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Three new *Idiops* (Mygalomorphae: Idiopidae) from Argentina and redescription of the male of *I. hirsutipedis* Mello-Leitão, 1941

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ABSTRACT

Three new Argentinean species of the front-eyed trapdoor spider genus *Idiops* namely *I. minguito* sp. nov. from Salta and Jujuy provinces, *I. piluso* sp. nov. from Córdoba province and *I. tolengo* sp. nov. from Santiago del Estero province, are described. The male of *I. hirsutipedis* is redescribed and new distributional data in Argentina are presented for this species and for *I. clarus*. An identification key for all these species is provided.

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Introduction

The trapdoor spider family Idiopidae comprises 22 genera and 323 species described worldwide (World Spider Catalog 2017). In Argentina, the family Idiopidae is represented by two genera: *Idiops* Perty, 1833 and *Neocteniza* Pocock, 1895. The genus *Idiops* is a diverse group widely distributed in different parts of the world, including South and Central America, Africa and Asia (Dippenaar-Schoeman 2002; Gupta et al. 2013). These are spiders of about 10 to 35 mm, characterised by a posterior eye row procurve, anterior lateral eyes being set far in advance of other eyes, median ocular area widest posteriorly, carapace narrow on distal part, chelicerae with two rows of teeth on prolateral and retrolateral margins and absence of small spines on the coxae (Dippenaar-Schoeman 2002). *Idiops* includes 90 species worldwide and is represented by two species in Argentina (Mello-Leitão 1946; Gerschman de Pikelín and Schiapelli 1963; Schiapelli and Gerschman de Pikelín 1971; Grismado and Goloboff 2014). *Idiops hirsutipedis* was described by Mello-Leitão (1941), based on a young female specimen from Castro Barros, La Rioja. Then, Gerschman de Pikelín and Schiapelli (1963) published data of a male for the first time, based on a specimen collected in Guayapa, Patquía, La Rioja, but only providing pictures of the palpal bulb, eyes, tibial apophysis, and details of

measurements and colour pattern. The other Argentinean species, *Idiops clarus*, was originally described as *Juambeltzia clara* by Mello-Leitão (1946), based on a male specimen collected in San Gabriel, Florida, Uruguay. Later, Schiapelli and Gerschman de Pikelin (1971) synonymised *Juambeltzia* with *Idiops*, and the new combination *Idiops clarus* (Mello-Leitão, 1946) was proposed. They also described the female for the first time, based on a specimen from Sierra de las Ánimas, Maldonado, Uruguay. Considering earlier taxonomic work on *Idiops clarus*, all the specimens studied are from Uruguay and no published data has formally registered this species in Argentina, although the distribution presented in the World Spider Catalog (2017) actually includes Argentina and Uruguay. Because spiders of the genus *Idiops* construct specialised trapdoor burrows which remain unnoticed from even a few inches away, there is little knowledge about their diversity and ecology (Siliwal et al. 2009). Although the monophyly of the genus has never been rigorously tested, Yamamoto (unpublished data) conducted a taxonomic review and a phylogenetic analysis of the genus *Idiops* for his PhD dissertation. Unfortunately, in agreement with the International Code of Zoological Nomenclature (articles 8 and 9, chapter 3, 4th edition) any proposal of nomenclatural changes and/or designation of types or type localities in a dissertation are not validly published (ICZN 1999). However, this contribution allowed us to make comparisons of our material with the description and illustrations of the taxa treated in its work (mainly the Brazilian species).

During a recent investigation of *Idiops* material from the Museo Argentino de Ciencias Naturales 'Bernardino Rivadavia', we were able to examine many specimens from central and northern Argentina, and this led us to describe three new species, redescribe the male of *I. hirsutipedis* and present new distributional data for *I. clarus*. Moreover, in the present work we present an identification key for Argentinean *Idiops*.

Material and methods

The specimens mentioned or used in this study are lodged in the collection of Museo Argentino de Ciencias Naturales 'Bernardino Rivadavia' (MACN-Ar), Buenos Aires, Argentina; Museo de La Plata (MLP), La Plata, Argentina; Laboratorio de Biología Reproductiva y Evolución (LBRE-Ar), Córdoba, Argentina; Museo de Historia Natural de Montevideo (MHNM), Montevideo, Uruguay; and Laboratorio de Zoología de Invertebrados II (LZI), Bahía Blanca, Argentina. Specimens were examined using an Olympus SZ stereomicroscope and photographed with a SONY Hx200v camera mounted on a stereomicroscope. Female genitalia were dissected and cleared in concentrated lactic acid for approximately 60 minutes to study the morphology of the spermathecae. All measurements are presented in millimetres and were made with a digital dial caliper with an error of 0.01 mm, rounded up to one significant decimal where appropriate, and an Olympus stereoscopic microscope equipped with an ocular micrometer scale. Appendage measurements were based on left appendages in dorsal view. Lengths of leg articles were taken from the mid-proximal point of articulation to the mid-distal point of the article (*sensu* Bond (2012) figs 11–16). Width of carapace, eye tubercle, labium and sternum are maximum values obtained. Spine notation and codification follow the methodology proposed by Petrunkevitch (1925). The male palpal bulb is presented in three views: retrolateral, prolateral and dorsal. Female spermathecae are shown in dorsal view.

The following abbreviations are used: ALE = anterior lateral eyes, AME = anterior median eyes, d = dorsal, OQ = ocular quadrangle, p = prolateral, PLE = posterior lateral eyes, PME = posterior median eyes, r = retrolateral, v = ventral.

Taxonomy

Family **IDIOPIDAE** Simon, 1889
 Genus *Idiops* Perty, 1833
Idiops clarus (Mello-Leitão, 1946)

(Figures 1–3, 13)

Juambeltzia clara Mello Leitão, 1946: 6, figs 6–9; Bücherl, 1957: 383, figs 3–3a

Idiops clarus: Schiapelli and Gerschman, 1971: 58, figs 1–7

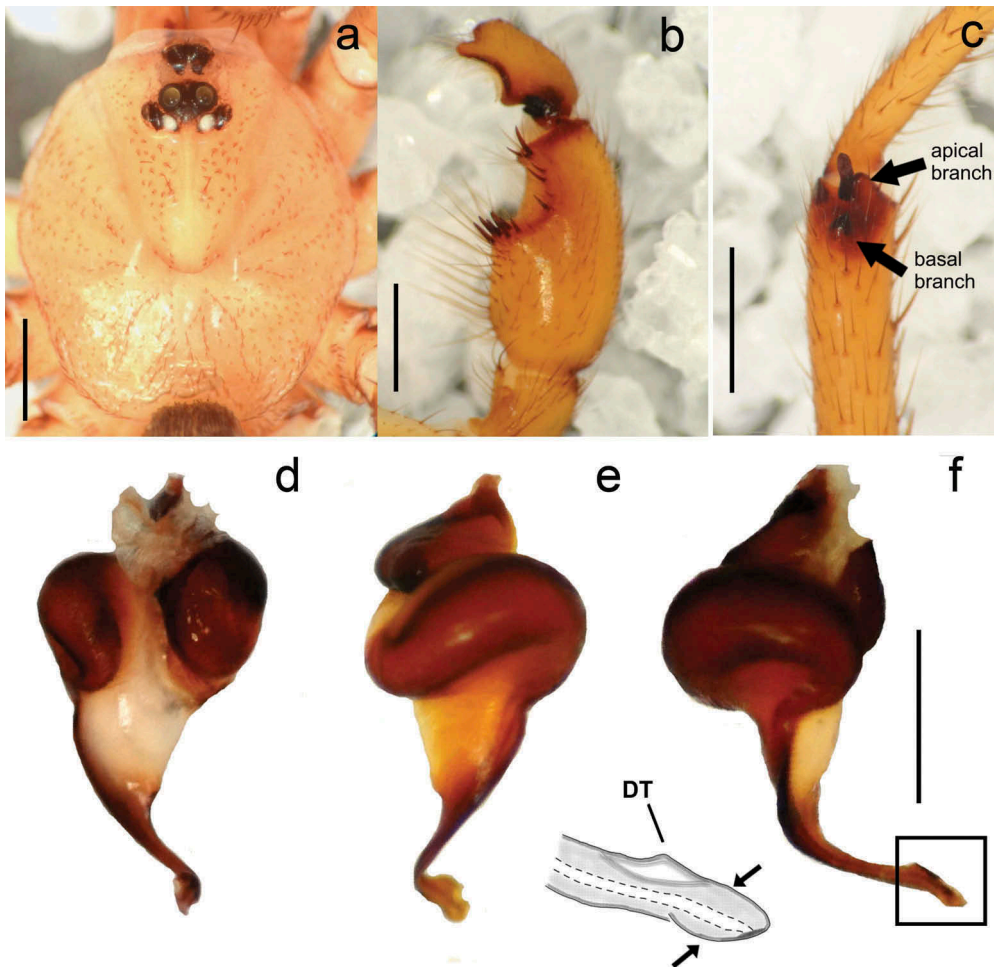


Figure 1. *Idiops clarus* (Mello-Leitão, 1946). Male (MACN-Ar7422). (a) Carapace, dorsal view. (b) Palpal tibia, retrolateral view. (c) Tibia I, prolateral. (d–f) Left palpal bulb. (d) Prolateral. (e) Retrolateral. (f) Dorsal. The square shows the embolus tip zoomed. DT = dorsal tooth. Arrows indicate apical expansion and ventral flange. Scale bars = 1 mm.

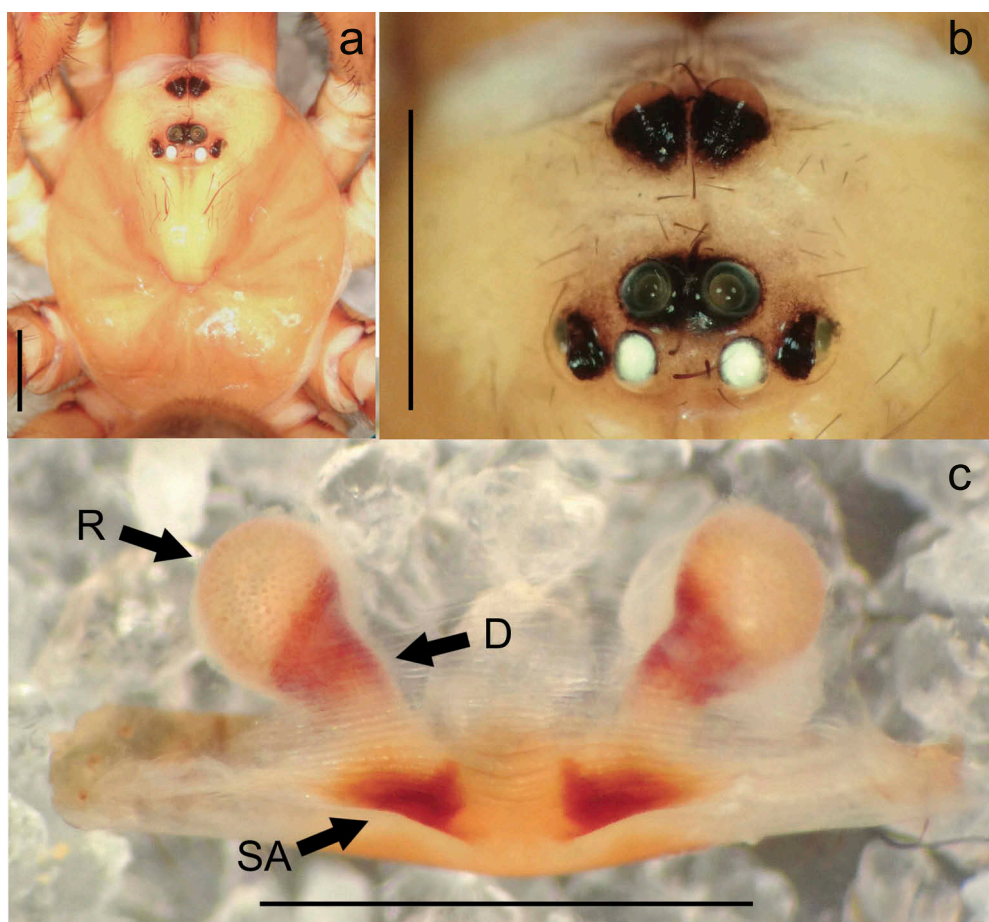


Figure 2. *Idiops clarus* (Mello-Leitão, 1946). Female (MACN-Ar7422). (a) Carapace, dorsal view. (b) Eye group, dorsal view. (c) Spermathecae, dorsal view. D = duct; R = receptacle; SA = sclerotised basal area. Scale bars = 1 mm.

Type material

Juambeltzia clara Mello-Leitão, 1946. Holotype male: Uruguay, Florida, San Gabriel, A. Juambeltz col. (MHNM). Not examined.

Note

According to Yamamoto (unpublished data) the holotype male could not be located and is presumably lost. Thus, this author proposed a neotype designation in his PhD dissertation, but any proposal of nomenclatural changes and/or designation of types or type localities in a dissertation work are not valid, as a thesis does not count as a publication (ICZN 1999).

Additional material examined

Uruguay, Maldonado, Sierra de las Ánimas (34°42'0.35" S – 55°19'0.11" W), 14 September 1969, L.C. Zolessi col., 1♀ (MACN-Ar6382); Argentina, Entre Ríos, Paraná (31°43'59.87" S –

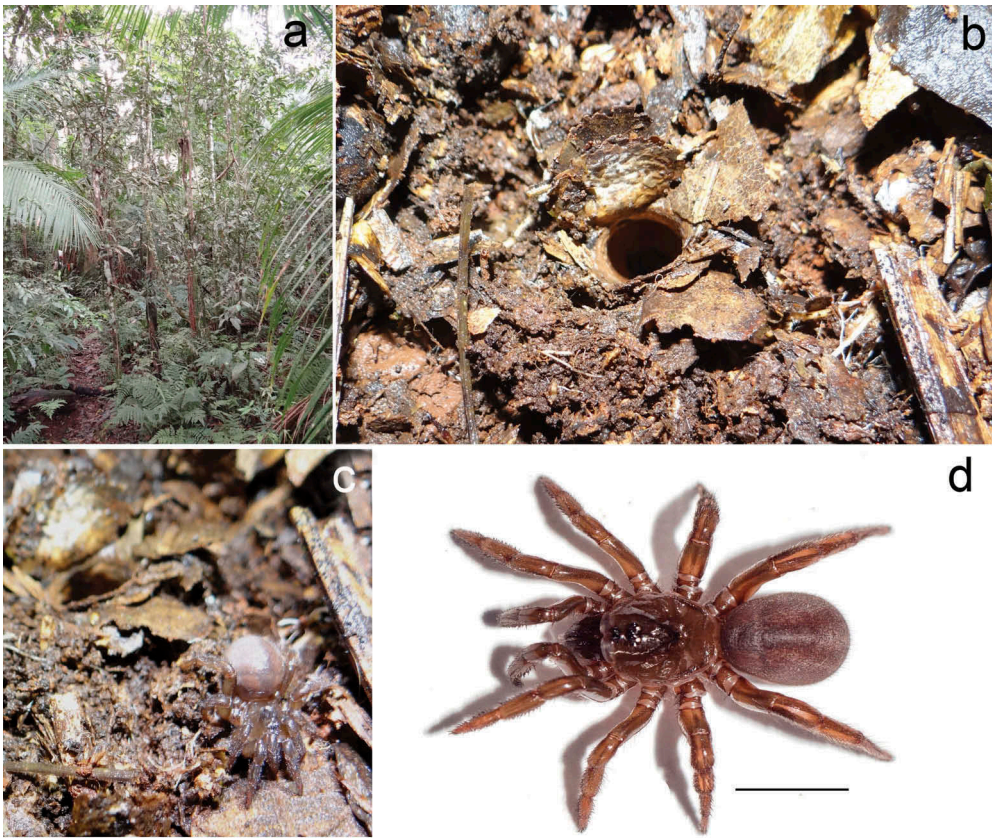


Figure 3. *Idiops clarus* (Mello-Leitão, 1946). (a) Habitat in Parana Forest at Misiones province, Argentina. (b–c) Trapdoor and burrow on its natural habitat. (d) Habitus, juvenile. Scale bar = 5 mm.

60°31'59.65" W), 8–10 February 1998, P. Goloboff col., 1♂, 1♀ and 1 juvenile (MACN-Ar7422); Argentina, Entre Ríos, Parque Nacional El Palmar (31°53'59.98" S – 58°15'0" W), February 1981, P. Goloboff col., 1♂ (MACN-Ar7423); Argentina, Misiones, Parque Nacional Iguazú (25°31'4.8" S – 54°7'59.87" W), November 1981, P. Goloboff col., 1♀ (MACN-Ar36712); Argentina, Misiones, Parque Nacional Iguazú (25°31'4.8" S – 54°7'59.87" W), December 1987, C. Scioscia col., 1♀ (MACN-Ar36713); Argentina, Misiones, Iguazú, Parque Nacional Iguazú (25°31'5" S – 54°8'2.2" W), 28 September 2014, N. Ferretti col., 1 juvenile (LZI442); Argentina, Santiago del Estero, Colonia Dora (28°33'59.76" S – 63°0'0" W), 7–8 February 1985, C. Szumik and P. Goloboff col., 3♀ (MACN-Ar36846).

Diagnosis

Males of *I. clarus* can be distinguished from all Argentinean congeners except *I. hirsutipedis* by having an elongated carapace, longer than wide (Figure 1(a)). Males can be separated from those of *I. hirsutipedis* by the straight metatarsus I and absence of an apical prolateral process. Additionally, they can be distinguished from all other species by the following combination of characters: apical branch of tibial apophysis with a large

and long apical spine, and basal branch smaller with a triangular stout apical spine (Figure 1(c)); retrolateral spines of palpal tibia mainly concentrated on the basal portion of the depression (Figure 1(b)); and tip of embolus of palpal bulb with ventral flange on apical expansion, and presence of a dorsal tooth (Figures 1(d–f)). Females differ by the spermathecae with long and thin ducts with a largely sclerotised basal area and rounded receptacles (Figure 2(c)).

Natural history

One juvenile of this species (Figure 3(d)) was collected in the Parana Forest in the northern Misiones province, Argentina. The habitat was an elevated area not too close to the Iguazú River, known as 'Palmital', which consists of a tall, dense multilayered canopy composed of palmetto trees (*Euterpes edulis* Mart.) in a dark, damp understory with scattered low trees, shrubs and ferns (Figure 3(a)) (Sruar et al. 2009). The burrow was found by searching among leaf litter, and comprised a narrow door and the burrow surrounded by small leaves (Figure 3(b–c)).

Distribution

It was previously known from Uruguay, and new records are reported here for Entre Ríos, Misiones and Santiago del Estero provinces in Argentina (Figure 13).

***Idiops hirsutipedis* Mello-Leitão, 1941**

(Figures 4–5, 13)

Idiops hirsutipedis Mello-Leitão, 1941: 100, pl. 2, fig. 1; Gerschman de Pikelín and Schiapelli, 1963: 109, figs 1–7; Grismado and Goloboff, 2014: 109, figs 10–11

Type material

Holotype juvenile female. Argentina, La Rioja, Castro Barros (28°50'27" S – 66°56'23" W) (MLP14600). Images examined.

Additional material examined

Argentina, La Rioja, Guayapa, Patquía (30°3'0" S – 66°52'59" W), 29 November 1962, L. Yivoff col., 1♂ (MACN-Ar5987); Argentina, Tucumán, Loro River (26°36'49.2" S – 65°11'23.2" W), 22 April 1987, P. Goloboff col., 3♀ (MACN-Ar36844); Argentina, Tucumán, Cruz Alta, Cañete, La Soledad (26°50'24" S – 65°9'43" W), 14 November 1965, E. Bucher col., 1♂ (MACN-Ar6385); Argentina, Tucumán, Cruz Alta, Cañete, La Soledad (26°50'24" S – 65°9'43" W), 21 August 1966, E. Bucher col., 1♀ (MACN-Ar6386); Argentina, Tucumán, Saladillo stream between routes 9 and 347, 25 May 1983, P. Goloboff col., 2♀ (MACN-Ar36845); Argentina, Santiago del Estero, Tintina (27°2'54.5" S – 62°42'27.99" W), November 1954, M. Birabén col., 1♀ (MACN-Ar7424).

Diagnosis

Males of *I. hirsutipedis* resemble *I. clarus* in the elongated carapace, but can be distinguished from the other Argentinean species by the curved metatarsus I with an apical prolateral process (Figure 4(d)); longer and thinner palpal tibia with three to four rows of

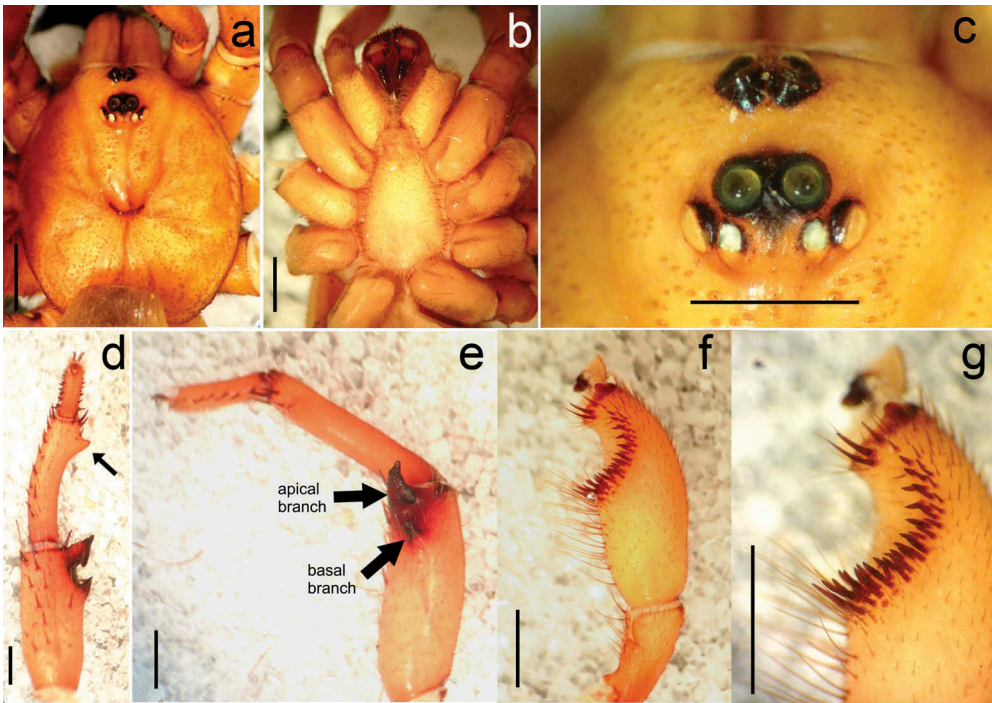


Figure 4. *Idiops hirsutipedis* Mello-Leitão, 1941. Male (MACN-Ar5987). (a) Carapace, dorsal view. (b) Labium and sternum, ventral view. (c) Eye group, dorsal view. (d) Leg I, ventral view (arrow indicates lateral projection on metatarsus). (e) Leg I, prolateral view. (f–g) Palpal tibia, retrolateral view. Scale bars = 1 mm.

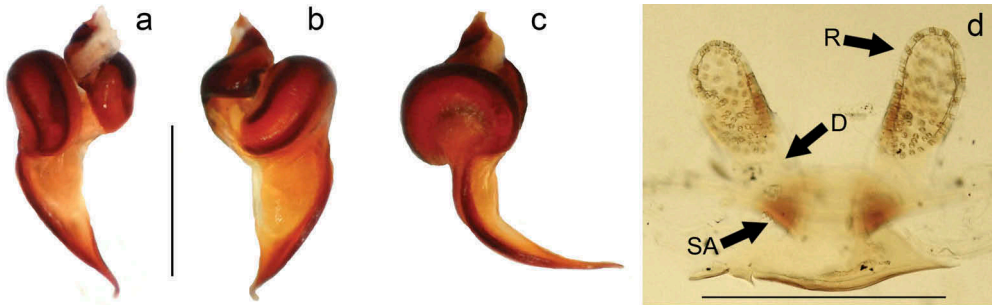


Figure 5. *Idiops hirsutipedis* Mello-Leitão, 1941. (a–c) Male (MACN-Ar5987), left palpal bulb. (a) Prolateral. (b) Retrolateral. (c) Dorsal. (d) Female juvenile holotype (MLP14600), spermathecae, dorsal view. D = duct; R = receptacle; SA = sclerotised basal area. Scale bars: a–c = 1 mm; D = 0.5 mm. Photo provided by Luis Pereira (MLP).

strong retrolateral spines of similar sizes along the entire border of depression (Figure 4 (f–g)); apical branch of tibial apophysis with a triangular and stout spine (Figure 4(d–e)) and tip of embolus of palpal bulb without apical expansion (Figure 5(a–c)). Females can be recognised by their elongated spermathecae with digitiform receptacles and very short ducts (Figure 5(d)).

Description

Female holotype (MLP 14600) fully described by Mello-Leitão (1941) and spermathecae presented by Gerschman de Pikelin and Schiapelli (1963).

Male (MACN-Ar5987). Colouration (in alcohol): carapace, chelicerae and legs uniformly light brown (Figure 4(a)), abdomen pale brown with a dorsal apical dark spot. Total length 11.54; carapace 5.52 long, 5.42 wide. Carapace oval with granules throughout (Figure 4(a)); fovea deep, procurved, 0.95 wide. Ocular group 1.33 long, 1.20 wide. ALE situated far in advance of the rest (Figure 4(c)). Posterior row slightly procurved. Distance between AME and ALE 0.23. Eye sizes and interdistances: AME 0.27, PME 0.17, ALE 0.30, PLE 0.33, AME–AME 0.15, PLE–PME 0.07, PME–PME 0.39. Labium 0.74 long, 0.88 wide, with 2 cuspules, labiosternal groove shallow. Maxillae with 4/3 (right/left) cuspules. Chelicerae with 6 promarginal teeth and 5 retromarginal teeth, rastellum conspicuous on a distinct process. Sternum elongated; 3.28 long, 2.29 wide with black bristles on margins (Figure 4(b)). Leg formula 4-1-2-3, morphometry (femur, patella, tibia, metatarsus, tarsus, total): I: 6.07, 3.26, 3.96, 4.22, 1.7, 19.21. II: 5.2, 2.61, 3.3, 3.54, 1.53, 16.18. III: 3.89, 2.46, 2.74, 3.68, 1.87, 14.64. IV: 5.29, 3.1, 4.5, 4.38, 2.11, 19.38. Palp: 3.92, 1.93, 3.46, –, 0.97, 10.28. Spines: Palp: femur 1–1–1–1–1d, patella 0, tibia 52r, tarsus 0. I: femur 1–1d, patella 1–2v, 1–1r, 1p, tibia 2–2–1–2–1–3v, 1p, 1–2r, metatarsus 5p, 5–4–6r, tarsus 4–6–7r, 2–3–3p. II: femur 1–1–1–1–1d, patella 2p, 1–1–2v, 2r, tibia 2–1–3–3–1p, 1–2–1–1–1–1r, 3–2–3–3–2–2v, metatarsus 4–1–8p, 1–2–2v, 1–1–2–1–1–3r, tarsus 5–3–7r, 2–2–3p. III: femur 1–2–2d, patella 4–5–10p, 2r, 2v, tibia 4–2–7p, 2–2–2v, 1–3–7r, metatarsus 1–2–2–2–4p, 1–1–2–2v, 1–2–2–4r, tarsus 2–5–6r, 1–3–3p. IV: femur 1–1d, patella 2v, 18p, tibia 1–2–1–3v, metatarsus 1–1–2v, 1–1–1–3p, 0–0–2r, tarsus 1–1–1r, 3–2–7p. Scopulae: tarsus I with complete scopulae divided by three rows of conical setae, tarsus II, III and IV with complete and entire scopulae. Tibia of leg I with double tibial apophysis with apical branch bigger than basal branch (Figure 4(d–e)), the apical branch with a triangular stout and large apical spine and the basal branch with a smaller apical spine. Metatarsus I strongly curved with a well-developed, triangular prolateral process (Figure 4(d)). Palpal tibia with retrolateral concavity, crescent-shaped band of about 52 spines along the entire retrolateral side of concavity (Figure 4(f–g)). Palp with a very long embolus broad at base gradually tapering at distal end (Figure 5(a–c)).

Distribution

It was previously known from La Rioja, and new records are reported here for Tucumán and Santiago del Estero provinces, Argentina (Figure 13).

Idiops minguito Ferretti sp. nov. (Figures 6–8, 13)

Type material

Holotype male. Argentina, Salta, La Quena (23°19'52.84" S – 63°50'40.75" W), 4–5 February 1985, C. Szumik and P. Goloboff col. (MACN-Ar36714). Paratype female: Argentina, Salta, La Quena (23°19'52.84" S – 63°50'40.75" W), 14–15 May 1983, P. Goloboff col. (MACN-Ar36715).

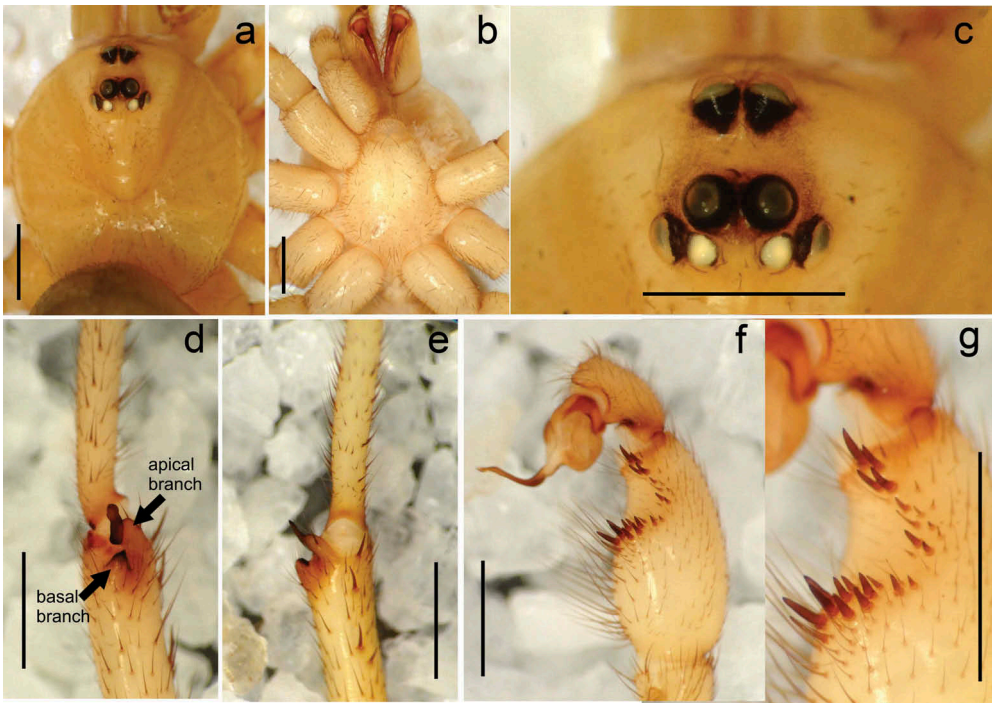


Figure 6. *Idiops minguito* sp. nov., holotype male (MACN-Ar36714). (a) Carapace, dorsal view. (b) Labium and sternum, ventral view. (c) Eye group, dorsal view. (d) Leg I, prolateral view. (e) Leg I, ventral view. (f–g) Palpal tibia, retrolateral view. Scale bars = 1 mm.

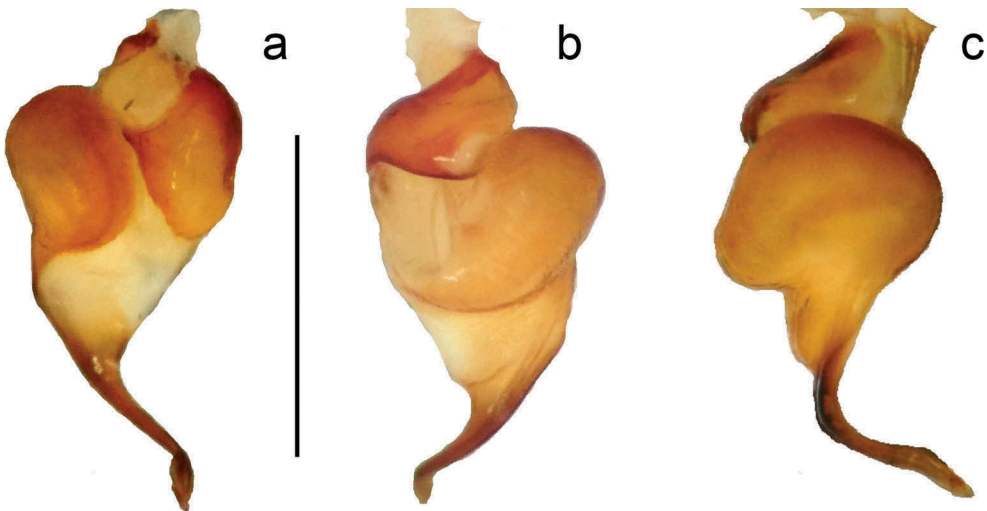


Figure 7. *Idiops minguito* sp. nov., holotype male (MACN-Ar36714), left palpal bulb. (a) Prolateral. (b) Retrolateral. (c) Dorsal. Scale bar = 1 mm.

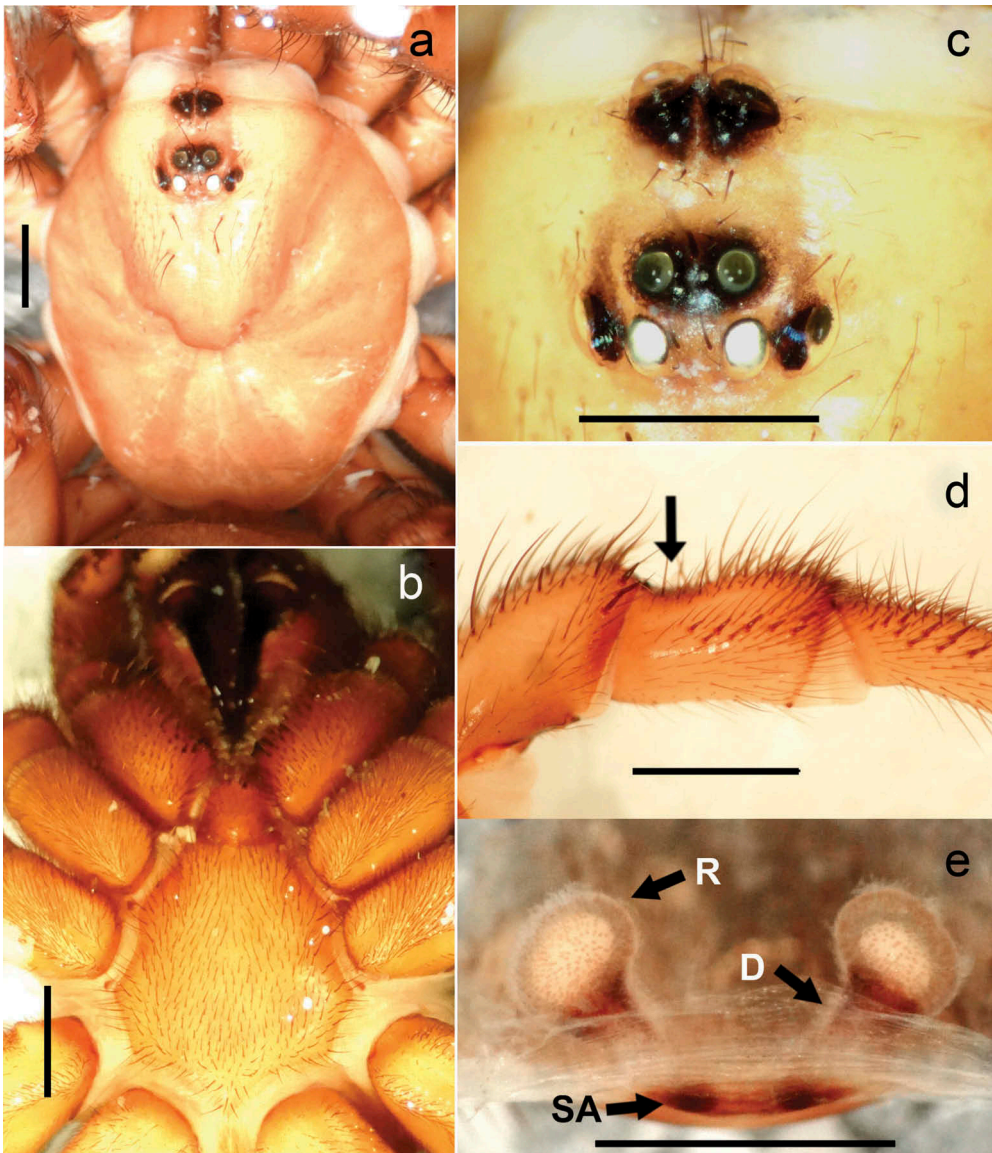


Figure 8. *Idiops minguito* sp. nov., paratype female (MACN-Ar36715). (a) Carapace, dorsal view. (b) Labium and sternum, ventral view. (c) Eye group, dorsal view. (d) Tibia III, prolateral view (arrow shows the dorsal proximal depression). (e) Spermathecae, dorsal view. D = duct; R = receptacle; SA = sclerotised basal area. Scale bars = 1 mm.

Additional material examined

Argentina, Salta, La Quena (23°19'52.84" S – 63°50'40.75" W), May 1983, P. Goloboff col., 1 ♀ (MACN-Ar36716); Argentina, Salta, La Quena (23°19'52.84" S – 63°50'40.75" W), 14–15 May 1983, P. Goloboff col., 6 ♀ (MACN-Ar36717); Argentina, Salta, Campamento Vespucio (22°36'0" S – 63°49'0" W), 9–13 May 1983, P. Goloboff col., 4 ♀ and 1 juvenile (MACN-Ar36718); Argentina, Salta, La Quena (23°19'52.84" S – 63°50'40.75" W), 4–5 February 1985, C. Szumik and P. Goloboff col., 1 ♂ (MACN-Ar36719); Argentina, Salta, Hickman (23°

12°0" S – 63°34'0" W), 20 March 1988, P. Goloboff, F. Coyle and Bennet col., 1♀ and 1 juvenile (MACN-Ar); Argentina, Jujuy, Parque Nacional Calilegua (23°38'20" S – 64°50'17" W), 1 February 1985, C. Szumik and P. Goloboff col., 2♀ and 1 juvenile (MACN-Ar36720); Argentina, Jujuy, Señora del Socavón, El Bananal (24°10'59" S – 65°17'0" W), May 1983, P. Goloboff col., 1 juvenile (MACN-Ar36847).

Etymology

The species is a name in apposition of 'Minguito Tinguitella', a famous character created by the writer Juan Carlos Chiappe and played by the Argentine actor Juan Carlos Altavista (1929–1989), between the 1960s and the 1980s. 'Minguito' represents the traditional Argentine man, more particularly with the customs of Buenos Aires.

Diagnosis

The male of *I. minguito* sp. nov differs from that of other Argentinean species by retrolateral spines of palpal tibia mainly concentrated on the basal and apical portion of the depression (Figure 6f–g)), basal branch of tibial apophysis with a short and very small spine (Figure 6d–e)). Palpal bulb resembles that of *I. clarus* in the presence of a dorsal tooth at tip of embolus, but differs by the shorter embolus and apical expansion of the tip of embolus less developed (Figure 7a–c)). Females can be distinguished by the tibia of leg III bearing a dorsal proximal depression (Figure 8d)) and spermathecae with a sclerotised basal area larger than in *I. clarus* (Figure 8e)).

Description

Male holotype (MACN-Ar36714). Colouration (in alcohol): carapace, chelicerae and legs uniformly light brown (Figure 6a)), abdomen grayish with a dorsal apical dark spot. Total length 8.64; carapace 4.09 long, 3.38 wide. Carapace rounded with granules throughout (Figure 6a)); fovea deep, procurved, 0.52 wide. Ocular group 1.02 long, 0.96 wide. ALE situated far in advance of the rest (Figure 6c)). Posterior row slightly procurved. Distance between AME and ALE 0.26. Eye sizes and interdistances: AME 0.28, PME 0.19, ALE 0.29, PLE 0.28, AME–AME 0.10, PLE–PME 0.06, PME–PME 0.24. Labium 0.48 long, 0.85 wide, without cuspules, labiosternal groove shallow. Maxillae without cuspules. Chelicerae with 5 promarginal teeth and 6 retromarginal teeth, rastellum conspicuous on a distinct process. Sternum elongated; 1.98 long, 2.01 wide with thin setae on margins (Figure 6b)). Leg formula 4-1-2-3, morphometry (femur, patella, tibia, metatarsus, tarsus, total): I: 4, 1.74, 3.21, 2.93, 2.18, 14.06. II: 3.37, 1.68, 2.4, 2.96, 1.77, 12.58. III: 2.31, 1.31, 1.74, 2.94, 2.12, 10.42. IV: 4.01, 1.51, 3.7, 3.95, 2.53, 15.7. Palp: 2.17, 1.03, 2.19, –, 0.93, 6.32. Spines: Palp: femur 1-1-1d, patella 0, tibia 23r, tarsus 0. I: femur 1-1-1d, patella 1v, tibia 1-1-1-1v, 1-1r, metatarsus 1-2-1-2r, 1-1-1-1p, tarsus 1-1r, 1p. II: femur 1-1-1-1d, patella 0, tibia 1-1-2v, metatarsus 1-1-1-1r, 1p, tarsus 1r, 1p. III: femur 1-1-1-1d, patella 1-1-1-1-4p, 1r, tibia 2-2v, 1-1-1-1p, 1-1r, metatarsus 1-2r, 1-2p, tarsus 1-1r. IV: femur 0, patella 3-1-2-1-3-1p, 2v, tibia 1-1-2v, metatarsus 1-2r, 1-1-1-2p, 1-1-1-1-2v, tarsus 1-1-1p, 1-1r. Scopulae: complete and entire on legs I–IV. Tibia of leg I with double tibial apophysis with apical branch slightly bigger than basal with a long spine, and the basal branch with an apical short and very small spine (Figure 6d–e)). Metatarsus I straight. Palpal tibia swollen at base with retrolateral concavity, crescent-shaped band of about 23 spines along the entire retrolateral side of concavity (Figure 6f–g)). Palpal bulb with embolus broad at base abruptly tapering at distal end with apical expansion (Figure 7a–c)).

Female paratype (MACN-Ar36715). Colouration (in alcohol): carapace, chelicerae and legs uniformly light brown (Figure 8(a)), abdomen grayish with a dorsal apical dark spot. Total length 16.32; carapace 4.61 long, 5.02 wide. Carapace oval (Figure 8(a)); fovea deep, strongly procurved, 1.15 wide. Ocular group 1.45 long, 1.23 wide. ALE situated far in advance of the rest (Figure 8(c)). Posterior row slightly procurved. Distance between AME and ALE 0.29. Eye sizes and interdistances: AME 0.18, PME 0.22, ALE 0.36, PLE 0.25, AME–AME 0.20, PLE–PME 0.14, PME–PME 0.26. Labium 0.73 long, 0.97 wide, with 3 cuspules, labiosternal groove shallow. Maxillae with 47/43 (right/left) cuspules. Chelicerae with 6 promarginal teeth and 4 retromarginal teeth, rastellum conspicuous on a distinct process. Sternum elongated; 3.21 long, 3.09 wide with thin setae on entire surface (Figure 8(b)). Leg formula 4-1-3-2, morphometry (femur, patella, tibia, metatarsus, tarsus, total): I: 3.72, 2.48, 2.4, 1.94, 0.9, 11.44. II: 3.24, 1.95, 2.05, 1.44, 1.01, 9.69. III: 2.47, 2.22, 1.35, 1.92, 1.89, 9.85. IV: 3.72, 2.37, 2.98, 2.82, 1.94, 13.83. Palp: 2.94, 1.99, 2.16, –, 2.4, 9.49. Spines: Palp: femur 1p, patella 1p, tibia 8-7-9p, 7-8-6r, tarsus 12-11-8r, 8-11-6p. I: femur 0, patella 0, tibia 5-10-9r, 5-6-8p, metatarsus 9-7-5r, 10-7-6p, tarsus 5-4-4r, 3-5-2p. II: femur 0, patella 1p, tibia 5-4-5p, 2-5-3r, 1-1v, metatarsus 6-4-1r, 7-3-4p, tarsus 4-3-1r, 3-3-2p. III: femur 0, patella 3d, 6-6-9p, tibia 1-5-4p, 3-2-3r, metatarsus 2d, 6-5-4r, 7-5-5p, 0-0-3v, tarsus 2-2-3v, 0-6-5p, 1-1-1-1r. IV: femur 0, patella 11-10-0p, tibia 1-1-2v, metatarsus 1d, 1-3-3v, tarsus 2-8-5v, 1-2r, 1-2-1p. Scopulae: absent on legs I–IV. Tibia of leg III with dorsal proximal depression (Figure 8(d)). Spermathecae with oval and large apical receptacles wider than ducts, which are straight and have the basal portion translucent and the middle portion well sclerotised, basal area largely sclerotised (Figure 8(e)).

Distribution

Known from Salta and Jujuy provinces, northern Argentina (Figure 13).

Idiops piluso Ferretti, Nime and Mattoni sp. nov. (Figures 9–11, 13)

Type material

Holotype male. Argentina, Córdoba, Pocho, Parque Natural Provincial y Reserva Forestal Natural Chancaní, (31°21'0.35" S – 65°29'20.89" W), 12–19 January 2010, pitfall trap, M. Nime and M. G. Farías col. (LBRE-Ar). Paratype female: Argentina, Córdoba, Bosque Alegre, Santa Rosa small farm, 9 October 1981, P. Goloboff col. (MACN-Ar36721).

Additional material examined

Argentina, Córdoba, Pocho, Parque Natural Provincial y Reserva Forestal Natural Chancaní (31°21'11.45" S – 65°29'2.47" W), 13–20 January 2010, pitfall trap, M. Nime and M. G. Farías col., 1 ♂ (LZI438); Argentina, Córdoba, Bosque Alegre (31°35'32.6" S – 64°31'38.2" W), 27 September – 1 October 1981, P. Goloboff col., 2 ♀, 1 juvenile (MACN-Ar7425); Argentina, Córdoba, Chancaní (31°21'11.45" S – 65°29'2.47" W), 16 April 1987, P. Goloboff col., 1 juvenile (MACN-Ar36722).

Diagnosis

Males of *I. piluso* sp. nov. resemble those of *I. hirsutipedis* in the presence of labial and maxillary cuspules (Figure 9(b)) and fovea almost straight (Figure 9(a)), but can be easily separated by

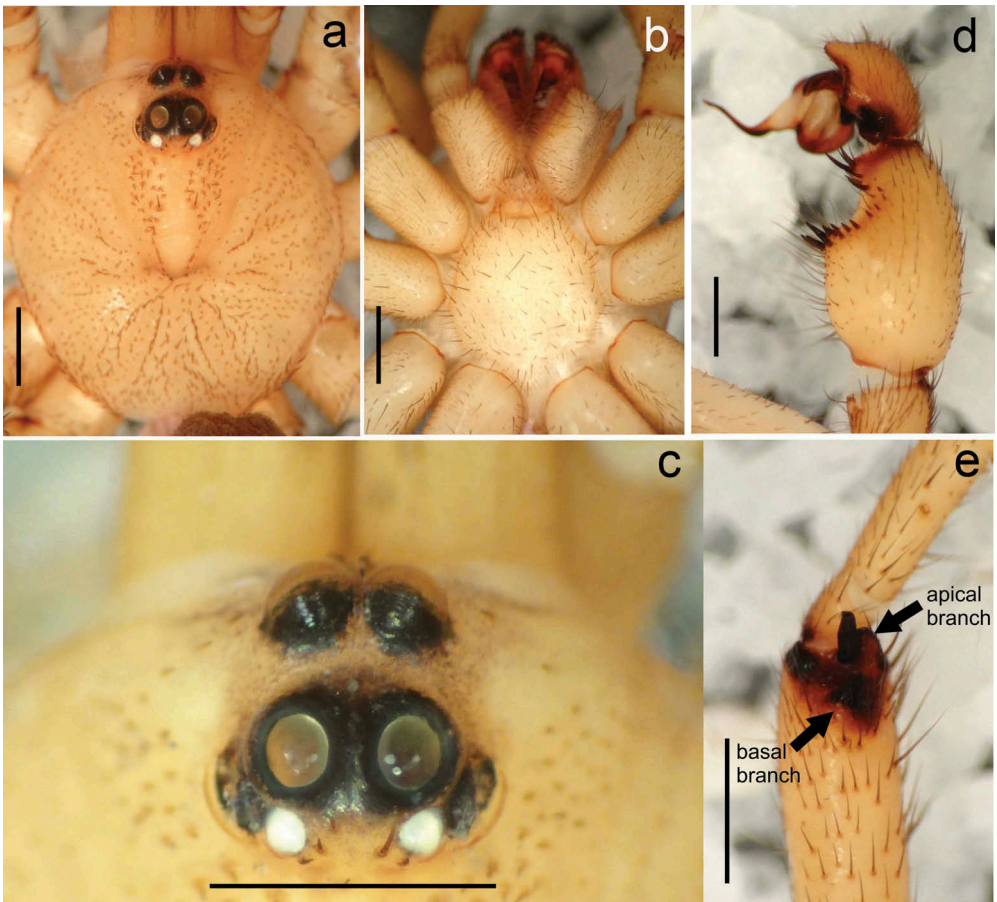


Figure 9. *Idiops piluso* sp. nov., holotype male (LBRE-Ar). (a) Carapace, dorsal view. (b) Labium and sternum, ventral view. (c) Eye group, dorsal view. (d) Palpal tibia, retrolateral view. (e) Leg I, prolateral view. Scale bars = 1 mm.

the straight metatarsus I and absence of an apical prolateral process. They can be distinguished from all other Argentinean species by the palpal tibia more incrassate and shorter, being wider than half of its length (less than or almost as wide as half its length in other species), retrolateral spines concentrated on the basal and apical portion of the depression, where apical spines are very long (Figure 9(d)). Also, it can be distinguished from *I. clarus* and *I. minguito* sp. nov. by the shorter spine on apical branch of tibial apophysis and by the larger spine on the basal branch (Figure 9(e)), palpal bulb with slightly developed apical expansion and tip of the embolus without dorsal tooth (Figure 10(a–c)). The female differs from that of the other species by the spermathecae with oval receptacles almost equal the width of the ducts, which are straight and shorter, and a slightly sclerotised basal area (Figure 11(d)).

Etymology

The species is a name in apposition of ‘Capitán Piluso’, a famous TV character interpreted by the Argentine actor Alberto Olmedo (1933–1988) during the 1960s. The character was a comic man dressed as a sailor and was an idol for children.

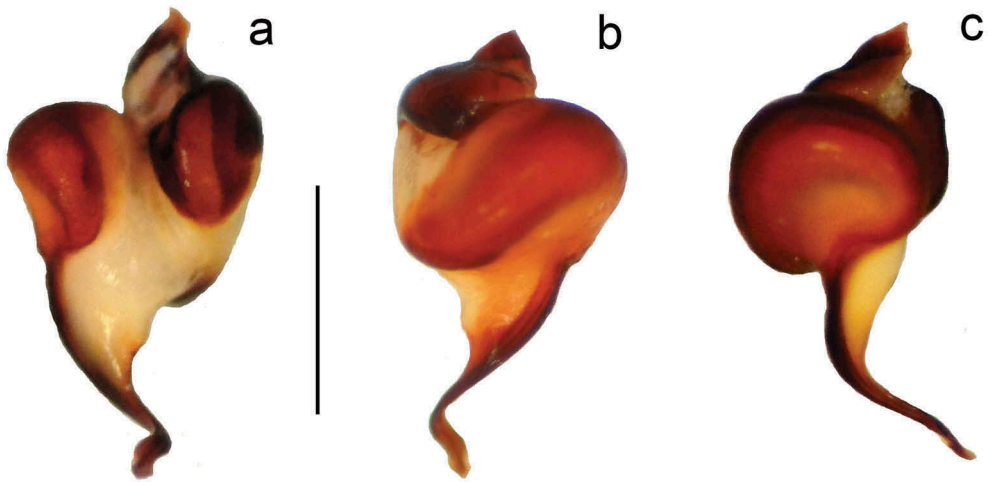


Figure 10. *Idiops piluso* sp. nov., holotype male (LBRE-Ar), left palpal bulb. (a) Prolateral. (b) Retrolateral. (c) Dorsal. Scale bar = 1 mm.

Description

Male holotype (MACN-Ar36720). Colouration (in alcohol): carapace, chelicerae and legs uniformly light brown (Figure 9(a)), abdomen uniformly grayish without dorsal spots. Total length 7.80; carapace 3.81 long, 3.19 wide. Carapace oval with granules throughout (Figure 9(a)); fovea deep, slightly procurved, 0.75 wide. Ocular group 0.95 long, 1.01 wide. ALE situated far in advance of the rest (Figure 9(c)). Posterior row slightly procurved. Distance between AME and ALE 0.12. Eye sizes and interdistances: AME 0.19, PME 0.14, ALE 0.27, PLE 0.30, AME–AME 0.16, PLE–PME 0.11, PME–PME 0.28. Labium 0.41 long, 0.71 wide, with 2 cuspules (although holes indicate 5 cuspules), labiosternal groove shallow. Maxillae with 8/9 (right/left) cuspules. Chelicerae with 6 promarginal teeth and 8 retro-marginal teeth, rastellum conspicuous on a distinct process. Sternum elongated; 2.23 long, 1.97 wide with thin long setae on entire surface (Figure 9(b)). Leg formula 4-1-2-3, morphometry (femur, patella, tibia, metatarsus, tarsus, total): I: 4.05, 1.06, 2.98, 3.04, 1.85, 12.98. II: 4, 1.32, 2.37, 2.73, 1.57, 11.99. III: 3.06, 1.51, 1.88, 2.63, 1.81, 10.89. IV: 4.6, 1.73, 3.55, 3.84, 1.87, 15.59. Palp: 1.1, 0.72, 2.19, –, 0.82, 4.83. Spines: Palp: femur 0, patella 0, tibia 23r, tarsus 0. I: femur 1-1-1-1d, patella 1v, tibia 1-1v, metatarsus 1-1r, 1-1-1-1p, tarsus 1-1-1-3r, 1-1-1-1p. II: femur 1-1-1-1d, patella 0, tibia 1-1-2v, metatarsus 1-1-1-1r, 2v, 2p, tarsus 1-1-1-1r, 1-1-1-1p. III: femur 1-2-1d, patella 1d, 2r, 1-1-1-1-1-2-2-3p, tibia 1-1d, 2-2v, 1-1-1-1-1p, 1-1-1r, metatarsus 2-2-3v, 1-1-2r, 1-1-1p, 1-2-2d, tarsus 1-1-1-1-1p, 2-1-1r. IV: femur 1-1-1-1d, patella 9-1-0p, tibia 1-1-2v, 1-1-1d, metatarsus 1r, 2p, 1-1-1-2v, tarsus 1-1-1p, 1-1-1r. Scopulae: legs I 1/2 scopulated divided by conical thick setae, legs II–IV with scopulae complete and entire. Tibia of leg I with double tibial apophysis; superior branch bigger than inferior with a long spine, the inferior branch has an apical big stout spine (Figure 9(e)). Metatarsus I straight. Palpal tibia very incrassate (wider than half of its length) with retrolateral concavity, crescent-shaped band of about 23 spines along the entire retrolateral side of concavity (larger spines are

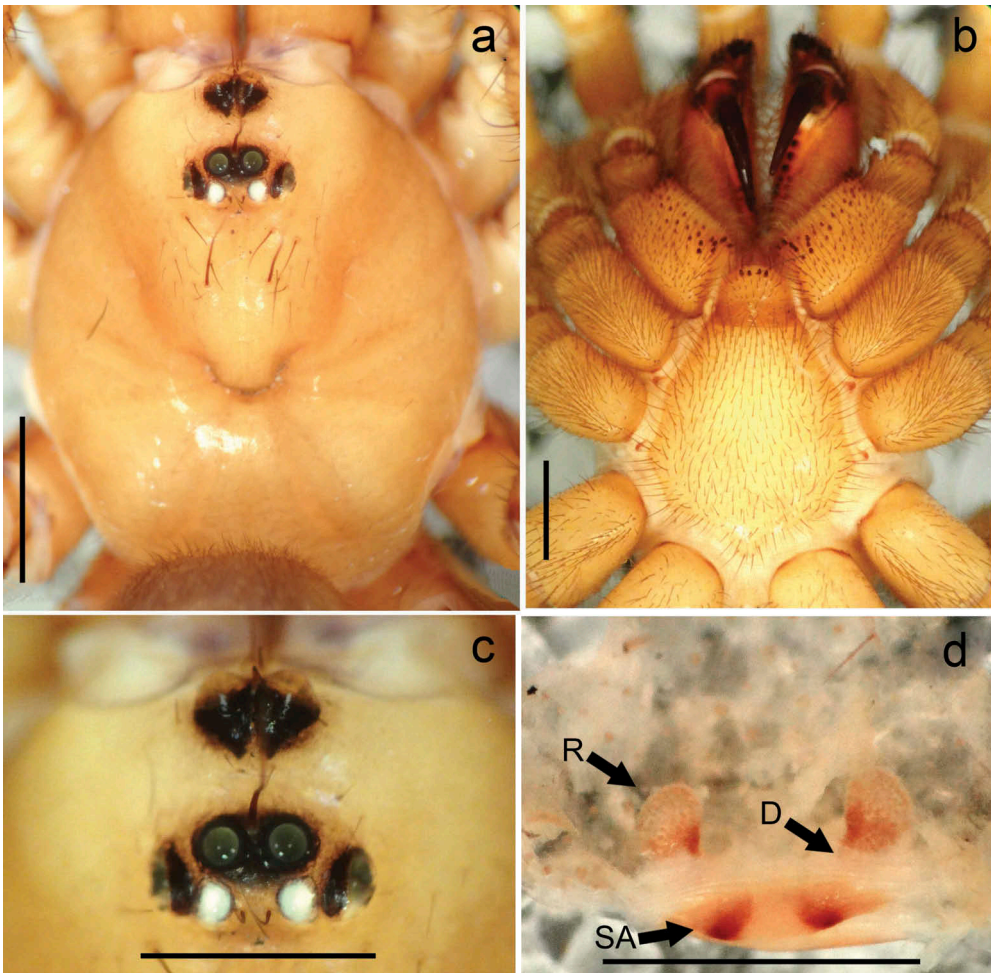


Figure 11. *Idiops piluso* sp. nov., paratype female (MACN-Ar36721). (a) Carapace, dorsal. (b) Labium and sternum, ventral view. (c) Eye group, dorsal view. (d) Spermathecae, dorsal view. D = duct; R = receptacle; SA = sclerotised basal area. Scale bars = 1 mm.

located apical and basal of concavity) (Figure 9(d)). Palp with a very long embolus broad at base abruptly tapering at distal end with small apical expansion (Figure 10(a–c)).

Female Paratype (MACN-Ar36721). Colouration (in alcohol): carapace, chelicerae and legs uniformly light brown (Figure 11(a)), abdomen grayish. Total length 9.72; carapace 3.80 long, 4.16 wide. Carapace oval; fovea deep, strongly procurved, 1.11 wide. Ocular group 1.19 long, 0.96 wide. ALE situated far in advance of the rest (Figure 11(c)). Posterior row slightly procurved. Distance between AME and ALE 0.20. Eye sizes and interdistances: AME 0.17, PME 0.16, ALE 0.26, PLE 0.31, AME–AME 0.13, PLE–PME 0.12, PME–PME 0.21. Labium 0.65 long, 0.90 wide, with 2 cuspules, labiosternal groove shallow. Maxillae with 25/27 (right/left) cuspules. Chelicerae with 7 promarginal teeth and 9 retromarginal teeth, rastellum conspicuous on a distinct process. Sternum elongated; 2.64 long, 2.55 wide with thin setae on entire surface (Figure 11(b)). Leg formula 4-1-2-3, morphometry (femur, patella, tibia,

metatarsus, tarsus, total): I: 2.2, 1.42, 1.47, 1.45, 0.8, 7.34. II: 2.24, 1.4, 1.22, 1.17, 0.85, 6.88. III: 1.82, 1.33, 1.07, 1.26, 1.12, 6.6. IV: 3.22, 1.6, 2.24, 2, 1.51, 10.57. Palp: 2.21, 1.14, 1.58, –, 1.84, 6.77. Spines: Palp: femur 2p, patella 1v, tibia 3-5-9p, 2-6-9r, tarsus 7-7-5r, 10-8-8p. I: femur 0, patella 0, tibia 4-3-9r, 1-4-5p, metatarsus 8-7-4r, 6-7-6p, tarsus 3-3-4r, 2-4-3p. II: femur 0, patella 0, tibia 0-2-4p, 1-1v, metatarsus 1-4-2r, 4-8-8p, tarsus 1-3-1r, 3-2-4p. III: femur 0, patella 2d, 3-4-7p, tibia 2-2-5p, 1-1-1-1r, metatarsus 3-2-1-1r, 4-2-3p, 1-2-2v, tarsus 0-3-3v, 1-1p. IV: femur 1d, patella 20-4-0p, tibia 1-1-1v, metatarsus 1-1r, 1p, 1-1-1-2v, tarsus 3-2-1-2v, 1r, 1-3-2-2p. Scopulae: absent on legs I-IV. Tibia of leg III normal. Spermathecae with globular apical receptacles and straight and short ducts (Figure 11(d)).

Natural history

This species was collected in the Chancaní Reserve, which is located in the southernmost portion of the Arid Chaco ecoregion (NT0701 in Olson et al. 2001) in Córdoba province, Argentina. Vegetation in the reserve comprises dry xerophyllous woodland. The canopy is discontinuous and ~15 m high, dominated by the trees *Aspidosperma quebracho-blanco* and *Prosopis flexuosa*. The shrub stratum (~4 m high) is thorny, dense, and almost continuous, dominated by *Larrea divaricata*, *Mymozyanthus carinatus*, and *Acacia furcatis-pina* (Carranza et al. 1992).

Distribution

Known from central Córdoba province, Argentina (Figure 13).

Idiops tolengo Ferretti sp. nov. (Figures 12–13)

Type material

Holotype female. Argentina, Santiago del Estero, Dique Los Quiroga (27°39'11.29" S – 64° 21'40.89" W), 6 January 1985, C. Szumik and P. Goloboff col. (MACN-Ar36723).

Diagnosis

Females can be distinguished from those of the other Argentinean species of *Idiops* by the ~14 cuspules on labium and approximately 90 cuspules in maxillae (Figure 12(b)), absence of proteral and retrolateral spines on tarsi III and IV, and by spermathecae shaped like a golf club with apical receptacles directed inwards and approximately 2 times wider than ducts, which have a slightly median curvature and basal area highly sclerotised (Figure 12(d)).

Etymology

The species is a name in apposition of 'Johnny Tolengo', a famous TV character created and interpreted by the Argentine actor Juan Carlos Calabró (1934–2013). Johnny Tolengo was a Buenos Aires socialite created in the TV show 'Calabromas' during the 1980s, representing a famous singer, and some of his songs were adopted by soccer fans.

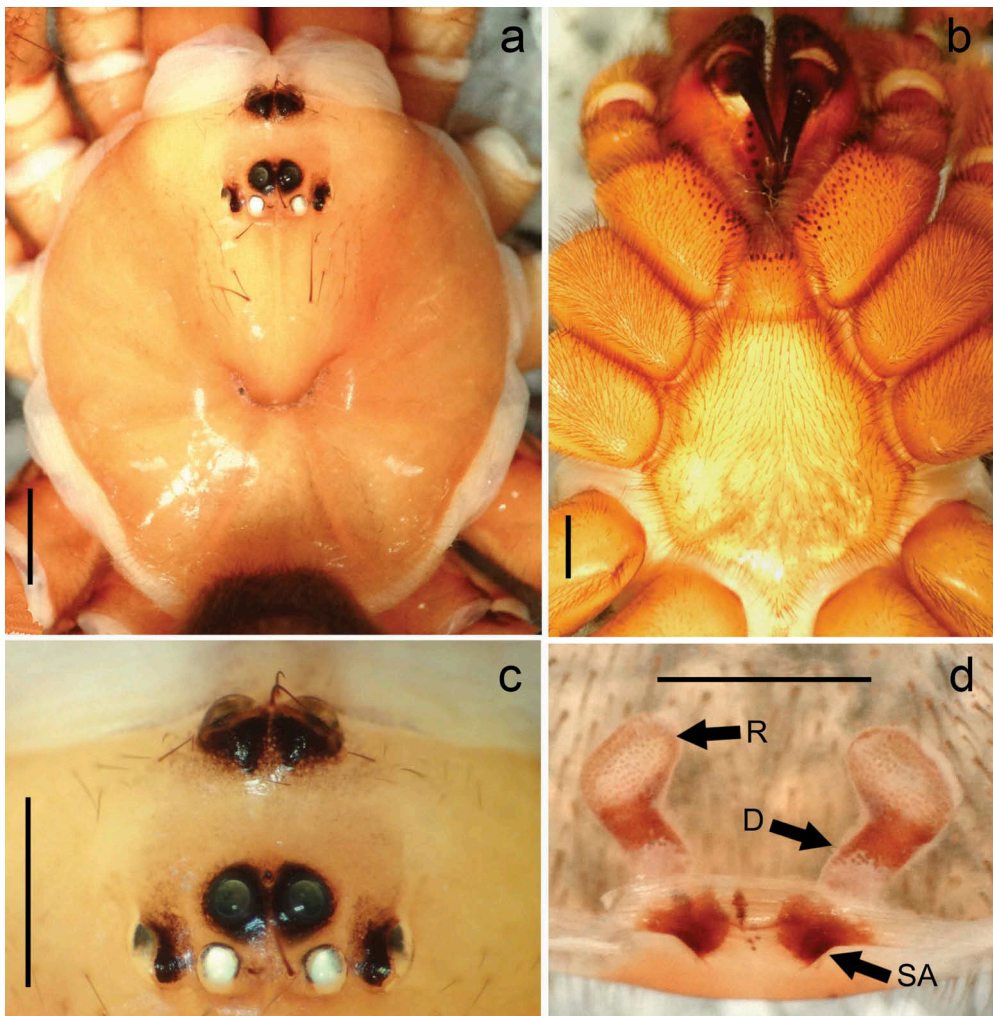


Figure 12. *Idiops tolengo* sp. nov., holotype female (MACN-Ar36723). (a) Carapace, dorsal view. (b) Labium and sternum, ventral view. (c) Eye group, dorsal view. (d) Spermathecae, dorsal view. D = duct; R = receptacle; SA = sclerotised basal area. Scale bars = 1 mm.

Description

Female holotype (MACN-Ar36723). Colouration (in alcohol): carapace, chelicerae and legs uniformly light brown (Figure 12(a)), abdomen grayish. Total length 15.70; carapace 6.75 long, 6.50 wide. Carapace oval; fovea deep, strongly procurved, 1.62 wide. Ocular group 1.58 long, 1.50 wide. ALE situated far in advance of the rest (Figure 12(c)). Posterior row slightly procurved. Distance between AME and ALE 0.46. Eye sizes and interdistances: AME 0.2, PME 0.24, ALE 0.39, PLE 0.36, AME–AME 0.19, PLE–PME 0.12, PME–PME 0.35. Labium 0.89 long, 1.04 wide, with 14 cuspules, labiosternal groove shallow. Maxillae with 86/91 (right/left) cuspules located on anterior half of article. Chelicerae with 6 promarginal teeth and 7 retromarginal teeth, rastellum conspicuous on a distinct process. Sternum elongated; 4.74 long, 3.93 wide with thin setae on entire surface (Figure 12(b)). Leg formula 4-1-2-3, morphometry (femur, patella, tibia, metatarsus, tarsus, total): l: 4.4, 2.51, 3.06, 1.94, 1.11,

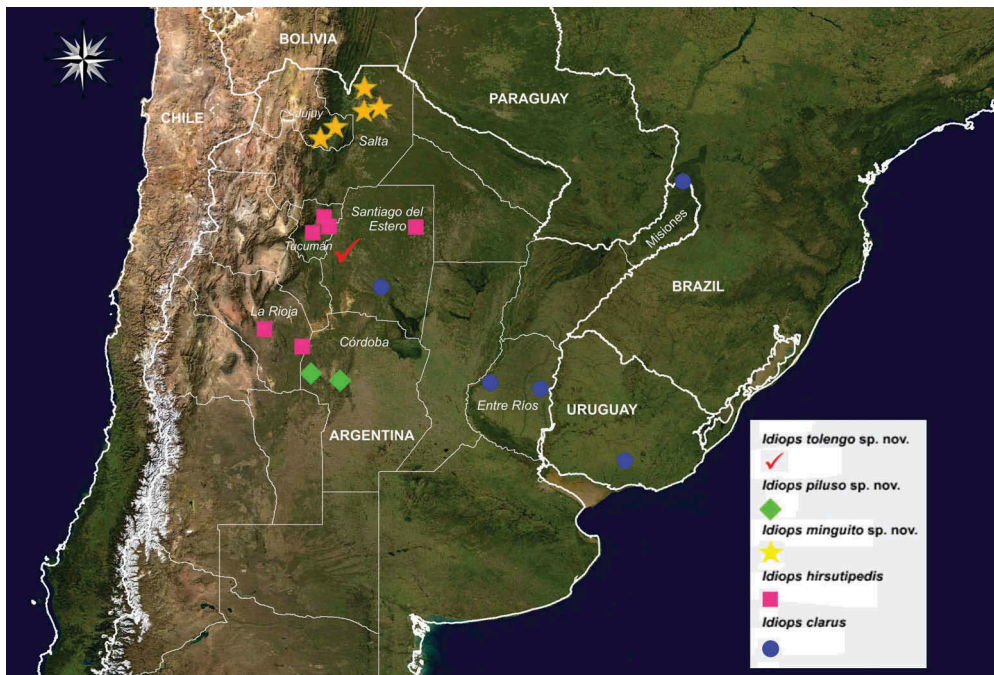


Figure 13. Map showing the distribution of the *Idiops* species treated in this work.

13.02. II: 3.8, 2.38, 2.6, 2.09, 1.18, 12.05. III: 2.96, 2.79, 1.83, 2.29, 1.85, 11.72. IV: 4.04, 3.38, 3.66, 3.21, 2.37, 16.66. Palp: 3.69, 2.31, 2.78, –, 2.79, 11.57. Spines: Palp: femur 2p, patella 1p, tibia 4-6-12p, 3-5-10r, tarsus 13-11-10r, 14-12-13p. I: femur 0, patella 0, tibia 3-7-9r, 4-4-8p, metatarsus 8-9-7r, 10-14-8p, tarsus 5-3-3r, 4-5-3p. II: femur 0, patella 0, tibia 2-4-5p, 1-1v, metatarsus 1-1v, 5-3-2r, 10-9-7p, tarsus 3-1-2r, 5-2-4p. III: femur 0, patella 4d, 7-5-17p, tibia 1v, 3-7-8p, 0-2-4r, metatarsus 1-1-1d, 6-3-1r, 9-4-4p, 1-1-3v, tarsus 7-8-4v. IV: femur 0, patella 46-24-0p, tibia 1-1v, metatarsus 1p, 1-1-1-3v, 1d, tarsus 3-9-10v. Scopulae: absent on legs I-IV. Tibia of leg III normal. Spermathecae as in [Figure 12\(d\)](#).

Male. Unknown.

Distribution

Known only from the type locality ([Figure 13](#)).

Identification key for Argentinean Idiops

Males

(Male of *I. tolengo* sp. nov is unknown)

1. Metatarsus I with an apical prolateral process ([Figure 4\(d\)](#)) and palpal tibia long ([Figure 4\(f\)](#))..... ***I. hirsutipedis* Mello-Leitão, 1941**

- Metatarsus I without such apical prolateral process and palpal tibia short and wider basally..... **2**
- 2. Presence of cuspules on labium and maxillae (Figure 9(b)), palpal tibia wider than half of its length (Figure 9(d)), embolus of palpal bulb without dorsal tooth (Figure 10(c))..... ***I. piluso sp. nov.***
- Labium and maxillae without cuspules, palpal tibia almost as wide as half its length, embolus of palpal bulb with dorsal tooth at tip **3**
- 3. Palpal bulb with long embolus and apical expansion of the tip of embolus well developed (Figure 1(d–f)), basal branch of tibial apophysis with a large spine (Figure 1(c))..... ***I. clarus (Mello-Leitão, 1946)***
- Palpal bulb with shorter embolus and apical expansion of the tip of embolus less developed (Figure 7(a–c)), basal branch of tibial apophysis with a short and very small spine (Figure 6(d–e))..... ***I. minguito sp. nov.***

Females

- 4. Numerous labial cuspules (about 14) (Figure 12(b)) and absence of prolateral and retrolateral spines on tarsi III and IV..... ***I. tolengo sp. nov.***
- Reduced number of labial cuspules (usually 2–4) and numerous spines on prolateral and retrolateral faces of tarsi III and IV **2**
- 5. Tibia III with dorsal proximal depression (Figure 8(d))..... ***I. minguito sp. nov.***
- Tibia III normal without dorsal depression **3**
- 6. Spermathecae with digitiform receptacles and very short ducts (Figure 5(d))..... ***I. hirsutipedis Mello-Leitão, 1941***
- Spermathecae with spherical receptacles and long ducts..... **4**
- 7. Spermathecae with oval apical receptacles, ducts straight and short (Figure 11(d)).. ***I. piluso sp. nov.***
- Spermathecae with rounded apical receptacles, ducts curved and longer (Figure 2 (c))..... ***I. clarus (Mello-Leitão, 1946)***

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Disclosure statement

No potential conflict of interest was reported by the authors.

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