

First report of *Colonus pseustes* (Chamberlin & Ivie, 1936) (Araneae: Salticidae: Gophoini) from Colombia

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Abstract. The jumping spider *Colonus pseustes* (Chamberlin & Ivie, 1936) (Araneae: Salticidae: Gophoini) is recorded for the first time from Colombia, associated with shrub vegetation of *Ixora coccinea* L. (Rubiaceae) in the urban area of Córdoba, Caribbean Colombia. New illustrations are shown, and additional records of *Colonus pallidus* (C. L. Koch, 1846) from Colombia are presented. A distribution map with both new and previously published records is included.

Keywords. *Colonus*, *Colonus pallidus*, Córdoba, Neotropical, taxonomy, zoogeography

Introduction

The Gophoini Simon, 1901 (sensu Maddison, 2015), long known as the Thiodineae Simon, 1901 or the Thiodininae Petrunkevitch, 1928 (Bustamante et al. 2015; Ruiz & Maddison, 2015; Maddison 2015) presently includes 8 genera (*Banksetosa* Chickering, 1946; *Carabella* Chickering, 1946; *Ceriomura* Simon, 1901; *Colonus* F. O. Pickard-Cambridge, 1901; *Cotinusa* Simon, 1900; *Nilakantha* Peckham & Peckham, 1901; *Parathiodina* Bryant, 1943; *Proctonemesia* Bauab Vianna & Soares, 1978) and 67 species (Metzner, 2020; WSC, 2020). This group is well supported by molecular data and is easily recognized by a series of morphological features (Ruiz & Maddison, 2015). The gophoines are elongated jumping spiders, often with a carapace-leg stridulatory apparatus and paired bulbous setae on the first legs. Although their movements are often deliberate and slow, they are excellent jumpers (Maddison, 1987, 2015; Hill, 2012, 2018; Rubio et al., 2018).

The genus *Colonus* F. O. Pickard-Cambridge, 1901 now includes most of the species formerly placed in the genus *Thiodina* Simon, 1900, based on the determination that these should not be congeners of a designated neotype for *T. nicoleti* Roewer, 1951 (Bustamante et al. 2015). It was also determined that, although they share certain characters to include the structure of genitalia and the presence of bulbous setae on the ventral side of each tibia I, *Colonus* and *Nilakantha* represented different lineages, the former with a continental American distribution, and the latter primarily found from Central America to the Caribbean islands (Bustamante et al., 2015; Ruiz & Maddison, 2015; Metzner, 2020; WSC, 2020). Presently the genus *Colonus* contains 14 species (Table 1). Here we present a first record of *C. pseustes* from Colombia in the Córdoba department. We also present additional records for *C. pallidus* from Colombia.

Table 1. Species placed in the genus *Colonus* (*type species; **new record). After Metzner (2020), WSC (2020).

Species	Country	Sex
<i>C. branicki</i> (Taczanowski, 1871)	French Guiana, Guyana, Venezuela	♂♀
<i>C. candidus</i> (Mello-Leitão, 1922)	Brazil	♀
<i>C. germaini</i> (Simon, 1900)	Argentina, Brazil	♂♀
<i>C. hesperus</i> (Richman & Vetter, 2004)	Mexico, United States	♂♀
<i>C. melanogaster</i> (Mello-Leitão, 1917)	Brazil	♂
<i>C. pallidus</i> (C. L. Koch, 1846)	Argentina, Brazil, Colombia, El Salvador, French Guiana, Guyana, Nicaragua, Paraguay, Peru, Suriname, Trinidad, Venezuela	♂♀
<i>C. pseustes</i> (Chamberlin & Ivie, 1936)	Brazil, Colombia**, French Guiana, Panama	♂
<i>C. puerperus</i> (Hentz, 1846)	United States	♂♀
<i>C. punctulatus</i> (Mello-Leitão, 1917)	Brazil	♀
<i>C. rishwani</i> (Makhan, 2006)	Suriname	♂
<i>C. robustus</i> (Mello-Leitão, 1945)	Argentina	♂
<i>C. sylvanus</i> (Hentz, 1846)*	Costa Rica, Cuba, El Salvador, Guatemala, Mexico, Panama, United States	♂♀
<i>C. vaccula</i> (Simon, 1900)	Argentina, Brazil and Peru	♂♀
<i>C. vellardi</i> (Soares & Camargo, 1948)	Brazil	♀

Materials and methods

The material examined was deposited in the collection of the Entomology Laboratory of the University of Córdoba (LEUC-OARA, E. Bedoya–Roqueme), Montería, Colombia. Multifocal photographs of the genitalia were taken with a HD digital camera attached to the Carl Zeiss stereomicroscope, Axiostar, and then united by the image stacking software AxioVision Carl Zeiss (Rel.4.9.1. SP2). Measurements were taken using a micrometer attached to a Carl Zeiss stereomicroscope, Axiostar, in conjunction with software AxioVision Carl Zeiss (Rel.4.9.1. SP2). Morphological terms follow Galiano (1963).

Abbreviations used in the text are: AERW= anterior eye row width; AL= abdomen length; B= bulb; C= cymbium; CA= carena; CH= caparace height (~maximum); CL= carapace length; CW= carapace width; E= embolus; F= femur; LOQ= length of ocular quadrangle (ALE-PLE inclusive); M= metatarsus; P= patella; PERW= posterior eye row width; PMEP= posterior median eye position (as ratio of ALE–PME distance to ALE–PLE distance); RTA= retrolateral tibial apophysis; T= tibia; TL= total length.

Taxonomy

Salticidae Blackwall, 1841

Salticinae Blackwall, 1841

Amycoidea Maddison & Hedin, 2003

Gophoini Simon, 1901

Colonus F. O. Pickard-Cambridge, 1901

Colonus F. O. Pickard-Cambridge, 1901. Type species *C. sylvanus* (Hentz, 1846).

Diagnosis. According to Bustamante et al. (2015) the genus *Colonus* O. Pickard-Cambridge can be easily distinguished from the other genera of Gophoini jumping spiders, by the present combination of characters such as: large body size and high carapace; male carapace red-brown to black with a white ocular spot and short thin lateral bands; abdomen with two thin longitudinal white bands, and dark legs

with honey-colored femur bases; female pale with two broad darker longitudinal bands, peppered with small black spots, on the abdomen.

***Colonus pseustes* (Chamberlin & Ivie, 1936)**

Figures 1–11, 15

Colonus pseustes (Chamberlin & Ivie, 1936): Chamberlin & Ivie, 1936; Maddison & Ruiz, 2015; Bustamante et al. 2015; Carvalho & Gasnier, 2019. Type material deposited in the AMNH, not examined.

Material examined. 3♂, Colombia, Córdoba, Montería [8°47'25.6"N, 75°51'42.4"W], [2m] 22 Apr 2018, 3 Oct 2018, urban area, *Mangifera indica* L. tree, shaking foliage, E. Bedoya–Roqueme coll. (LEUC; OARA–089).

Diagnosis. According to Chamberlin & Ivie (1936) and Bustamante et al. (2015) the male of *C. pseustes* is easily distinguishable from other *Colonus* species by the embolus (Figures 4-5, 9), and the form of the RTAs, with the dorsal RTA shorter or almost as long as ventral RTA, which gradually decreases distally and ends in a sharp tip (Figures 6-8, 10-11).

Descriptions of specimens. According to Chamberlin & Ivie (1936), cephalothorax reddish-brown; clypeus dark, with a line of white hair; all legs dark brown, light yellow femur, at least in part (Figures 1-2). Large white hair spot in the eye quadrangle, at the level of the PLE (Figure 3); three lines of semi-circular white hairs close to the PLE; ocular quadrangle bordered by a series of reddish brown hairs (Figure 3); according to Chamberlin & Ivie (1936) there are two lines of white hair in decline on the posterior part of the cephalothorax (Figure 3). Chelicerae reddish, covered in shiny black on the front, with one tooth on the retrolateral margin, and four small teeth of the same size on the prolateral margin. Sternum longer than wide, with anterior end of same width as base of the labium (Figure 2). Abdomen long, with two lines of white hairs in dorsal view (Figure 1), and with a dark brown region in ventral view, with small lighter points inside, which follow two parallel lines (Figure 2).

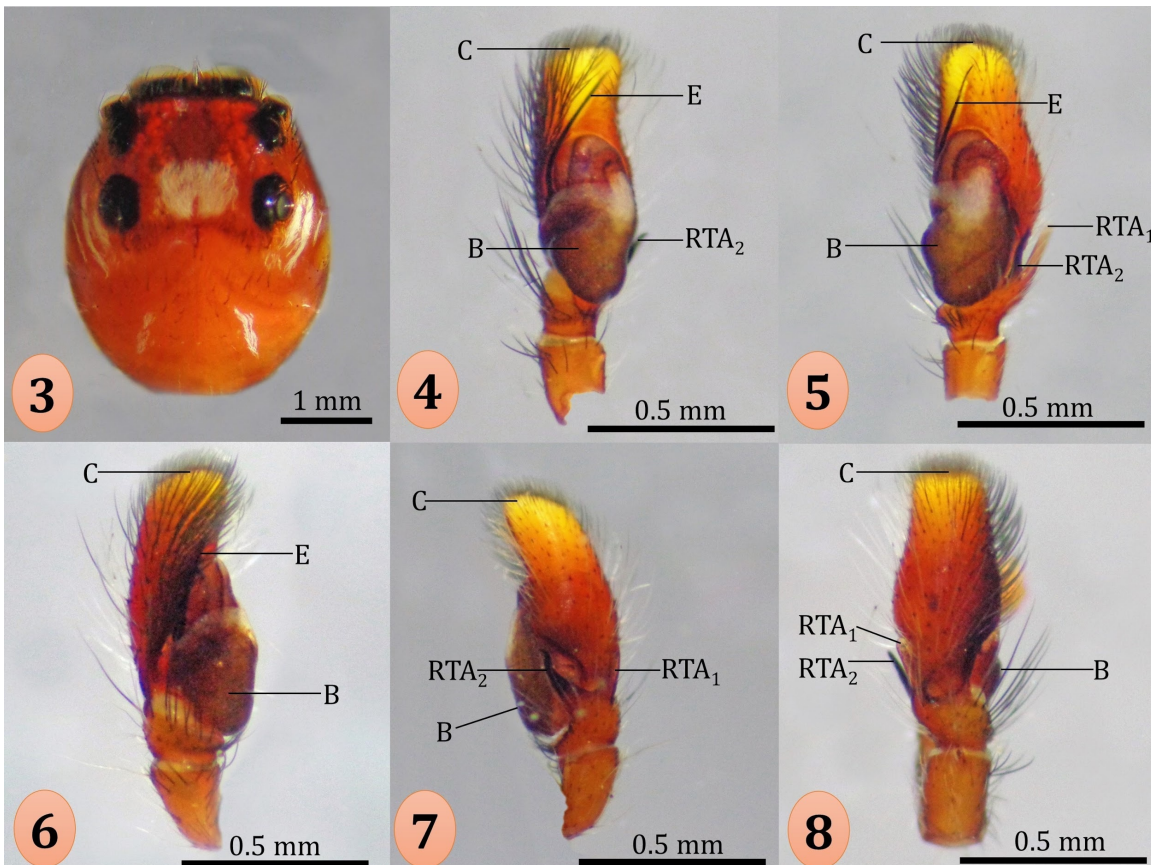
The figures of the pedipalps provided by Chamberlin & Ivie (1936), are sufficiently detailed, which allow an exact comparison with the specimens from Colombia (see Chamberlin & Ivie, 1936; Fig. 141-142). Tibia of each palp with two RTAs (Figures 4–8), both directed on the prolateral margin (Figures 9-11), one sclerotic with a marked curvature in the subapical position and ending in a sharp tip, the other is spiniform (Figure 11). The bulb is large and elongated (Figures 4-5), spermatic ducts sinuous, visible and thickness (Figures 9-10). In the specimen from Colombia, embolus long and thinner from the base (Figures 4-5), slightly curved, where it occupies a protective depression (Figure 9). Femur curved, with a small spine in a sub-apical position. Short legs, the first two pairs slightly more robust than the later ones; the first femur is somewhat claviform, and the other leg segments are cylindrical. Spines (Specimen from Colombia): Leg I: F=d 0-0-1-2-2(1pd), v01-1r-0; T=p 0-0-0, vr0-2-2; M=p 0-0-0, v r0-2-2. Leg II: F=d 0-0-1-2-2(1pd), v01-1r-0; T=p 1-0-r1, v0-2-2, r0-1-1; M=p 0-0-0, v r0-2-2. Leg III: F=d 0-1-1 (1p) (1r), p 0-1-1, r 0-1-1; T= d1-0-0, v2-0-2, p2-2-2di; M=p0-0-0, v2-0-0. Leg IV: F=d 1-1-1 (1p) (1r), p 0-1-1, r 0-1-1; T= d1-0-0, v2-0-2, p2-2-2di; M=p 0-1d-0, v2-0-0.

Measurements (mm; specimens from Colombia). Three males: TL= 7.5-8.3; CL= 3.22-3.54; CW= 2.16-2.94; AL= 4.66-4.74; AERW= 2.09-2.15; PERW= 2.23-2.35; LOQ= 1.41-1.43; PMEP= 0.26-0.29; eyes of the second row separated from the ALE by 0.40-0.42 mm and from the PLE by 1.34-1.36 mm.

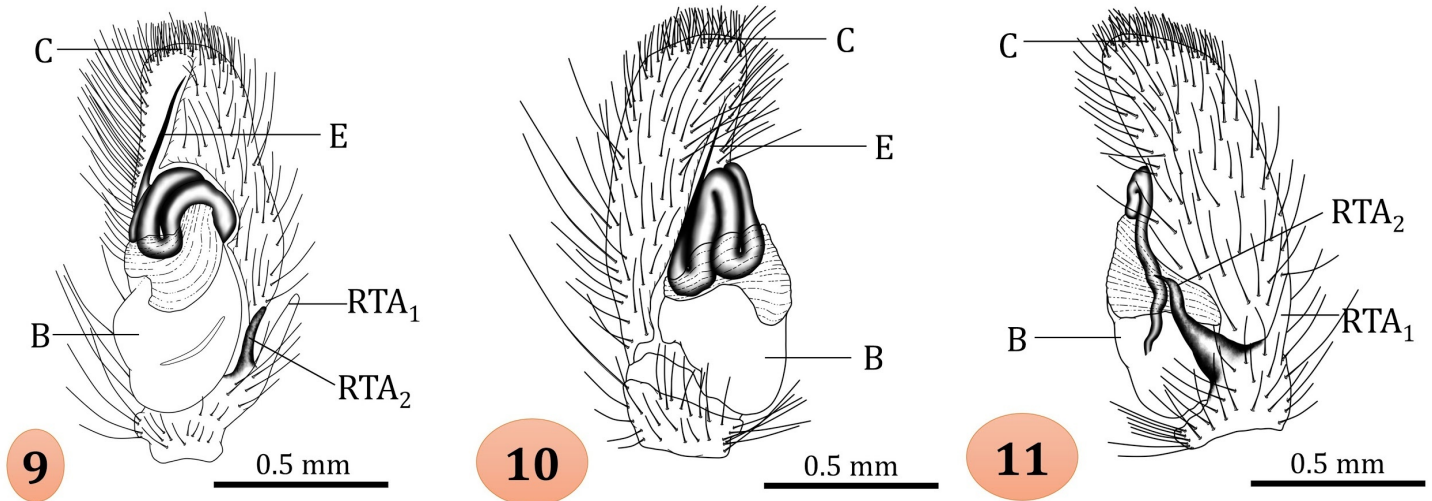
Distribution. Brazil, Colombia*, French Guiana, Panamá (Figure 15) (Metzner, 2020; WSC, 2020).



Figures 1-2. Habitus of adult male *Colonus pseustes*. Specimen from Colombia, Montería, (OARA-089). **1**, Dorsal view **2**, Ventral view.



Figures 3-8. Left pedipalp of male *Colonus pseustes*, specimen from Colombia, Montería, (OARA-089). **3**, Prosoma, dorsal aspect. **4-5**, Ventral views. **6**, Prolateral view. **7**, Retrolateral view. **8**, Dorsal view.



Figures 9-11. Left pedipalp of male *Colonus pseustes*, specimen from Colombia, Montería, (OARA-089). **9**, Ventral view. **10**, prolateral view. **11**, retrolateral view.

Colonus pallidus (C. L. Koch, 1846)

Figures 12-14, 16

Colonus pallidus (C. L. Koch, 1846): Simon, 1901; Crane J. 1945; Mello-Leitao 1944; Mello-Leitao 1946; Caporiacco 1954; Bustamante, A. A., Maddison, W. P. Ruiz, G. R. S. 2015; Rubio, G. D. Baigorria, J. E. 2016.

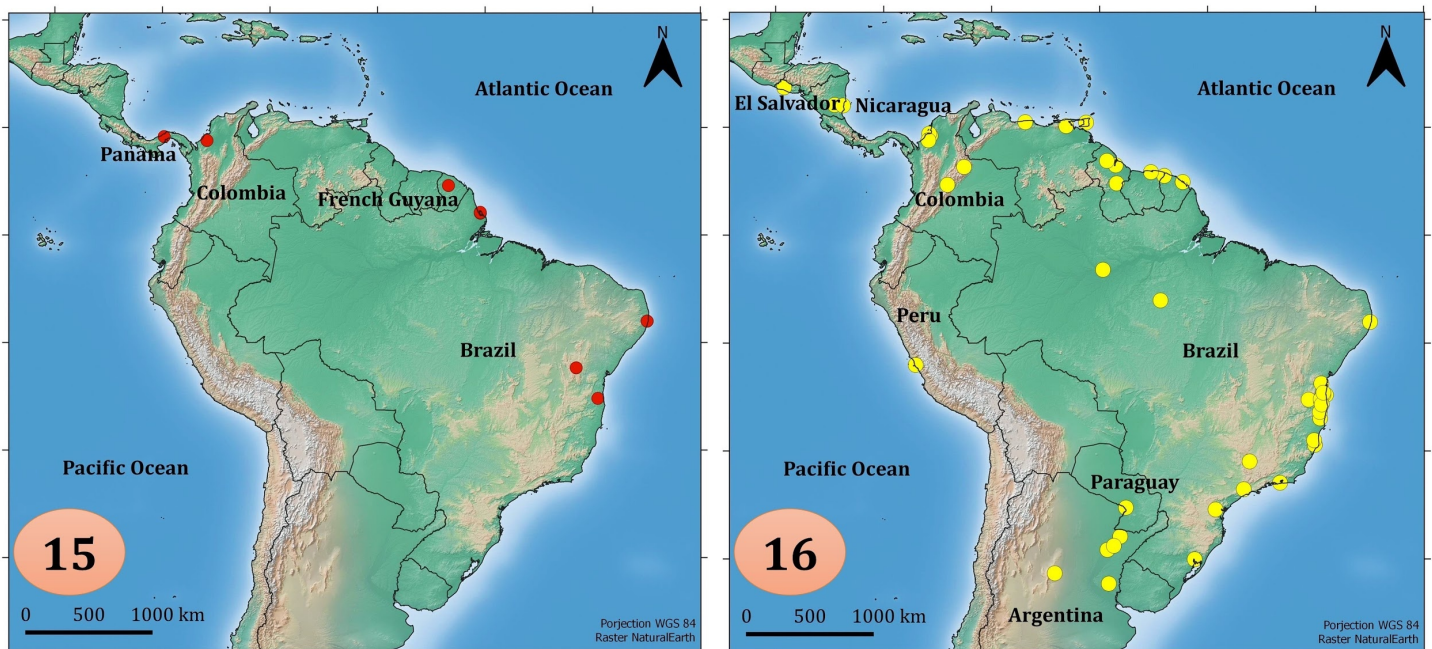
Material examined. 1♀, Colombia, Córdoba, Montería [8°47'25.6"N, 75°51'42.4"W], [12m] 17 Aug 2018, urban area, *Dracaena fragrans* (L.) Ker Gawl. (Asparagaceae), manual collection, E. Bedoya-Roque col. (LEUC; OARA-084). 1♀, Colombia, Córdoba, Momil: Cerro Mohan [9°13'16.2"N, 75°39'54.5"W], [75m] 27 Aug 2018, dry forest, manual collection, E. Bedoya-Roque col. (LEUC; OARA-166). 1♀, Colombia, Córdoba, San Antero: Punta Nisperal [9°23'38.2"N 75°47'29.6"W], [4m] 03 Aug 2018, *Rhizophora mangle* L., manual collection, E. Bedoya-Roque col. (LEUC; OARA-121).

Comments. This species was previously reported for Colombia, but this is the first record for the department of Córdoba, Colombian Caribbean (Figure 16). According to Rubio & Baigorria (2016), the identification of this species is uncertain since the type material of the original description is not available, and this name has been assigned to three different species from the Amazon (Melo-Nogueira 2003). The identification of the females collected was based on the figures adapted and proposed by Rubio & Baigorria (2016), which are highly detailed and sufficiently comparable. The females that we examined did not show clear differences in the appearance of the epigynum (Figure 14).

Distribution. Argentina, Brazil, Colombia, El Salvador, French Guiana, Guyana, Nicaragua, Paraguay, Peru, Suriname, Trinidad, Venezuela (Metzner, 2020; WSC, 2020).



Figures 12-14. Female *Colonus pallidus*. **12-13**, Habitus, on *Dracaena fragrans* (Asparagaceae) in Montería Colombia. **14**, Dorsal view of epigynum, modified after Rubio & Baigorria (2016).



Figures 15-16. Known distribution in America of *Colonus pseustes* (15) and *Colonus pallidus* (16).

Ecological Comments. *Colonus* F. O. Pickard-Cambridge, 1901 is an essentially neotropical genus, with only a few species in the warmer parts of North America, where specimens have been found in tall grass prairies, commonly located in dense grass and associated herbaceous plants, or in shrubs along a forest margin, where they have been observed stalking and/or feeding almost exclusively on other spiders; however, they also prey on insects (Hill, 2018). In the department of Córdoba, *C. padillus* was collected in association with the plant *Dracaena fragrans* (L.) Ker Gawl. (Asparagaceae) (Figures 12-13), *Rhizophora mangle* L., and in the shrub layer of dry forest, while *C. pseustes* was collected in shrub vegetation dominated by *Ixora coccinea* L. (Rubiaceae). *C. padillus* and *C. pseustes* mostly prefer to hunt and to feed on other spiders, both in shady and sunny sectors, and they inhabit the interior of middle layer forests. Specimens have been found on the foliage of shrubs, at medium height and generally with great exposure to the sun. Both are excellent jumpers despite the fact that they have deliberate and slow movements (Rubio et al., 2018).

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