

Two new genera and four new species of jumping spiders (Araneae: Salticidae: Dendryphantini)

Gonzalo D. Rubio^{1,2*}, Julián E.M. Baigorria³, Cristian E. Stolar²

To Cite:

Rubio GD, Baigorria JEM, Stolar CE. Two new genera and four new species of jumping spiders (Araneae: Salticidae: Dendryphantini). *Species*, 2022, 23(71), 193-206

Author Affiliation:

¹National Scientific and Technical Research Council (CONICET), Argentina

²Estación Experimental Agropecuaria Cerro Azul (EEACA, INTA), Cerro Azul, Misiones, Argentina

³Fundación Azara, Buenos Aires, Argentina

*Corresponding author:

National Scientific and Technical Research Council (CONICET), Argentina

&

Estación Experimental Agropecuaria Cerro Azul (EEACA, INTA), Cerro Azul, Misiones, Argentina

E-mail: grubio@conicet.gov.ar

Peer-Review History

Received: 11 March 2022

Reviewed & Revised: 15/March/2022 to 14/April/2022

Accepted: 15 April 2022

Published: 18 April 2022

Peer-Review Model

External peer-review was done through double-blind method.

ABSTRACT

The new genera *Ahijuna* **gen. n.** and *Lumptibiella* **gen. n.** (Araneae, Salticidae) including four new species, *A. patoruzito* **sp. n.**, *L. camporum* **sp. n.**, *L. chacoensis* **sp. n.** and *L. paranensis* **sp. n.**, are described from specimens recently discovered in areas endangered by wildfires in Argentina. The species of these new genera share the typical structure of the genitalia with many Dendryphantini Menge. However, the combination of a distinct atrium on the anterior half of epigynal field for both genera, a small body size, flattened carapace shape, and a distinctive dorsal coloration pattern in the case of *Ahijuna* **gen. n.**, and the possession of a lump-shaped process on the middle of the male tibia retrolateral side in the case of *Lumptibiella* **gen. n.**, are not found in other Neotropical dendryphantine. Available ecological data suggests that most of these species inhabit grasslands. Full colored photographs are provided.

Keywords: Argentina, Neotropical dendryphantine, salticid, taxonomy

1. INTRODUCTION

As the anthropic pressure on the planet increases, the threat to ecosystems grows (Wood & Gillman 1998). Interest in the conservation of biodiversity is increasing, while the resources and time available to achieve this are limited (Hughes *et al.* 2000). The increased frequency of wildfires is among the most visible threats, this cause catastrophic negative impacts on wildlife, it is estimated that between 13 and 18 million small vertebrates (lizards, birds, and rodents) died in almost four million hectares of burned land of the Brazilian Pantanal between January and November 2020 (Tomas *et al.* 2021); in the same year in which 1.1 million hectares burned in Argentina. However, during the summer of 2022, there were many more outbreaks of forest fires in our country, aggravated by extreme drought conditions. In the province of Corrientes alone, by February 18, about 800 thousand hectares were burned



(8% of the province's territory) with an increasing rate of 29 thousand hectares per day (SNMF 2022).

The wildfires may have strong consequences also on arthropods (Jofré *et al.* 2022), the risk that species with limited or endemic distribution and low vagility could become extinct is a reality, even before they are discovered and described. Faced this scenario of species and habitats loss, it is necessary to intensify efforts to discover and reveal the new taxonomic entities as soon as possible.

Within the subtribe Dendryphantina Menge, 1879 (Dendryphantini Menge, 1879) there is a great diversity of genera, more than fifty (Maddison 2015), and one of the greatest specific richness with hundreds of species that inhabit mainly the New World. The boundaries of the tribe (three synapomorphies, see Maddison 1996) and subtribe are well characterized; however, each genus has many problems in being correctly diagnosed (Scioscia 1990; Maddison 1996, 2015). The lack of distinctive morphological characters due to the homogeneity across the subtribe (Maddison 1996), the high number of described species and proposed genera sharing maintained reproductive structures, the little interspecifically and even among genera variability, lead us to look for greater effort to understand this group, without dispensing to publicize the new taxonomic entities.

Many genera of Salticidae from Argentina have not been conclusively diagnosed or their descriptions are not adequate to enable correct identification. Genera of dendryphantines are a notable example of this Polyphyletic "species hodgepodge" (Scioscia 1990; Maddison 1996) that should not be supported or enhanced. Specimens of dendryphantine were repeatedly found in Argentina in recent samplings, but could not be identified within existing genera. As a result of this context we prioritize the descriptions of new taxa when they are taxonomically well supported, so two new genera of dendryphantines including four new species (three with both sexes) are described in the present paper. These species share general genitalic characters with many genera of the subtribe, for example *Dendryphantes* C. L. Koch, 1837, *Naubolus* Simon, 1901 and *Pseudofluda* Mello-Leitão, 1928. However, the combination of distinctive reproductive structures, body characteristics, shapes and coloration patterns are not found in other Neotropical dendryphantines.

2. MATERIAL & METHODS

Specimens were examined from the collections of the Instituto de Biología Subtropical, Misiones, Argentina (**IBSI-Ara**, G. Rubio). Descriptions style, terms, abbreviations and measurements follow recent studies on salticids (Edwards 2015). Female genitalia were dissected as described by Levi (1965), examined after digestion in a hot ~15% NaOH solution, and cleared in clove oil to examine their internal structure. Temporary preparations (on a slide) were observed and photographed using a Leica DM500 compound microscope and a Leica M60 stereomicroscope. Measurements were taken directly from the microscope ocular lens with an ocular micrometer and are expressed in millimeters. Photographs of live spiders were taken using a Nikon D3400 digital camera with a Raynox 250 or a Micro-Nikkor 85 mm lenses. Plates were composed in Corel Draw X3.

Nomenclatural acts

This published work and the nomenclatural acts it contains have been registered in Zoobank: <http://zoobank.org/References/0BA64106-133E-4DD5-952C-6E5BA3CD1A65>. The LSID for this publication is: urn:lsid:zoobank.org:pub:0BA64106-133E-4DD5-952C-6E5BA3CD1A65

Acronyms used in the text and figures are as follows: aCP = anteriorly-opening coupling pocket, AE = anterior eye, ALE = anterior lateral eye, At = atrium, CD = copulatory duct, CO = copulatory opening, Cy = cymbium, d = dorsal leg macrosetae, E = embolus, FD = fertilization duct, H = haematodocha, p = prolateral leg macrosetae, pCP = posteriorly-opening coupling pocket, PE = posterior eye, PLE = posterior lateral eye, RTA = retrolateral tibial apophysis, S = spermophore, Sp = spermathecae, v = ventral leg macrosetae.

3. RESULTS / TAXONOMY

Salticidae Blackwall, 1841

Salticinae Blackwall, 1841

Dendryphantini Menge, 1879

Ahijuna Rubio, Baigorria & Stolar, **gen. n.**

<http://zoobank.org/48AFD724-7E76-4127-A39D-D7572417F1C0>

Type species

Ahijuna patoruzito **sp. n.**, by monotypy.

Etymology

“Ahijuna” is an expression of people who generally live in rural areas, it is used to express different feelings, especially astonishment or admiration; gender feminine.

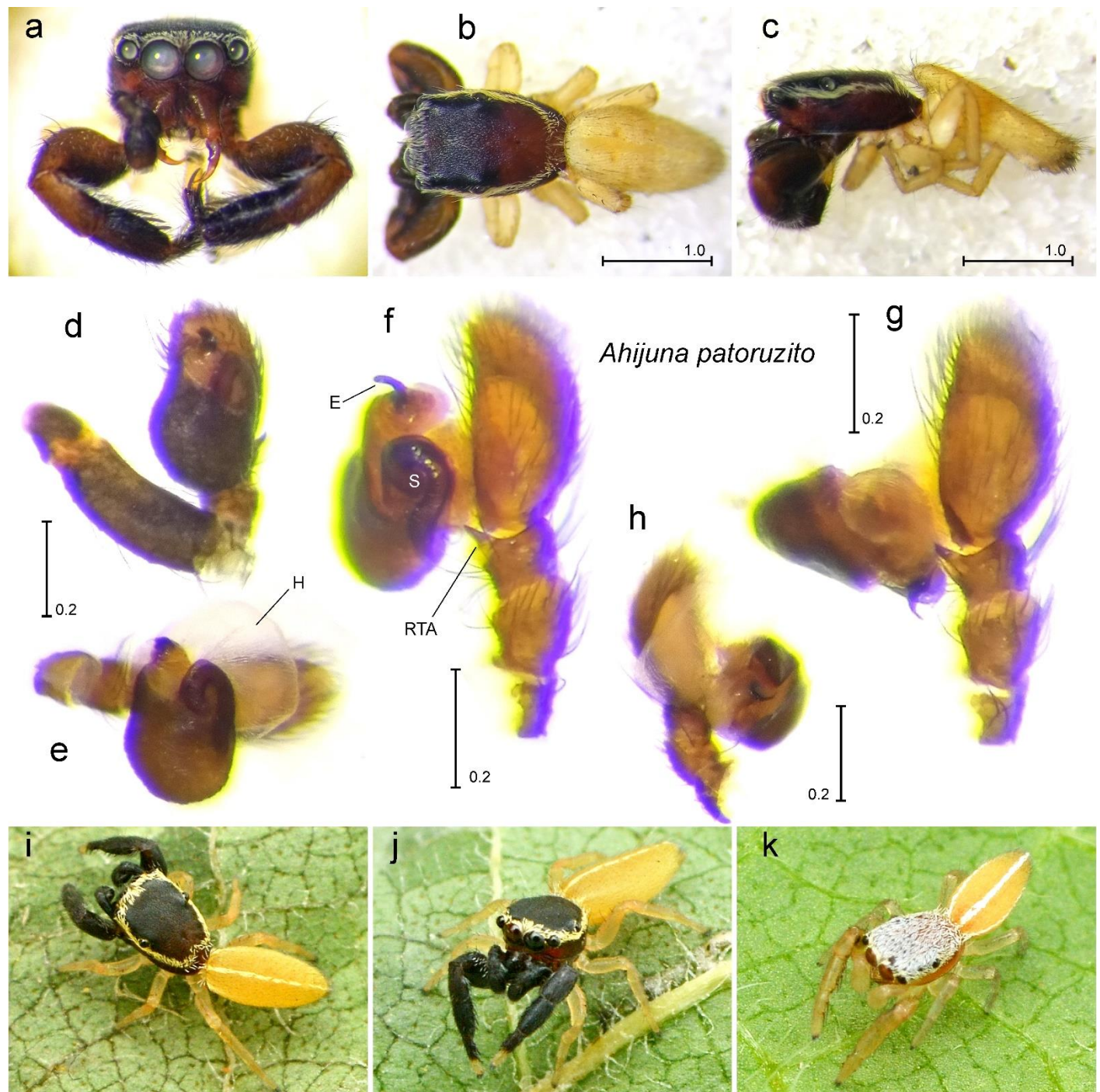


Figure 1. Male of *Ahijuna patoruzito* sp. n., holotype (IBSI-Ara 1699) (a–j); subadult male (k): Habitus in frontal (a), dorsal (b) and lateral (c) views; left palp in ventral (d, e), retrolateral (f), dorsal (g) and prolateral apical (h) views; habitus of live specimens (i–k).

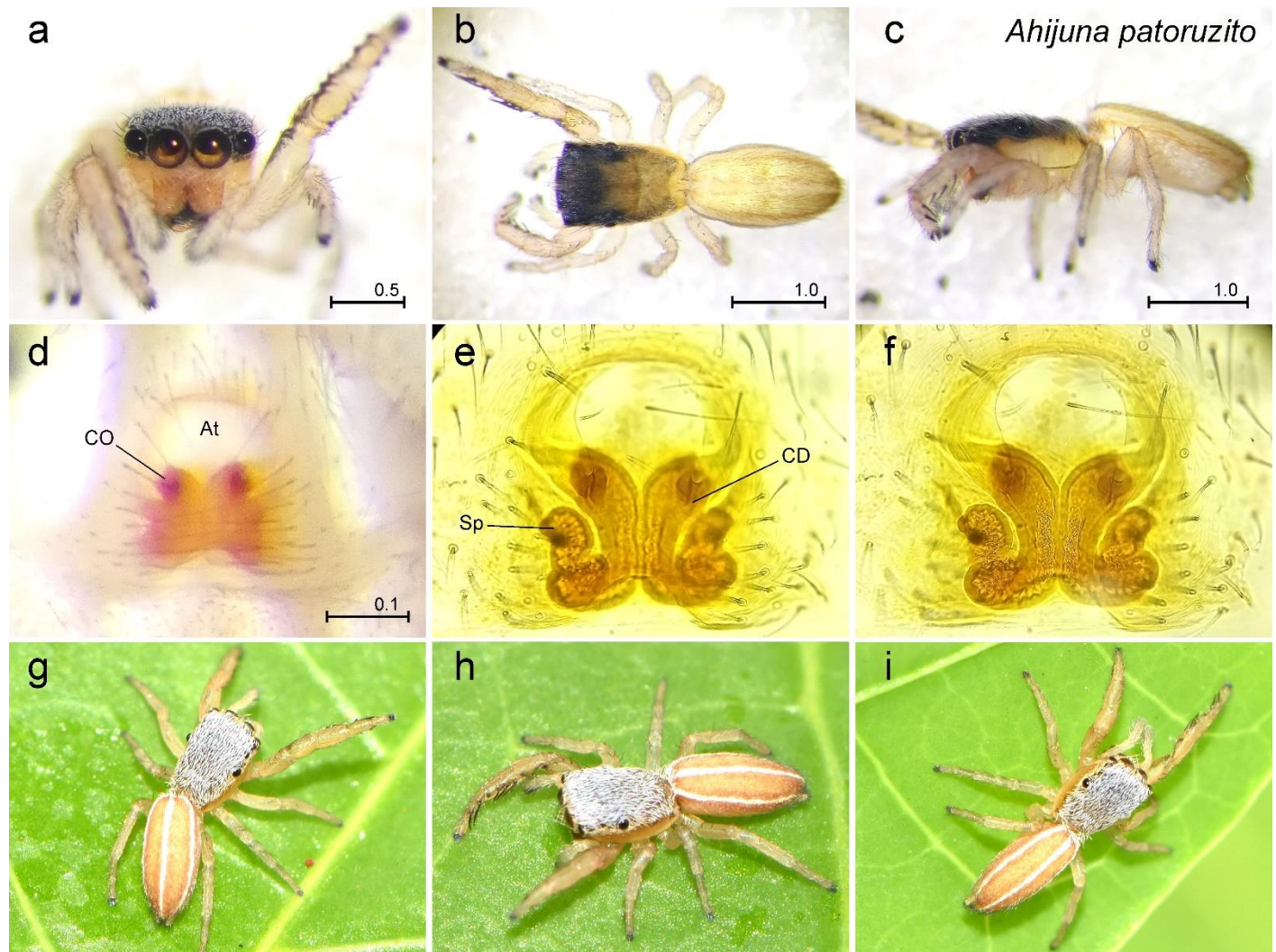


Figure 2. Female of *Ahijuna patoruzito* sp. n., allotype (IBSI-Ara 1701): Habitus in frontal (a), dorsal (b) and lateral (c) views; epigynum in ventral (d) view; same, cleared (e), same, different focus (f); habitus of live specimens (g–i).

Remarks

The subtribe Dendryphantina generally consists of high-bodied and reasonably robust spiders, with the vast majority of species exceeding 7 mm in length. Nevertheless, there is a series of less speciose lineages that include smaller, elongate or flattened spiders such as some *Naubolus*, *Pseudofluda* (except for *P. palachiyaxa* Nadal, 2021 which is not a true congeneric) and maybe some South American *Dendryphantes* (surely misplaced within this genus due to its reasonable distribution in the Old World). However, the problem is that spiders of this subtribe share many characteristics mainly the structure of the genitalia typical of the dendryphantines: male palps with a reduced spiral embolus and females with copulatory opening forming an “S” on the epigynal plate (Maddison 1996); with sometimes imperceptible differences among genera.

Differential diagnosis

Specimens of *Ahijuna* gen. n. share the structure of the genitalia with the great majority of dendryphantines (see above), share the small body sizes less than 5 millimeters with few dendryphantine genera (*Naubolus*, *Pseudofluda* and *Lumptibiella* gen. n.), and with *Pseudofluda* their flattened bodies, but *Ahijuna* gen. n. can be easily distinguished from these genera and from all other dendryphantines by having, in the case of males, a broad marginal dorsal ring of creamy yellow setae just dorsal to the AE and ventral to the PLE, all around the carapace on a blackish background (Fig. 1a–c, i–k); both sexes are distinguished by having the

elongate abdomen with a conspicuous longitudinal dorsal medial white stripe on an amber colored background (immatures and females have three of this stripes; see figures 1k, 2g–i).

Description

Male (holotype IBSI-Ara 1699). Carapace length 1.51; abdomen length 1.75. Carapace (Fig. 1a–c, i–k) dark brown to blackish, with a marginal dorsal ring of creamy yellow setae just dorsal to the AE and ventral the PLE and all around the carapace. Clypeus dark brown, very narrow with black setae (Fig. 1a). Chelicerae almost vertical; one promarginal and one retromarginal tooth (both large). Palp dark brown, almost black; cymbium with hairs scattered dorsally, but shorter and denser at the apex forming a brush (Fig. 1f, g). Embolus short, thick, sclerotized with a curvature to the prolateral side (Fig. 1d–f). Legs II to IV amber colored; leg I much stronger, black except for the tarsus that is amber colored like the other legs (Fig. 1a–c). Macrosetae tibia I v2-2-2, metatarsus I v2-2; tibia II v1-1-1, metatarsus II v2-2. Abdomen pale yellow; in life amber colored with one longitudinal dorsal medial band of creamy yellow setae (Fig. 1i–k).

Female (allotype IBSI-Ara 1701). Carapace length 1.41; abdomen length 1.69. Carapace (Fig. 2a–c, g–i) brown, somewhat orange, with darker cephalic region; dorsally covered with white to translucent setae (greyish in life). Clypeus brown, very narrow with pale setae (Fig. 2a). Chelicerae almost vertical; two promarginal teeth (one small) and one retromarginal tooth. Palps and legs II to IV pale yellow; leg I slightly stronger, amber (Fig. 2a–c). Macrosetae as in male. Abdomen as in male; in life amber colored with the longitudinal dorsal medial stripe of creamy yellow setae plus two equal but lateral stripes (Fig. 2g–i). Epigyne small plate, weakly sclerotized; CDs relatively short, starting in two COs that enter anteriorly. Spermatheca small, not spherical, located posteriorly (Fig. 2d–f).

Composition. Only the type species, *A. patoruzito* **sp. n.**

Ahijuna patoruzito Rubio, Baigorria & Stolar, **sp. n.**

<http://zoobank.org/384CD127-7439-4E23-A7E4-4A57D7F79A7A>

Type material

Male holotype (IBSI-Ara 1699) and female allotype (IBSI-Ara 1701) from Argentina, Misiones, Candelaria, Santa Cecilia Ranch (-27.45046° S; -55.71637° W), 7 December 2021, Baigorria J.E. coll.

Etymology

The specific epithet refers to the famous Argentinian comics character “Patoruzito”, a young Native American boy with black hair and a white headband, dressed with an amber “poncho” that resembles this new species.

Diagnosis and description. As for the genus (Figs. 1, 2).

Natural history

All specimen where collected at Santa Cecilia Ranch, southern Misiones, within the ecoregion known as Southern Cone Mesopotamian Savanna. The species is apparently restricted to tall and well preserved humid grasslands, dominated by *Sorghastrum* Nash and *Andropogon* Linneo grasses. All individuals were collected over these vegetal species, within the medial section of the grass, where they are particularly thick and dense. One male was collected along with an immature female, which might suggest a “mate guarding” behavior, observed in other dendryphantines. This species coexists with other salticid spiders, like *Pachomius areteguazu* Rubio, Stolar & Baigorria, 2021, *Maeota dorsalis* Zhang & Maddison, 2012, and the new species *Lumptibiella camporum* **sp. n.** (this paper) among others, but it is one of the few species within its size range inhabiting this environment. In captivity, they accepted small culicid dipterans as prey. When disturbed, they behave like if they were death, retracting their legs close to the body, without moving for almost a minute.

Distribution

Only known from northeastern Argentina, in Candelaria, Misiones.

Other material examined. Misiones province, Candelaria, Santa Cecilia Ranch (-27.45046° S; -55.71637° W), 1 male (IBSI-Ara 1522), beating on grassland, 15 September 2020, Baigorria J.E. coll.

Lumptibiella Rubio, Stolar & Baigorria, **gen. n.**

<http://zoobank.org/179149F4-6628-40F7-9EED-746D8422D3FC>

Type species. *Lumptibiella chacoensis* **sp. n.**

Etymology

"Lumptibiella" is a compound name in apposition combining the English and Latin words "lump" and "tibia", meaning "possessing tibia with lump", diagnosis for this genus; plus the ending "ella" typical of several genera of Salticidae. Gender feminine.

Diagnosis

Specimens of *Lumptibiella* **gen. n.** share characteristics of typical dendryphantines: male palps with a reduced spiral embolus and females with copulatory opening forming an "S" on the epigynal plate (Maddison 1996), share the small body sizes less than 5 millimeters with few dendryphantine genera, for instance, *Naubolus*, *Pseudofluda* and *Ahijuna* **gen. n.** (this paper). Nevertheless, *Lumptibiella* **gen. n.** can be easily distinguished from these genera and from all other small dendryphantines by having a conspicuous lump-shaped process on the middle of the male tibia retrolateral side (Figs 3k, 5d, j, 6d–f, k); females can be distinguished by having a small atrium on the anterior half of epigynal field, at least *Pseudofluda* and *Ahijuna* **gen. n.** have a somewhat similar structure, but these genera have much more flattened bodies (figures 2d, 4h, 7e; compare with figs 14–16 in Nadal & Rubio 2019).

Description

Male (Figs 3, 5, 6). Total body length 3.42 to 4.05. Carapace mahogany, with lighter cephalic region, orange, with two round darker spots in the middle between the ALE and PLE; covered with translucent scale-like setae, and isolated black hairs; eye area trapezoidal with AE row narrower than PE row. Thoracic slope pronounced. Clypeus narrow. Chelicerae vertical; one promarginal and one retromarginal tooth, claw with a medial anterior tooth. Palp dark brown, blackish; cymbium with black hairs scattered dorsally, lighter and shorter at the apex forming a brush. RTA with nail shape, and another lump-shaped process on the middle of the tibia retrolateral side. Embolus sclerotized, tip towards the prolateral side (Figs 3d, 5g, 6d). Legs brown to black colored, but leg I stronger with the femur darker (Figs 3a, 5a, 6a). Abdomen pale to mahogany colored (Figs 3b, 5b, 6b).

Female (Figs 4, 7). Total body length 3.52 to 3.59. Carapace light brow to mahogany, remainder as in male; eye area and thoracic slope as in male. Clypeus narrow with numerous scaly hairs. Chelicerae vertical; two promarginal teeth and one retromarginal tooth. Palps and legs light or dark brown. Abdomen pale-brown colored, with some dark brown spots (Figs 4b, 7b). Epigyne small plate, weakly sclerotized; with an atrium on the anterior half of epigynal field, and a small posterior pocket inverted U-shaped (Figs 4g–n, 7d–i). CDs starting in two COs that enter anteriorly in a broad stretch and directed posteriorly with some coils. Spermathecae small, not spherical, located posteriorly.

Composition. Three species: *L. camporum* **sp. n.**, *L. chacoensis* **sp. n.** and *L. paranensis* **sp. n.**

Lumptibiella chacoensis Rubio, Stolar & Baigorria, **sp. n.**

<http://zoobank.org/23CB13A3-CDBF-494E-90DE-CEA129F1739E>

Type material

Male holotype (IBSI-Ara 1702), and one female, one male paratypes (IBSI-Ara 1703) from Argentina, Santiago del Estero, Beltran (-27.82034° S; -64.10074° W), 25 November 2021, Stolar C.E. coll.

Etymology

The specific epithet is an adjective referring to the ecoregion Dry Chaco in which the type locality is located.

Diagnosis

Lumptibiella chacoensis **sp. n.** resembles *L. camporum* **sp. n.** in having the RTA with an elongated, double curved nail shape and the lump tibial process pointed (Figs 3k, 6k), and the female anterior stretch of CD broad (Figs 4i, 7e–g); but can be distinguished from all other *Lumptibiella* **gen. n.** by having the distal part of the embolus shaped like a single helix blade (Fig 3d, j) (thick hook in *L.*

paranensis sp. n.—fig 5i, and long loop of one turn in *L. camporum* sp. n.—fig 6d), an anterior coupling pocket (aCP) on the epigyne, and a very sclerotized first stretch of the CDs (Fig 4g–j).

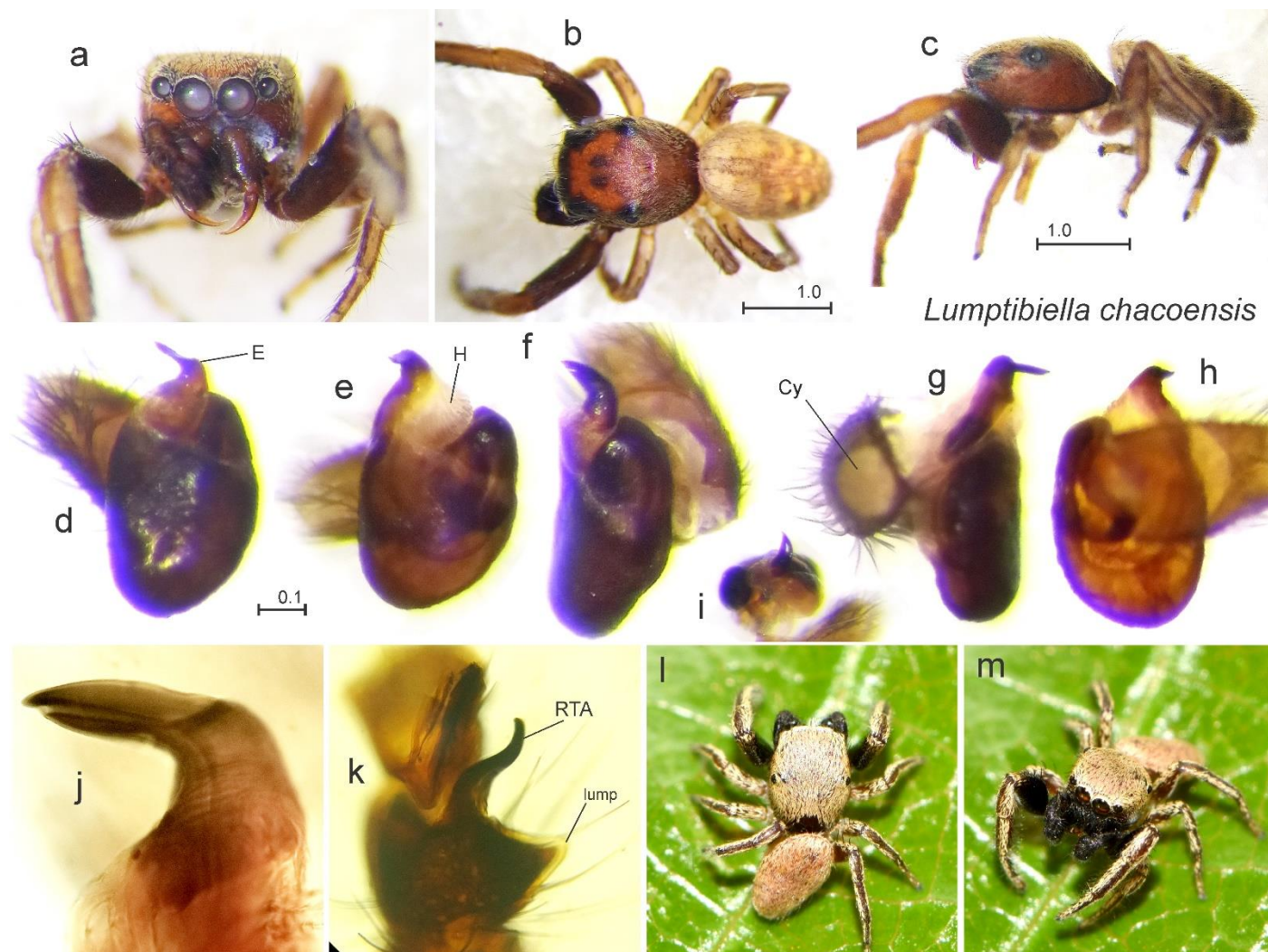


Figure 3. Male of *Lumptibiella chacoensis* sp. n., holotype (IBSI-Ara 1702): Habitus in frontal (a), dorsal (b) and lateral (c) views; left bulb in ventral (d, e), retrolateral (f), prolateral (g), dorsal (h) and apical (i) views; details of embolus (j) and palpal tibia (k); habitus of live specimen (l, m).

Description

Male (holotype IBSI-Ara 1702). Carapace length 1.72; abdomen length 1.78. Carapace (Fig 3a–c) mahogany, with lighter cephalic region, orange, with two round darker spots in the middle between the ALE and PLE; covered in yellowish, translucent scale-like setae, and a few isolated black hairs; eye area trapezoidal with AE wide 1.01 and PE wide 1.22. Thoracic slope pronounced. Clypeus dark brown, narrow with long black hairs (18 to 20), somewhat aligned. Chelicerae vertical; one promarginal and one retromarginal tooth (both large), claw with a small medial anterior tooth. Palp dark brown, blackish; cymbium with black hairs scattered dorsally, but lighter, shorter and denser at the apex forming a brush. RTA with elongated nail shape, and another lump-shaped process on the middle of the tibia retrolateral side. Embolus short, sclerotized with a thick basal part, and a distal part shaped like a single helix blade, tip towards the prolateral side (Fig 3d–h). Legs brown colored; leg I stronger, with the femur darker; the other legs with scattered darker brown spots (Fig 3a–c). Macrosetae femur I d1-1-1, p2 (distally), tibia I v2-2-2, metatarsus I v2-2; femur II d1-1-1, p1 (distally), tibia II v1-2, metatarsus II v2-2; femur III d1-1-3; femur IV d1-1-2. Abdomen pale yellow, with 4 slightly darker and somewhat diffuse chevrons on the back half; in life it is uniformly pinkish orange (Fig 3b, l).

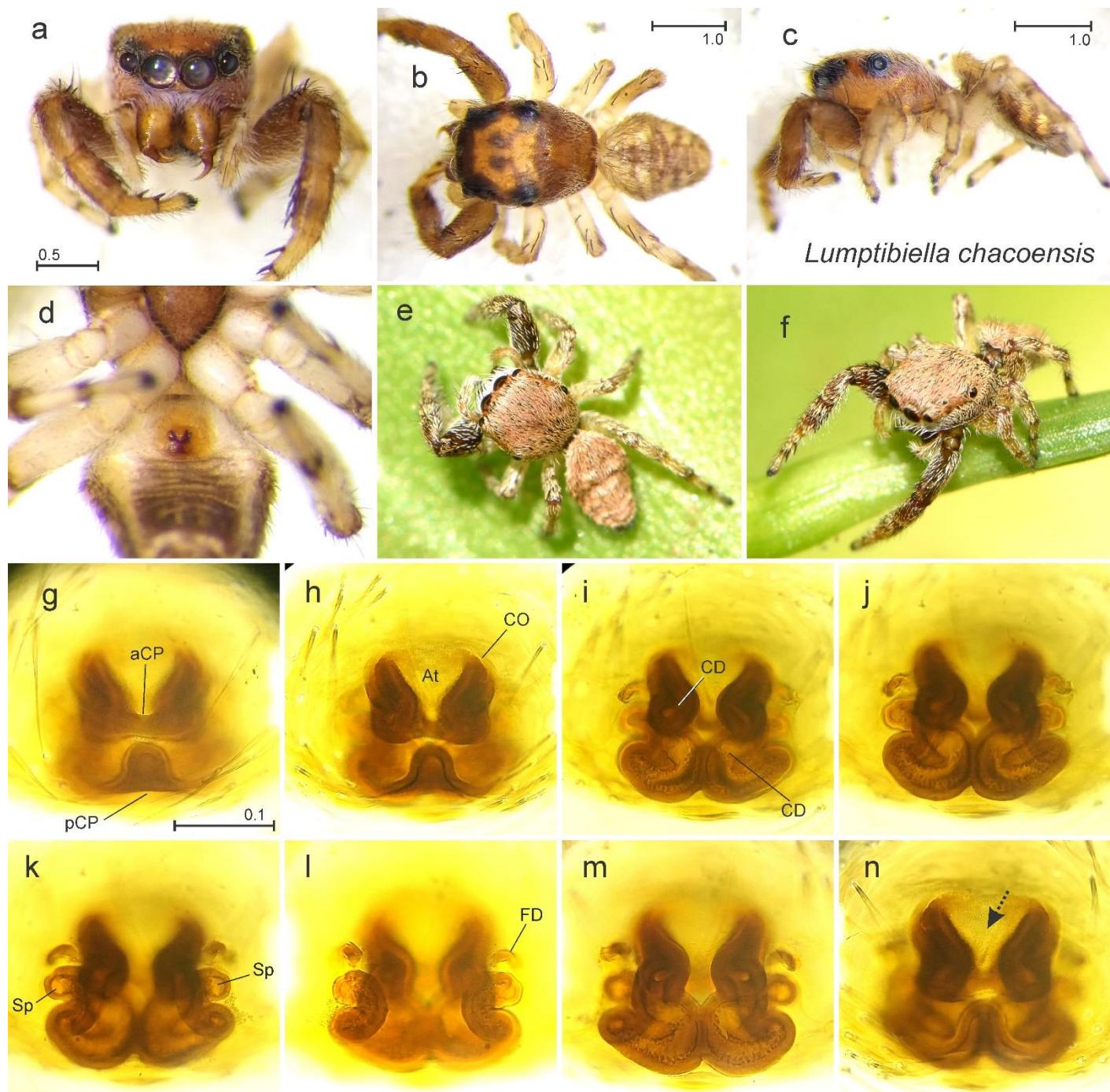


Figure 4. Female of *Lumptibiella chacoensis* sp. n., paratype (IBSI-Ara 1703): Habitus in frontal (a), dorsal (b), lateral (c) and ventral (d) views; habitus of live specimen (e, f); cleared epigyne in ventral view (g); same, different focus (h–k); same, dorsal view (l–n). Arrow, atrium with spicules.

Female (paratype IBSI-Ara 1703). Carapace length 1.76; abdomen length 1.76. Carapace (Fig 4a–c) as in male, covered in yellowish, translucent scale-like setae (light brown, slightly pinkish in life), and a few isolated black hairs; eye area trapezoidal with AE wide 1.02 and PE wide 1.25. Thoracic slope pronounced as in male. Clypeus narrow with numerous scaly white hairs. Chelicerae vertical; two promarginal teeth and one retromarginal tooth. Palps and legs as in male but lighter. Macrosetae as in male, except for femur IV d1-1-3. Abdomen as in male, but something wrinkled after preservation. Epigyne (Fig 4g–n) small plate, weakly sclerotized; with a small anterior V-shaped atrium leading to an anterior coupling pocket (U-shaped) on the median epigynal field,

also with the typical dendryphantine inverted U-shaped posterior pocket; the anterior coupling pocket has a concave atrium with spicules (Fig 4n). CDs starting in two COs that enter anteriorly in a very sclerotized stretch and directed posteriorly with some coils. Spermatheca small, not spherical, located posteriorly.

Natural history

Individuals were collected at a region known as Chaco Serrano within the Dry Chaco, over fragmented and altered habitats with predominance of crops and borders of secondary forest, on shrubs one-meter high.

Distribution. Known from northwestern Argentina.

Other material examined. Argentina, Salta province, Cerrillos, near La Merced (-25.0501° S; -65.4962° W), 3 males (IBSI-Ara 0966), sampling with G-Vac (garden-vacuum) on vegetation, 15 March 2007, Rubio G.D. coll.

Lumptibiella paranensis Rubio, Baigorria & Stolar, **sp. n.**

<http://zoobank.org/9DB751F9-78A2-4B84-9E38-23A9F3AE5466>

Type material

Male holotype (IBSI-Ara 1416) from Argentina, Misiones, San Pedro, Cruce Caballero, Forestal Belga encampment (-26.57236° S; -53.80167° W), 22 October 2019, Rubio G.D., Stolar C.E. & Toro A. coll.

Etymology

The specific epithet is an adjective referring to the ecoregion Upper Paraná Atlantic Forest in which the type locality is located.

Diagnosis

Lumptibiella paranensis **sp. n.** can be distinguished from all other species of *Lumptibiella* **gen. n.** by having an embolus thick, very sclerotized, hook-shaped with a curvature to the prolateral ventral side (Fig 5f–i) (single helix blade in *L. chacoensis* **sp. n.**—fig 3d, and long loop of one turn in *L. camporum* **sp. n.**—fig 6d) and a lump-shaped process rounded, blunt (Fig 5j) (pointed in *L. chacoensis* **sp. n.**—fig 3k, and *L. camporum* **sp. n.**—fig 6k).

Description

Male (holotype IBSI-Ara 1416). Carapace length 1.66; abdomen length 1.76. Carapace (Fig 5a–c) mahogany, with lighter cephalic region, orange, with two round darker spots in the middle between the ALE and PLE; covered in yellowish, translucent scale-like setae, and a few isolated black hairs; eye area trapezoidal with AE wide 0.97 and PE wide 1.19. Thoracic slope pronounced. Clypeus narrow, covered with numerous white scale-like setae, conspicuous (Fig 5a, d). Chelicerae vertical; one promarginal and one retromarginal tooth (large), claw with a small medial anterior tooth. Palp dark brown, blackish; cymbium with black hairs scattered dorsally, lighter and shorter at the apex. RTA with nail shape, and another conspicuous lump-shaped process on the middle of the tibia retrolateral side. Embolus thick, very sclerotized with a curvature to the prolateral ventral side (Fig 5f–i). Legs II to IV amber colored; leg I much stronger, black, covered with a lot of long and translucent white hairs (Fig 5a–c, e). Macrosetae femur I d1-1-1, p1 (distally), tibia I v2-2-2, metatarsus I v2-2; femur II d1-1-1, p1 (distally), tibia II v1-2(1distal), metatarsus II v1-2; femur III d1-1-3; femur IV d1-1-3. Abdomen pale brown, dorsally and laterally covered with numerous homogeneously arranged dark dots (Fig 5b, c), dark orange in life with a conspicuous lateral white band bordering the entire abdomen except posterior tip (Fig 5l–n). Female unknown.

Natural history. Specimens were collected from the foliage of rainforest at medium height.

Distribution. Known from northeastern Misiones, Argentina.

Other material examined. Misiones province, San Pedro, Piñalito Sur (-26.42234°S; -53.83769°W), 1 male (IBSI-Ara 1705), direct observation on the plant, 30 July 2020, Baigorria J.E. coll.



Figure 5. Male of *Lumptibiella paranensis* sp. n., holotype (IBSI-Ara 1416): Habitus in frontal (a), dorsal (b), lateral (c), detail, frontal (d) and ventral (e) views; left palp in prolateral (f), ventral (g), retrolateral (h), ventral, bulb only (i), dorsal (j) and apical (k) views; habitus of live specimen (l–n).

Lumptibiella camporum Rubio, Baigorria & Stolar, sp. n.

<http://zoobank.org/46575AA1-A1CF-4594-A98C-FA18F99C9120>

Type material

Male holotype (IBSI-Ara 1704) from Argentina, Misiones, Candelaria, Santa Cecilia Ranch (-27.45046° S; -55.71637° W), 2 November 2021, Baigorria J.E. coll., and female allotype (IBSI-Ara 1630) from Candelaria, Urutaú Natural Reserve (-27.48024° S; -55.79254° W), 5 February 2021, Rubio G.D., Stolar C.E. & Baigorria J.E. coll.

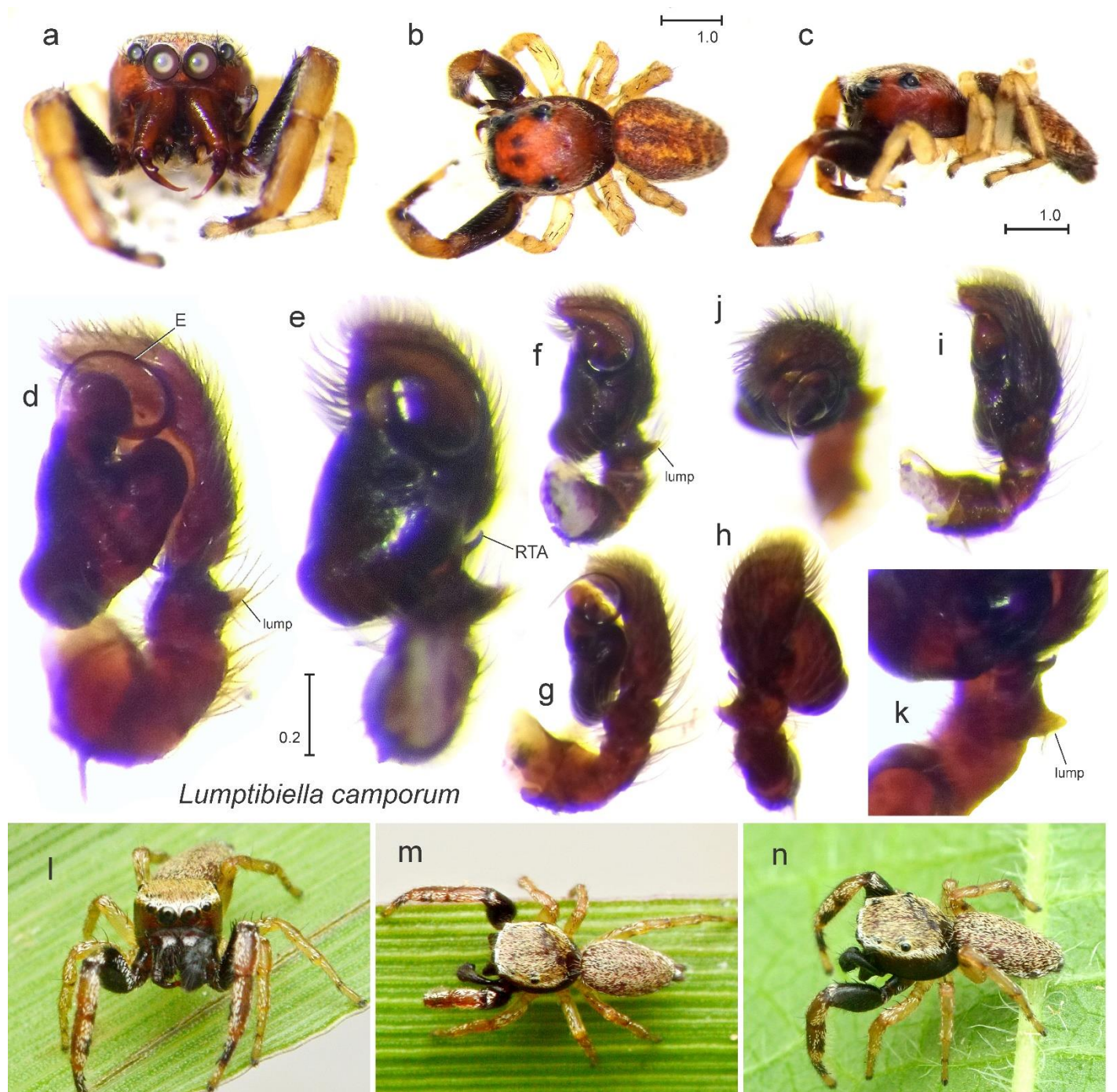


Figure 6. Male of *Lumptibiella camporum* sp. n., holotype (IBSI-Ara 1704): Habitus in frontal (a), dorsal (b) and lateral (c) views; left palp in ventral (d, e), ventral-retrolateral (f), retrolateral (g), prolateral (h), retrolateral (i) and apical (j) views; detail of palpal tibia (k); habitus of live specimen (l–n). Palp in (d, g), partially expanded.

Etymology. The specific name, “camporum”, is a Latin word that means “live in grassland fields” (campo = field).

Diagnosis

Lumptibiella camporum sp. n. resembles *L. chacoensis* sp. n. in having the RTA with an elongated, double curved nail shape and the lump tibial process pointed (Figs 3k, 6k), and the female anterior stretch of CD broad (Figs 4i, 7e–g); but can be distinguished from all other *Lumptibiella* gen. n. by having the embolus longer, with a loop of almost one turn (Fig 6d–g) (single helix blade in *L.*

chacoensis sp. n.—fig 3d, and thick hook in *L. paranensis* sp. n.—fig 5i), the non-sclerotized stretch of the CDs and an atrium that does not have a visible aCP (Fig 7d–g).

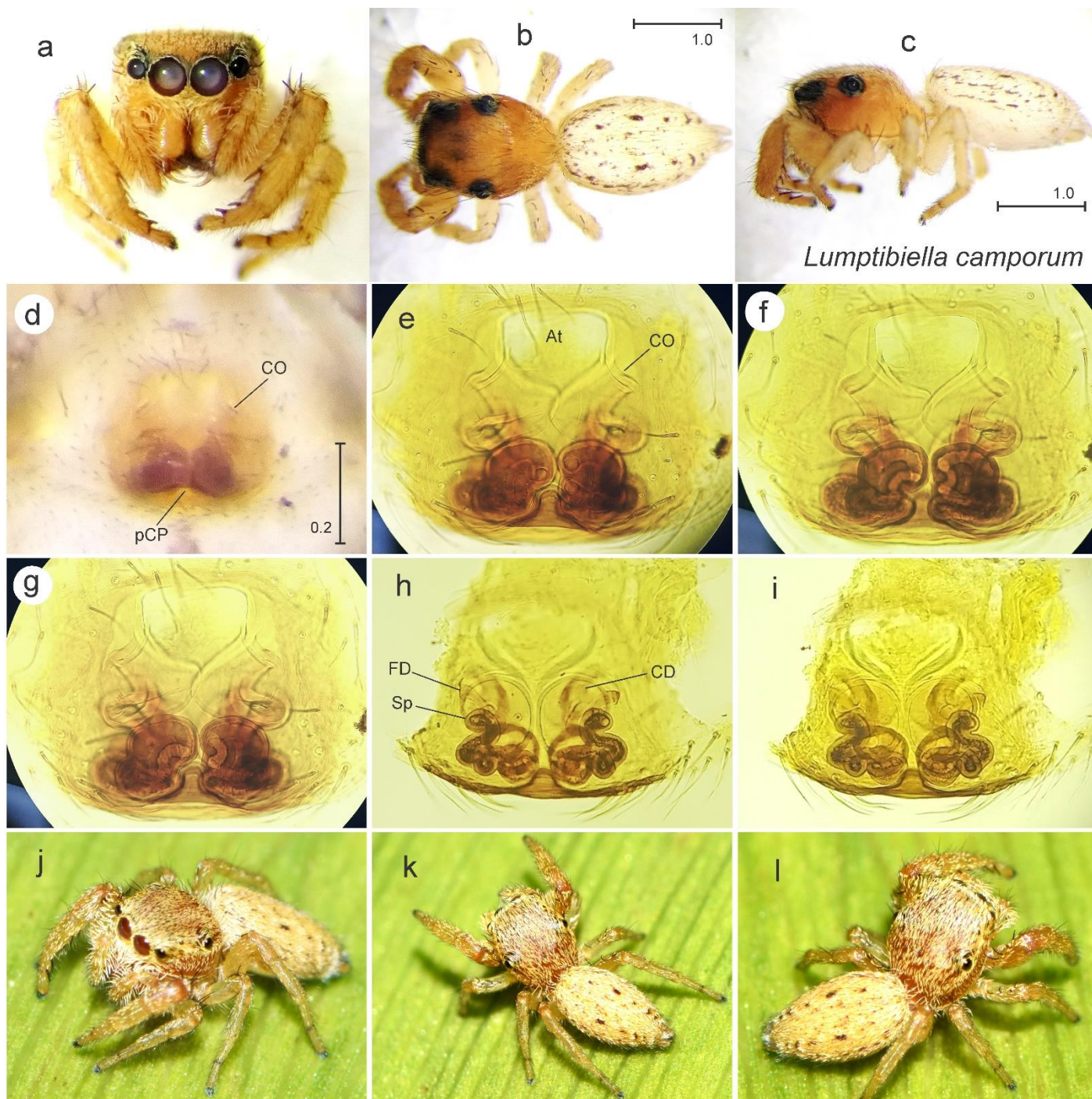


Figure 7. Female allotype (IBSI-Ara 1630) (a–g, j–l) and female (IBSI-Ara 1626) (h, i) of *Lumptibiella camporum* sp. n.: Habitus in frontal (a), dorsal (b) and lateral (c) views; epigyne in ventral view (d); cleared epigyne in ventral view (e–g); same, different focus (h, i); habitus of live specimen (j–l).

Description

Male (holotype IBSI-Ara 1704). Carapace length 1.95; abdomen length 2.10. Carapace (Fig 6a–c) dark mahogany, with lighter cephalic region, orange, with two round darker spots in the middle between the ALE and PLE; covered with a few translucent scale-like setae and isolated black hairs; eye area trapezoidal with AE wide 1.12 and PE wide 1.34. Thoracic slope pronounced.

Clypeus dark brown, very narrow with long black hairs (~18), somewhat aligned. Chelicerae vertical; one promarginal (thicker) and one retromarginal tooth (longer), claw with a conspicuous medial anterior tooth (Fig 6a). Palp dark brown, blackish; cymbium with black scattered hairs, lighter, shorter and denser at the apex forming a brush, with a conspicuous groove where the embolus fits (Fig 6d–j). RTA with nail shape, and another lump-shaped process on the middle of the tibia retrolateral side. Embolus long, with a loop of almost one turn, sclerotized with a somewhat spherical basal part, tip towards the prolateral side (Fig 6d–g). Legs II to IV light brown colored; leg I much stronger, femur dark brown, same on ventral side of tibia and metatarsus, tarsus yellow (Fig 6a–c). Macrosetae femur I d1-1-1, p2 (distally), tibia I v2-2-2 (short and thick), metatarsus I v2-2; femur II d1-1-1, p1 (distally), tibia II v2-2, metatarsus II v2-2; femur III d1-1-3; femur IV d1-1-3. Abdomen mahogany, with 4 slightly darker and chevrons on the back half, and two lighter parallel longitudinal stripes (somewhat diffuse) on anterior half; in life it is evenly spotted with light and dark brown setae (Fig 6l–n).

Female (allotype IBSI-Ara 1630). Carapace length 1.64; abdomen length 1.95. Carapace (Fig 7a–c) light brown, orange, with two darker spots in the middle between the ALE and PLE; covered with a few translucent scale-like setae and isolated black hairs (evenly spotted with light and dark brown in life); eye area trapezoidal with AE wide 1.00 and PE wide 1.21. Thoracic slope pronounced. Clypeus narrow with numerous scaly yellow hairs. Chelicerae vertical; two promarginal teeth and one retromarginal tooth. Palps and legs light brown, legs I slightly darker. Macrosetae as in male except for femur I d1-1-1, p1 (distally); tibia II v1; femur III d1-1-1, p1 (distally); femur IV d1-1-1. Abdomen pale, with symmetrically distributed dark brown spots (similar in life). Epigyne (Fig 7d–g) small plate, weakly sclerotized; with a small atrium on the anterior half of epigynal field, and a small posterior pocket inverted U-shaped (Fig 7d). CDs starting in two COs that enter anteriorly in a broad stretch and directed posteriorly with some coils. Spermatheca small, not spherical, located posteriorly.

Natural history

Specimen where collected at southern Misiones, within the ecoregion known as Southern Cone Mesopotamian Savanna. The species is apparently restricted to tall and well preserved humid grasslands, dominated by *Sorghastrum* and *Andropogon* grasses. Individuals were collected within the medial section of these grass plants, where they are particularly thick and dense. This new species coexists with other salticid spiders, like *Pachomius areteguazu*, *Maeota dorsalis* and the new species *Ahijuna patoruzito* **sp. n.** (this paper).

Distribution. Only known from northeastern Argentina, in Candelaria, Misiones.

Other material examined. Misiones province, Candelaria, Urutaú Natural Reserve (-27.48024° S; -55.79254° W), 1 female (IBSI-Ara 1626), beating on grassland, 5 February 2021, Rubio G.D., Stolar C.E. & Baigorria J.E. coll.

Acknowledgements

We wish to especially thank the anonymous reviewers for the improvements to the original manuscript; Carlos Navajas for his help in Santa Cecilia Ranch; and our families for their support. Many thanks are also extended to Temaikèn Foundation for proposing, facilitating and financing this work, especially to Jerónimo Torresin for the support and efforts and to ranger Gabriel Ruiz Diaz for his assistance and logistics in Urutaú Nature Reserve. The samplings were possible with the permits of the Instituto Misionero de Biodiversidad (IMiBio) and the Entidad Binacional Yacypetá (EBY).

Funding

This study has received funding from Temaikèn Foundation.

Conflicts of interests

The authors declare that there are no conflicts of interests.

Data and materials availability

All data associated with this study are present in the paper.

REFERENCES AND NOTES

1. Edwards, G.B. (2015) Freyinae, a major new subfamily of Neotropical jumping spiders (Araneae: Salticidae). *Zootaxa*, 4036 (1), 1–87. <https://doi.org/10.11646/zootaxa.4036.1.1>
2. Hughes, J.B., Gretchen, C.D. & Ehrlich, P.R. (2000) Conservation of insect diversity: a habitat approach. *Conservation Biology*, 14 (6), 1788–1797. <https://doi.org/10.1111/j.1523-1739.2000.99187.x>
3. Jofré, L.E., de Torres Curth, M. & Farji-Brener, A.G. (2022) Unexpected costs of extended phenotypes: nest features determine the effect of fires on leaf cutter ant's demography. *Proceedings of the Royal Society B*, 289 (2021.2333); <http://doi.org/10.1098/rspb.2021.2333>
4. Levi, H.W. (1965) Techniques for the study of spider genitalia. *Psyche*, 72 (2), 152–158. <https://doi.org/10.1155/1965/94978>
5. Maddison, W.P. (1996) *Pelegrina* Franganillo and other jumping spiders formerly placed in the genus *Metaphidippus* (Araneae: Salticidae). *Bulletin of the Museum of Comparative Zoology*, 154 (4), 215–368. <https://biostor.org/reference/607>
6. Maddison, W.P. (2015) A phylogenetic classification of jumping spiders (Araneae: Salticidae). *Journal of Arachnology*, 43(3), 231–292. <https://doi.org/10.1636/ arac-43-03-231-292>
7. Menge, A. (1879) Preussische Spinnen. X. Fortsetzung; XI. Fortsetzung und Schluss. *Schriften der Naturforschenden Gesellschaft in Danzig* (N.F.), 4, 543–560.
8. Nadal, M.F. & Rubio, G.D. (2019) On the genus *Pseudofluda* (Araneae, Salticidae): two new species including the first description of a female and distribution data. *Studies on Neotropical Fauna and Environment*, 54 (2), 80–86. <https://doi.org/10.1080/01650521.2019.1593606>
9. Scioscia, C.L. (1990) *La subfamilia Dendryphantinae (Salticidae, Araneae) en la República Argentina: Estudios comparativos sobre Metaphidippus odiosus, Bryantella smaragdus y Dendryphantes patagonicus*. PhD Thesis, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, 414 pp. Available from: http://digital.bl.fcen.uba.ar/Download/Tesis/Tesis_2350_Scioscia.pdf (accessed 16 March 2022)
10. SNMF (2022) *Servicio Nacional de Manejo del Fuego. Reporte de Incendios 2022*. Ministerio de Ambiente y Desarrollo Sostenible de la Nación, República Argentina, 18 pp. Available from: https://www.argentina.gob.ar/sites/default/files/2022/01/18_de_febrero_reporte.pdf (accessed 17 March 2022)
11. Tomas, W.M., Berlinck, C.N., Chiaravalloti, R.M. *et al.* (2021) Distance sampling surveys reveal 17 million vertebrates directly killed by the 2020's wildfires in the Pantanal, Brazil. *Scientific Reports*, 11 (23547). <https://doi.org/10.1038/s41598-021-02844-5>
12. Wood, B. & Gillman, M.P. (1998) The effects of disturbance on forest butterflies using two methods of sampling in Trinidad. *Biodiversity and Conservation*, 7, 597–616. <https://doi.org/10.1023/A:1008800317279>