal bulb and females have a sinuous or spiral spermatheca neck with a convex base (Pérez-Miles, 1998; Fukushima et al., 2005).

The genus *Plesiofelma* Pocock (1901) comprises medium-sized tarantulas with 11 species recorded in Argentina, Brazil, Paraguay, Uruguay and Venezuela

(World Spider Catalog, 2022). In Argentina, three species are cited: *Plesiopelma aspidosperma* Ferretti & Barneche 2013 from Salta province; *P. longisternale* (Schiapelli & Gerschman, 1942), the species with wider geographical distribution, that comprise Buenos Aires, Catamarca, Chaco, Córdoba, Corrientes, Entre Ríos, La Pampa, La Rioja, Mendoza, Misiones and Santiago del Estero provinces (Schiapelli & Gerschman, 1942; Gerschman & Schiapelli, 1954; Gerschman & Schiapelli, 1973; Schmidt, 2003; Ferretti & Barneche, 2013) and *P. paganoi* Ferretti & Barneche (2013) from Salta province. Males of *Plesiopelma* are characterized by a retrolateral basal nodule on the metatarsus I and palpal bulb with prolateral superior and inferior keels well developed and parallel to each other. In addition, females are recognized by a spiral-shaped spermatheca with the presence of granules (Schiapelli & Gerschman, 1942; Pérez-Miles et al., 1996; Ferretti & Barneche, 2013).

In a recent survey carried out at northeastern Santiago del Estero province, Argentina, we discovered adult males of *Plesiopelma aspidosperma* and *Cyriocosmus versicolor*. Thus, in the present work, we present a new record of *P. aspidosperma* and distribution extension of *C. versicolor* with comments on their natural history. Also, this work shows the first published color photograph of an adult specimen of *C. versicolor* based on a reliable taxonomic identification other than found from web sources (e.g. INaturalist).

## MATERIAL AND METHODS

**Study area.** In a recent sampling campaign conducted in northern and central Argentina, from 29 October until 15 November 2021, we collected mygalomorph spiders at the Parque Nacional Copo (25°58'00" South, 61°53'00" West) in Santiago del Estero province. We performed hand captures during the day and night using head lamps. The individuals were collected during the night of 4 November 2021. The minimum and maximum temperatures on the sampling date were 19-38°C, respectively.

**Identification of specimens.** Specimens are deposited at the arachnological collection of the Centro de Recursos Naturales Renovables de la Zona Semiárida (CERZOS)-Universidad Nacional del Sur (UNS). Images of preserved specimens were obtained with a MShot digital camera coupled into a Leica S APO stereoscopic microscope. At least five photographs of each structure were achieved under different focuses. Photographs were then stacked using the Helicon Focus Software (<https://www.heliconsoft.com>). For the identification of the morphological characters that allowed the corroboration of the diagnoses of species, we followed Schiapelli & Gerschman (1973), Fukushima *et al.* (2005) and Ferretti & Barneche (2013).

**Abbreviations.** BN = basal nodule, E = embolus, PA = paraembolic apophysis, PB = prolateral branch, PI = prolateral inferior keel, PS = prolateral superior keel, RB = retrolateral branch.

The distribution map was made using SimpleMappr (<https://www.simplemappr.net>).

## RESULTS AND DISCUSSION

### *Cyriocosmus versicolor* (Simon, 1897)

(Figs. 1-12)

*Cyclosternum versicolor*: Simon, 1897:3; Mello-Leitão, 1923:153; Bonnet 1956:1327.

*Hapalopus versicolor*: Roewer, 1942:23.

*Cyriocosmus versicolor*: Schiapelli & Gerschman, 1973:69, Figs. 5–8, 19–21; Pérez-Miles, 1998:101; Schmidt, 1999:5, Figs. 4–6; Schmidt 2003:159, Figs. 328-330; Fukushima *et al.*, 2005:13, Figs. 1-2, 24, 40.

**Material examined:** ARGENTINA, Santiago del Estero: one male, Copo department, Parque Nacional Copo, 25°57'55.46" South, 61°57'41.62" West, 4 nov. 2021, J. Panchuk. UNS MO655.

**Diagnosis:** The male is distinguished from the known species by the following combination of characters: absence of an striped dorsal abdominal pattern (Figs. 1-2, Fig. 5), the presence of a short paraembolic apophysis (Figs. 8-9), a dark cephalic area (Figs. 1-2, Fig. 3), the absence of a retrolateral field of spiniform hairs (Fig. 10) and a retrolateral process (Fig. 10) on male palpal tibia.

**Distribution:** Argentina, Brazil and Paraguay (Fig. 12). In Argentina, it is present in the provinces of Salta and Santiago del Estero. In Santiago del Estero province it is recorded for “Los Pirpintos” locality.

**New record:** Argentina, Santiago del Estero province, Copo department, Parque Nacional Copo (Fig. 12).

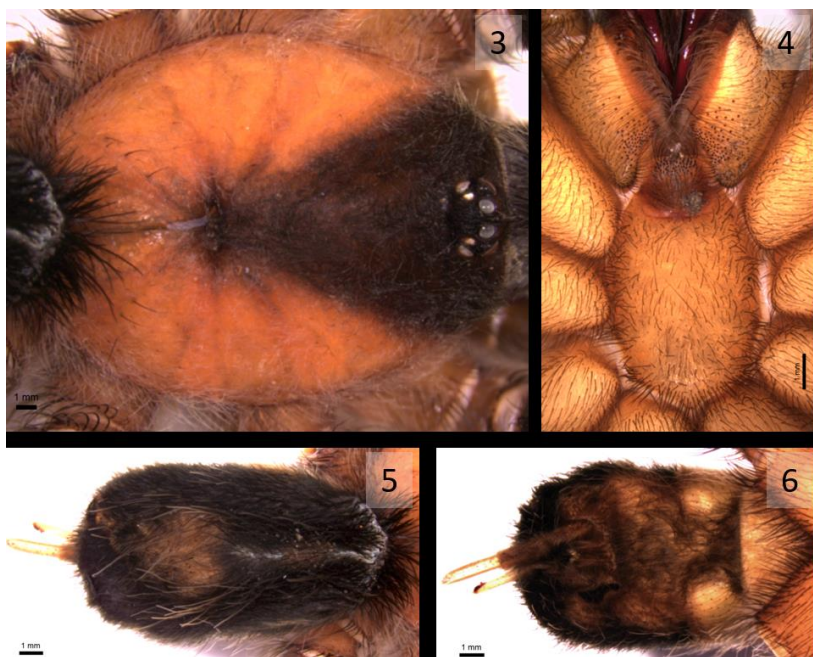
**Remarks:** The species was originally described by Simon (1897) without presenting any draw of specimens. After this work, Schiapelli & Gerschman (1973) presented drawings of the tibial apophysis, bulb, and palp of a male and the eyes arrangement (Figs. 5-8, in Schiapelli & Gerschman, 1973). Later, Pérez-Miles (1998) revised the genus *Cyriocosmus* without presenting any draw of *Cyriocosmus versicolor*. Then, Fukushima *et al.* (2005) also revised the genus and presented drawings of the male palpal bulb (Figs. 1-2, in Fukushima *et al.*, 2005), the tibial apophysis (Fig. 24, in Fukushima *et al.*, 2005) and a drawing of the general aspect of *C. versicolor* (Fig. 40, in Fukushima *et al.*, 2005). A recent photograph of a male of *C. versicolor* was uploaded in the web platform Inaturalist ([www.inaturalist.org](http://www.inaturalist.org)). However, there is not a reliable taxonomic identification in relation to this image or a formal publication in a scientific work. Thus, this work formally presents the first color photograph of a male live specimen of *Cyriocosmus versicolor* (Figs. 1-2) based on reliable taxonomic identification.

**Natural history:** The adult male of *Cyriocosmus versicolor* was found walking during the night, at about 22:00hs, in the Parque Nacional Copo, Santiago del Estero. The male found was in poor body condition without leg IV. Although the presence of walking males in the field is an indicator of the reproductive period of the species (Schwerdt *et al.*, 2022), it seems that this was the final stage of the mating season. The area where the male was found belongs to the Semiarid Chaco ecorregion (Figs. 13-14). The characteristic vegetation in this area comprises a forest with *Schinopsis lorentzii* ((Griseb.) Engl. 1881) as a dominant species together with *Aspidosperma quebracho-blanco* ((Schltr.) Lyons). Other abundant plant species that are found in the park are *Prosopis nigra* ((Griseb.) Hieron), *Prosopis alba* (Griseb.) and *Zizyphus mistol* (Griseb.) which form an intermediate

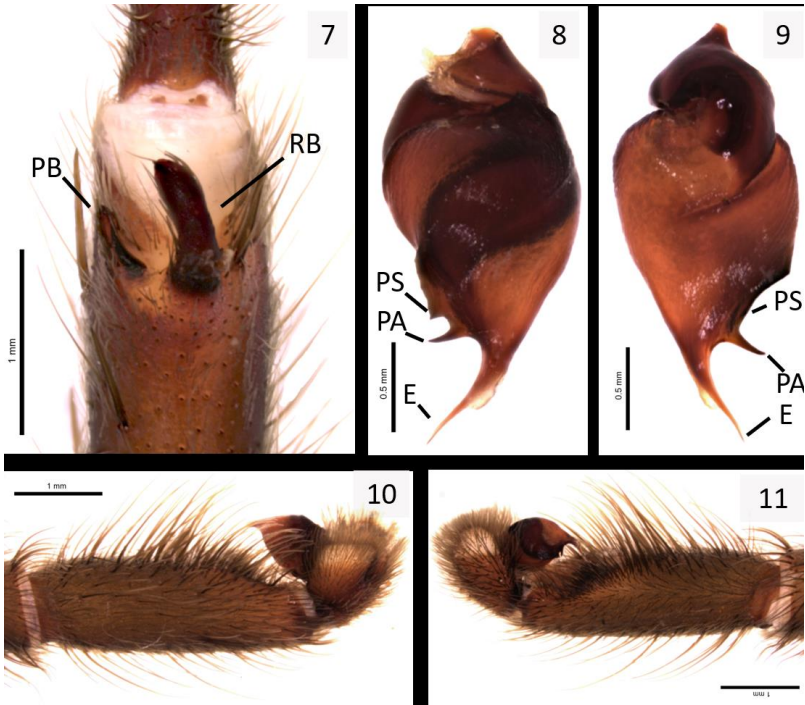
tree stratum. There are also other species in lower abundances, such as *Cercidium australe* (I.M.Johnst.), *Caesalpinia paraguariensis* ((D.Parodi) Burkart 1952), *Jodina rhombifolia* ((Hook. & Arn.) Reissek 1861), *Prosopis kuntzei* (Harms) and *Geoffroea decorticans* ((Gill. ex Hook. & Arn.) Burkart 1949). In addition, a dense lower layer of shrubs of *Acacia* spp. are also common (Brassiolo et al., 2001). The climate of the region is highly seasonal with a dry winter (from June to September) and a rainy summer. The mean annual precipitation is almost 700 mm along the year with 80% of the rain falling from October to March. The mean annual temperature is 21.9°C, and mean maximum and minimum temperatures are 35.5°C and 20.2°C in January, and 23.0°C and 7.1°C in July (Bolkovic et al., 1995).



Figures 1-2. Male of *Cyriocosmus versicolor*, habitus.



Figures 3-6. Male of *Cyriocosmus versicolor* 3. carapace, dorsal view 4. labium, sternum and maxillae, ventral view. Abdomen: 5. dorsal view 6. ventral view.



Figures 7-11. Male of *Cyriocosmus versicolor* 7. tibial apophysis, ventral view. Bulb: 8. prolateral view 9. retrolateral view. Palpal tibia and cymbium: 10. retrolateral view 11. prolateral view.

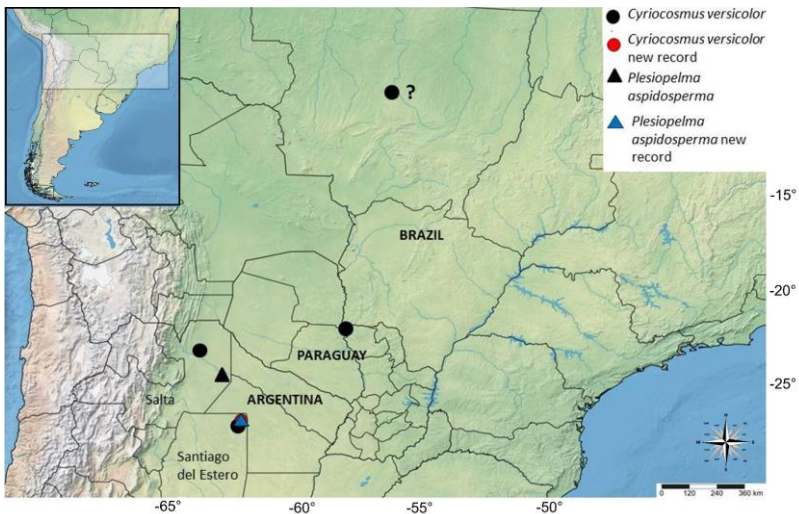


Figure 12. Distribution map of the species treated in this work. Question mark refers to the unknown locality of *C. versicolor* at Mato Grosso state in Brazil.

***Plesiopelma aspidosperma* Ferretti & Barneche, 2013**  
(Figs. 12, 15-25)

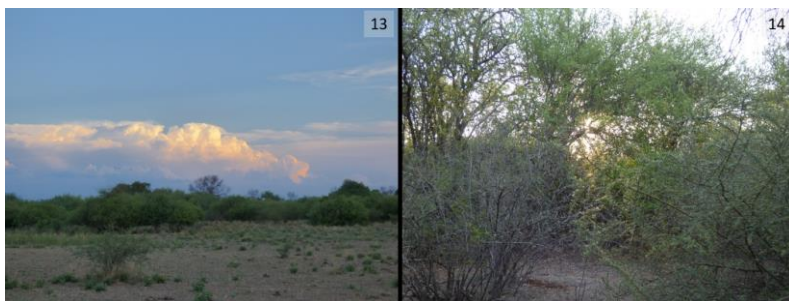
**Material examined:** ARGENTINA, Santiago del Estero: three males, Copo department, Parque Nacional Copo, 25°57'55.46" South, 61°57'41.62" West, 4 nov. 2021, N. Ferretti, M. Nicoletta, J. Panchuk, L. Schwerdt. UNS Mo652, Mo653, Mo654.

**Diagnosis:** The male is distinguished from the known species of the genus by the following combination of characteristics: spiniform setae on the retrolateral face of cymbium (Fig. 24), palpal bulb keels (PS and PI) with noticeable distance between them (Figs. 22-23), embolus slender and curved with absence of an apical tooth (Figs. 22-23) and basal nodule of metatarsus I well developed carrying short and strong spines (Fig. 21).

**Distribution:** Argentina: Salta province (Fig. 12).

**New record:** Argentina, Santiago del Estero province, Copo department, Parque Nacional Copo (25°57'55.46" South, 61°57'41.62" West) (Fig. 12).

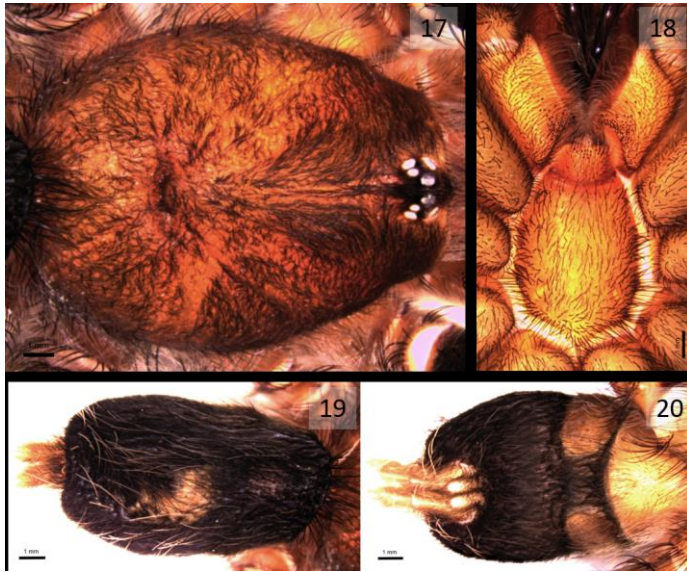
**Natural history:** Many adult males of *Plesiopelma aspidosperma* were found walking during the night, at about 22:00hs, in the "Parque Nacional Copo", Santiago del Estero. All males were in good body condition when found (Figs. 15-16), thus indicating that the reproductive period of this species occurs on those dates. Moreover, the reproductive period of this species in Santiago del Estero is similar to that reported for *P. aspidosperma* inhabiting Salta province (Ferretti & Barneche, 2013). The characteristics of the habitat where specimens of *P. aspidosperma* were found are similar to those reported for *C. versicolor* (Figs. 13-14).



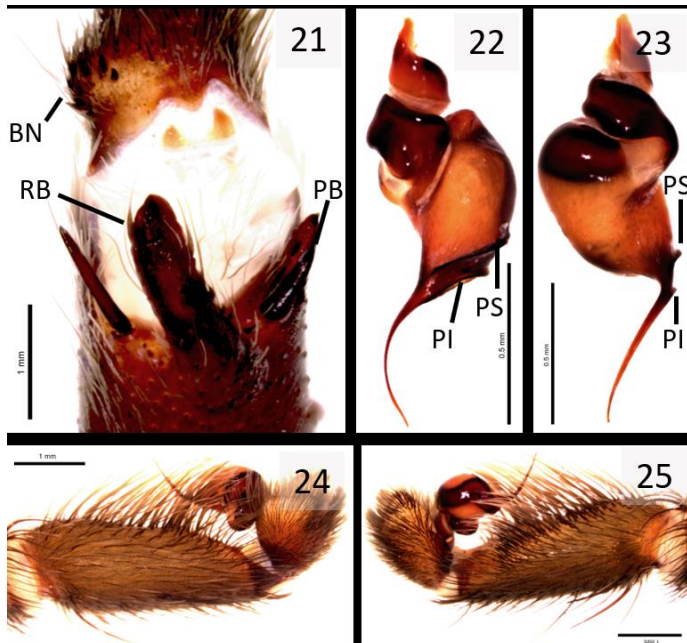
Figures 13-14. Habitat of the specimens found at Parque Nacional Copo.



Figures 15-16. Male of *Plesiopelma aspidosperma*.



Figures 17-20. Male of *Plesiopelma aspidosperma* 17. carapace, dorsal view 18. labium, sternum and maxillae, ventral view. Abdomen: 19. dorsal view 20. ventral view.



Figures 21-25. Male of *Plesiopelma aspidosperma* 21. tibial apophysis, ventral view. Bulb: 22. prolateral view 23. retrolateral view. Palpal tibia and cymbium: 24. retrolateral view 25. prolateral view.

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