

A new species of the genus *Actinopus* (Mygalomorphae: Actinopodidae) from Argentina

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Abstract — A new species of the spider genus *Actinopus* Perty 1833 from Northwestern Argentina is described — *Actinopus goloboffi* sp. nov. This is the second species described from the genus in the country. Detailed morphological descriptions of both sexes, illustrations and geographic distribution of the new species are presented.

Key words — Trapdoor spiders, taxonomy, *Actinopus goloboffi*, Neotropical region

Introduction

The family Actinopodidae is represented in the Gondwanic region by 42 species in three genera (Platnick 2014). *Actinopus* Perty 1833 is the largest genus and is particularly diverse in the region of Brazil with 17 taxa. The type species of the genus has recently been redescribed (Miglio et al. 2012). Many species are endemic with very restricted distribution; only a few have been described from other countries.

Despite the high diversity and abundance of *Actinopus* in Argentina, there is very little knowledge of the genus in this country. Only one species, *A. insignis* (Holmberg 1881), from the province of Buenos Aires has been described.

The review corresponding to material of the genus *Actinopus* deposited in the Arachnology section of the Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, many of which were collected by Pablo Goloboff, gave an insight of the diversity in different regions of the country. In the study, we found material representing a new species from Andalgalá, Catamarca province, which is described in this paper.

Material and methods

All measurements are given in millimeters and were taken on the left side of the specimens. As standard in Araneae, total lengths were taken with chelicerae, and carapace lengths without chelicerae. Reference points for measurements followed Coyle (1974). All measurements were taken with a micrometric ocular on an Olympus SZ4045 stereoscope. The notation for leg spines follows Goloboff and Platnick (1987); variation in the sides of a specimen (in number of spines, cuspules, or teeth) is indicated as two numbers or formulae separated by a slash (“/”); when describing variation in chaetotaxy, only surfaces with different

numbers of spines are listed. The terminology for the structures of the copulatory bulb follows Bertani (2000).

Collections sites were georeferenced by finding the locality specified on the label on GoogleEarth and then recording the coordinates. All the material studied is deposited in the Museo Argentino de Ciencias Naturales “Bernardino Rivadavia” (MACN, Martín Ramírez). The following abbreviations were used in the text: AME=anterior median eyes, ALE=anterior lateral eyes, PME=posterior median eyes, PLE=posterior lateral eyes, D=dorsal, P=prolateral, R=retrolateral, V=ventral, P SUP=prolateral superior, P INF=prolateral inferior, P A INF=prolateral apical inferior, P M=prolateral medial, D ANT=dorsal anterior, D B=dorsal basal, R SUP=retrolateral superior, R INF=retrolateral inferior, V ANT=ventral anterior, V POST=ventral posterior, V A=ventral apical, 1:2 A, 3:4 B=indicate that the spines or scopulae referred to are in the apical half or basal third-fourths.

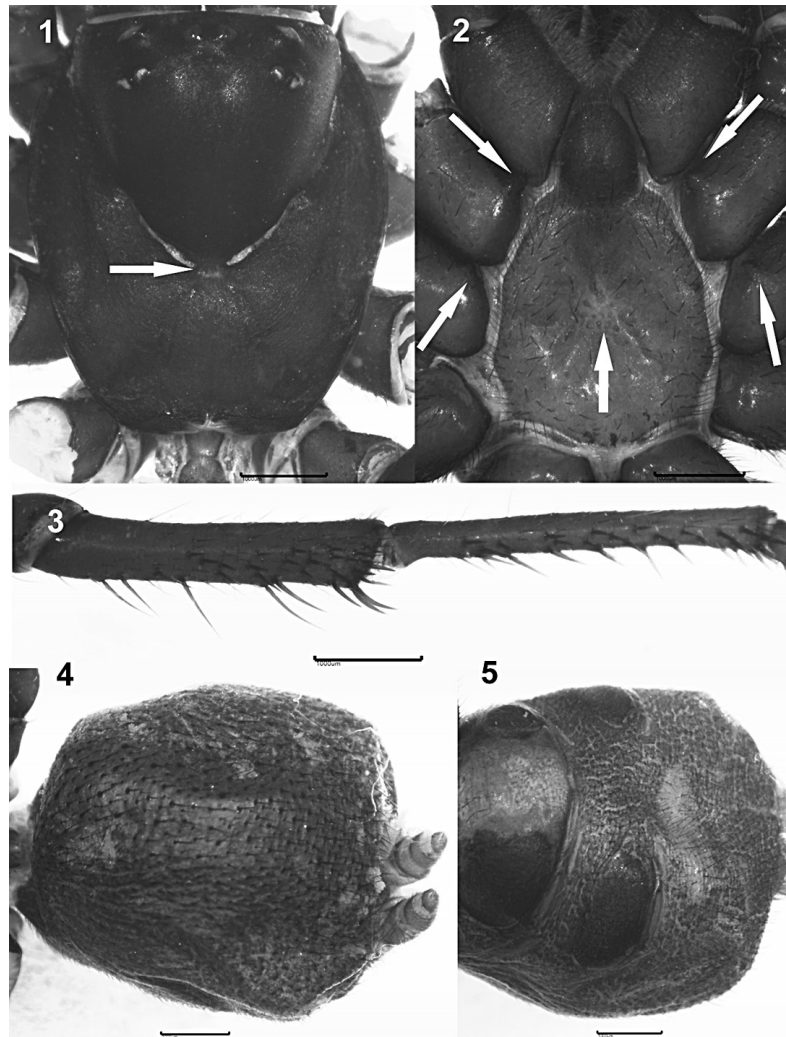
Taxonomy

Family Actinopodidae Simon 1892
Genus *Actinopus* Perty 1833

Type species: *Actinopus tarsalis* Perty 1833: 198, pl. 39, fig. 6 (male holotype from Piauí, Brazil).

Actinopus goloboffi sp. nov.
(Figs. 1–12, Tables 1–2)

Diagnosis. *Actinopus goloboffi* sp. nov. can be distinguished from other species of the genus by the discontinuous thoracic fovea, interrupted in the middle (Figs. 1; 9), a sternum with a deep central depression and a projection in the anterior angle of coxae I–II (Figs. 2; 10). The females



Figs. 1-5. *Actinopus goloboffi* sp. nov., male holotype. 1, carapace showing the discontinuous thoracic fovea; 2, sternum and coxae showing the deep central depression and the projection in the anterior angle of coxae I-II; 3, tibia and metatarsus II; 4-5, abdomen (dorsal and ventral view). Scales=1 mm.

are recognized by the semi-rectangular shape of their spermathecae with the external lobe more developed than the internal (Fig. 11).

Type material. Holotype ♂. Catamarca province, Andalgalá [27°36'2.26"S, 66°18'58.46"W], 19 Oct 1972, Enders Coll. (MACN-Ar 31441). Paratype ♀. 3 km SW, Andalgalá (camino a Belén) [27°35'34.81"S 66°20'39.73"W], 2 Feb 1986, Goloboff, P - Szumik, C. Coll. (MACN-Ar 28417).

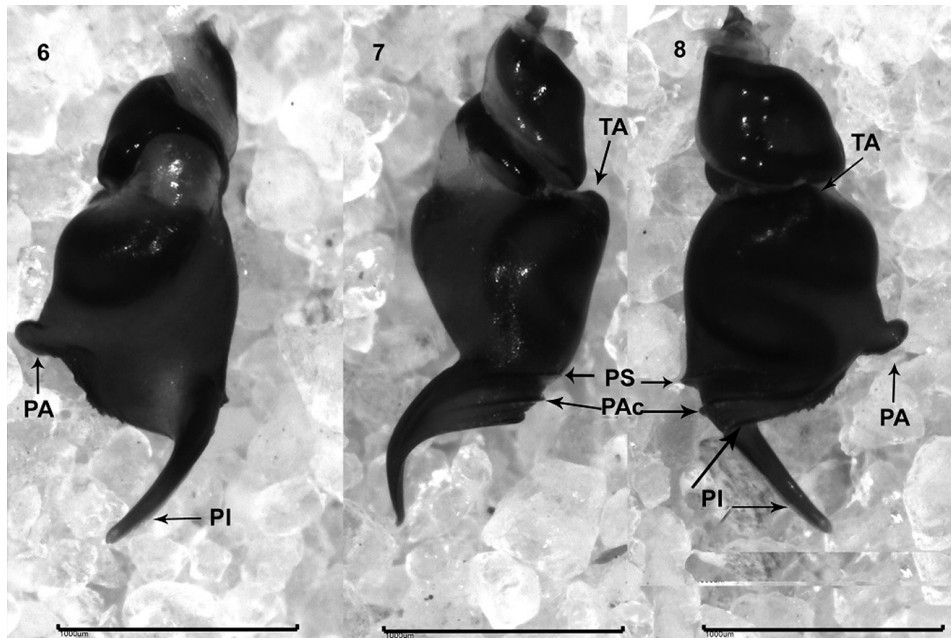
Etymology. The specific name is in honor of Pablo A. Goloboff for his contributions to phylogenetic systematics and systematics of mygalomorph spiders, and for collecting the female of the species.

Description. *Male* (holotype). Total length: 14.04. Carapace length 4.44, width 3.96 (Fig. 1); wide and elongated cephalic region, length 2.70, width 3.00, clypeus short with one central bristle and several small ones to the sides, with 16 bristles between AME-AME and 4-6 behind each PME-PLE diad; with 3-5 bristles between ALE-PLE, one

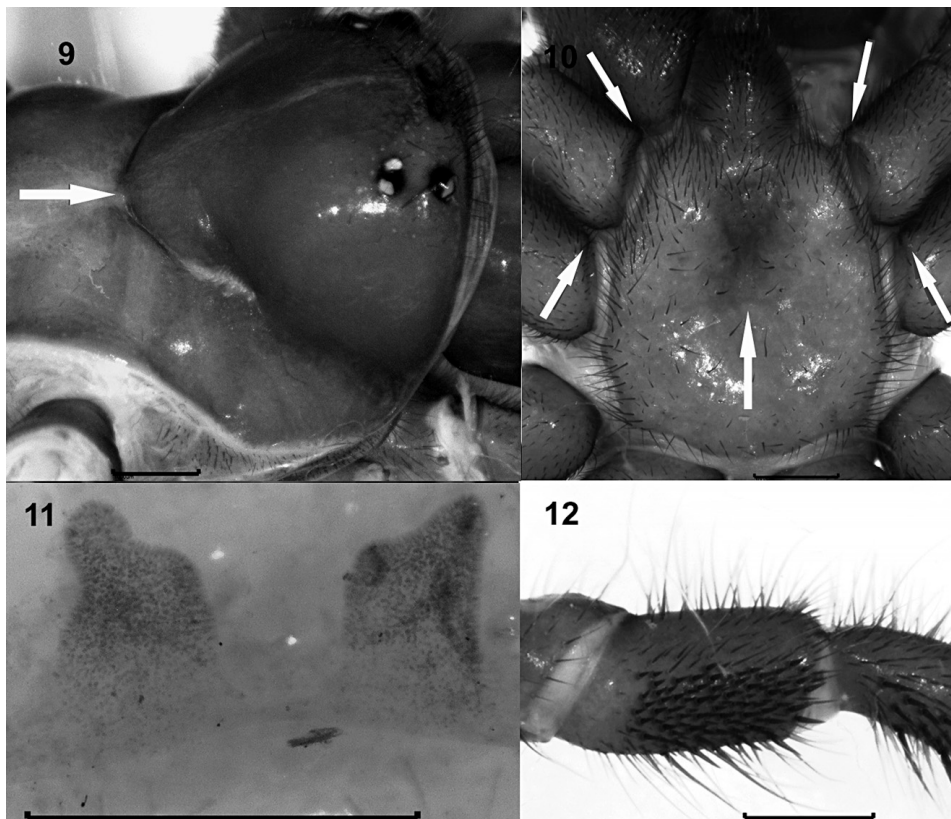
of them larger. Fovea, very wide and short: length 0.78, width 1.92, closed (Fig. 1) in the mid-dorsal part.

Eyes: Diameters and interdistances: AME 0.12, ALE 0.40, PME 0.16, PLE 0.20, ocular group length 0.84, anterior and posterior width 2.32; AME-ALE 0.56, PME-PLE 0.12, AME-PME 0.48, ALE-PLE 0.48, AME-AME 0.32. Chelicerae: Length 2.22, width 1.02, with internal dorsal bands of bristles reaching to the rastellum base. Cheliceral apex with 11 recumbent and elongated bristles which cover the base of the fang. Rastellum on a long projection with 11 marginal blunt cusps and 5 dorsal small attenuated ones. Cheliceral furrow with 7 large promarginal teeth and 5 retromarginal (a smaller one each between 3rd-4th and 4th-5th) and 11 denticles, near the promarginal teeth. Labium: length 1.08, width 0.88. Maxillae: anterior length 1.20, posterior 1.68, width 1.28.

Sternum (Fig. 2): length 2.96, maximum width 2.60, minimum 0.84. Post-labial sigilla triangular and shallow, posterior sigilla elongated. Abdomen: length 5.76, with



Figs. 6–8. *Actinopus goloboffi* sp. nov., male holotype. Copulatory bulb, three different views. Abbreviations: PA, paraembolic apophysis; PAc, prolateral accessory keel; PI, prolateral inferior keel; PS, prolateral superior keel; TA, tegular apophysis. Scales = 1 mm.



Figs. 9–12. *Actinopus goloboffi* sp. nov., female paratype. 9, carapace showing the discontinuous thoracic foveae; 10, sternum and coxae showing the deep central depression and the projection in the anterior angle of coxae I-II; 11, spermathecae; 12, tibia II. Scales = 1 mm.

Table 1. Lengths of legs and palp of *Actinopus goloboffi* sp. nov., male holotype.

	Femora	Patellae	Tibiae	Metatarsi	Tarsi	Total
I	4.62	1.98	2.64	3.48	2.10	14.82
II	4.50	1.86	2.64	3.60	2.10	14.70
III	3.60	1.86	2.04	3.90	2.10	13.50
IV	4.62	1.98	3.48	3.90	2.28	16.26
Palp	5.40	2.70	4.50	—	1.20	13.80

Table 2. Lengths of legs and palp of *Actinopus goloboffi* sp. nov., female paratype.

	Femora	Patellae	Tibiae	Metatarsi	Tarsi	Total
I	3.00	1.92	1.32	1.80	0.84	8.88
II	3.12	1.92	1.32	1.98	0.84	9.18
III	3.12	2.40	1.20	2.16	0.84	9.72
IV	3.90	2.40	2.22	2.40	0.90	11.84
Palp	3.12	1.80	2.10	—	2.10	9.12

dark bristles, thicker in the dorsal part. Posterior median spinnerets: length 0.40; posterior lateral spinnerets with basal: medial: apical articles of lengths 0.56:0.36:0.20. Spigots: 2 large, 25 small on PMS; PLS spigots, basal: medial: apical article with 1 large, 30 small: 3 large, 40 small: 1 large, 60 small.

Chaetotaxy: Femora: 0. Patellae: I–II, 0; III, 1-2-1 D, 5 R SUP (1:2 A) + 8 on the margin, 30 P SUP-D ANT, 1 P A INF + 9 on the margin; IV, 1 D B, 56 P + 2 near the edge. Tibiae: I, 2-1-1-2-2-2-1-2-5 V; II, 2-1-1-2-1-3 V, 24 R INF (1:2 A); III, 1-4 V, 1 P M, 10 R (1:2 A) a crown of 15 thorns and 1 apical (in the apex, anterior to the crown); IV, 1-1 P (1:2 A), 2-2-4 V. Metatarsi: I, 1-2-1-3-1-2-1-3-2 V-V ANT, 3-1-1-1-3-1-2-2-1-2-3 R INF-V POST; II, 1-3-2-1-3-1-2-1-1-2-3 V, 1-1-2-2-1-2-1-2-1-1-1-2-2 R INF-V POST; III, 1-1-2-1-2-3-1-2-2-3 R, 2-3-1-1-2-1-1-1-2-3 V- R INF, 1-1-1-1-1-1 D ANT; IV, 2-1-1-1-1-1-3 V, 2-1-1-1-3 P (1:2 A). Tarsi: I, 1-1-0-1-1-4 V, 1-2-2-1-2-3-3-3-3 R INF, 1-1-1-1-1-2-1-2 P INF; II, 1-1-1-0-2-3 V, 27 R INF, 13 P INF; III, 4 V A, 20 P, 27 R; IV, 25 P, 3 V A, 11 R INF (1:2 A). Coxae I–II with anterior angle projected (Fig. 2). Tibiae II with many spines in the retrolateral face (Fig. 3).

Palp: Without spines, tibia long and thin. Bulb (Figs. 6–8), with developed PA and TA; basal half of PI serrated; embolus with three keels (PAC, PI and PS), the PI protracted to the apex.

Scopulae: Tarsi: I apical and sparse, divided 3:4 B by a glabrous band with marginal bristles, II, sparse 1:2 A, divided 1:2 B by a glabrous band with marginal bristles; III–IV, complete and dense throughout the segment. Metatarsi: IV with few apical bristles.

Trichobothria: Tibiae (two rows: P-D and R-D): I 4-6; II 3-4; III–IV 4-5. Metatarsi (dorsal row in zig-zag): I 15; II 13; III 11; IV 5. Tarsi (dorsal wide line): I 8; II–III 10; IV 5. Color: Carapace and chelicerae dark reddish brown, with darker margins. Abdomen brown (Figs. 4–5) dorsally iridescent, with dark ventral lung markings. Spinnerets yellow; sternum, labium and maxillae reddish brown. Legs dark reddish brown, tarsi lighter.

Female (paratype). Total length: 22.20. Carapace length

6.84, width 5.64, with lateral marginal bristles, 20 in the post dorsal area and 16 on each posterior margin. Cephalic region sloping towards the front, length 3.78, width 4.38, clypeus narrow with 50 bristles, without chilum. Two bristles between AME-AME, and 60 around them (lateral-posterior); 8–10 bristles behind each diad PME-PLE; 12–14 bristles with one largest between ALE-PLE. Fovea (Fig. 9) very wide and short: length 1.02, width 2.40, fused with the carapace in the mid-dorsal part.

Eyes: diameters and interdistances: AME 0.08, ALE 0.36, PME 0.20, PLE 0.20, ocular group length 1.04, anterior width 3.12, 3.08 posterior width; AME-ALE 0.96, PME-PLE 0.12, AME-PME 0.80, ALE-PLE 0.60, AME-AME 0.40. Chelicerae: length 2.58, width 1.68, with bands of internal dorsal bristles reaching the rastellum base, and spreading over the whole surface 1/3 A. Chelicerae apex with 13 recumbent and elongated bristles covering the base of the fang. Rastellum protuberant with 12 marginal, blunt cusps, and 9 dorsal small ones. Cheliceral furrow with 8 large promarginal teeth and 6 retromarginal ones (a smaller one between 4th–5th) and 10 denticles near the promargin. Labium: length 1.14, width 1.14, with 20 anterior cusps. Maxillae: anterior length 1.50, posterior length 2.10, width 2.10, with 100 cusps 1:3 V ANT, expanding to the anterior face. Sternum (Fig. 10): length 3.72, maximum width 3.30, minimum width 1.20.

Post-labial triangular sigilla and shallow, posterior ones elongated. Abdomen: length 11.40, globose with dark bristles and slight grooves. Posterior median spinnerets: length 0.60; posterior lateral spinnerets with basal: medial: apical article of lengths 0.80:0.40:0.28. Spigots: 1 large and 26 small ones on PMS; PLS, basal: medial: apical article with 4 large and 42 small: 9 large and 8 small: 3 large and 60 small. Tibiae II with many retrolateral spines (Fig. 3).

Chaetotaxy: Femora: 0. Patellae: I–II, 0; III, 10 P A (1:3 A) + 9 on the margin, 26 R (1:2 A) + 14 on the margin; IV, 63 P SUP-D ANT + 3 near the edge; palp, 1-1-1-1 P. Tibia: I, 19 R INF, 1-1-1 V POST, 1-1-1 P INF (1:2 A); II, + 90 R (3:4 A), 1-2 v post; III, 2-2 R (1:2 A), 1 D B, 50 R, a crown of 20 thorns and 5 apical (at the apex, anterior

to the crown); IV, 0; palp, 25 R INF, 10 P INF. Metatarsi: I, 17 P INF, 20 R INF, 1-1-2 V POST; II, 15 R INF, 1-1-2 V POST, 14 P INF; III, 2-2-3-2-2-1-2-1-1-1-3 D ANT, 46 on row D POST-R (more abundant R A); IV, 1 D A, 10 P INF (3:4 A), 1 V A ANT. Tarsi: I, 13 R INF, 1-2 V A, 10 P INF; II, 12 P INF, 2-2 V A, 14 R INF; III, 22 R, 70 V-P; IV, 34 V-P; palp, 17 P INF, 25 R INF, 2 V A. Coxae I-II with anterior angle projected (Fig. 10).

Trichobothria: Tibiae (two rows: P-D and R-D): I-II 3-5; III-IV 4-5. Metatarsi: (dorsal row in zig-zag) I 17; II 14; III 11; IV 6. Tarsi: (dorsal wide row) I-II 13; III 11; IV 7. Color: carapace reddish brown with darker margins; cephalic region and chelicerae darker. Abdomen brown with a clearer dorsal spot, and dark lung markings. Spinnerets yellow; sternum reddish brown with labium and maxillae darker. Legs reddish brown.

Distribution. Known only from the type locality.

Other specimens examined. *Catamarca*. 3 km SW, Andalgalá (camino a Belén), 2 Feb 1986, Goloboff, P. - Szumik, C. Coll., 1 juv (MACN-Ar 28417); 19 Oct 1972, Enders Coll., 2 ♂♂ (MACN-Ar 31442).

Discussion

Several characters of *A. goloboffi* sp. nov. (sternum with deep central depression, fovea medially interrupted, and a developed projection in the anterior angle of coxae I-II.) are unique in the genus. This second species of the genus from Argentina reflects the presence of significant and unique characters in their morphology. These characters could play an important role in future studies of phylogenetic

relationships of the species of the genus.

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