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***Chaco ansilta* new species from Mendoza province, Western Argentina (Araneae: Nemesiidae)**

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ABSTRACT

A new species of *Chaco* Tullgren, 1905 is described and illustrated from the Andean foothills of Mendoza province, western Argentina. This is the tenth species of the genus and the first record of *Chaco* in Mendoza. An updated key is presented for all *Chaco* species. The cladistic analysis based on a previously published morphological character matrix resulted in the consensus tree: (*C. obscura*, *C. tucumana*, *C. castanea*, (*C. socos* + *C. tigre*) (*C. tecka* (*C. sanjuanina* (*C. Patagonia* + *C. ansilta* sp. nov.)))).

Key words: Andean foothills, cladistics, mygalomorph, nemesiid, Spider taxonomy.

INTRODUCTION

The Nemesiidae Simon, 1889 was raised to family status by Raven (1985) from the Nemesiae group proposed by Simon (1889). The family comprises 366 species and 43 genera of medium sized spiders that have a transverse fovea, eyes grouped on a tubercle, 2-4 short spinnerets, anterior tarsi without spines, tarsi III and IV with light or absent scopula, without claw tufts and superior tarsal claws bipectinate with numerous teeth (Goloboff 1995, Montes de Oca and Pérez-Miles 2013). Goloboff (1995) revised the species of Nemesiidae from Peru, Chile, Argentina and Uruguay; later, contributions were made to the systematics of this family (Indicatti and Lucas 2005, Indicatti et al. 2008, Lucas et al. 2008, Lucas and Indicatti 2010, Montes de Oca and Pérez-Miles 2013, Pérez-Miles et al. 2014). Nemesiids usually

live in silk tubes constructed under stones or logs, or in burrows covered by a trapdoor or flapdoor (Capocasale and Pérez-Miles 1990, Goloboff 1995, Ferretti et al. 2011).

Chaco was established by Tullgren, 1905, with the type species, *Chaco obscura* Tullgren, 1905, based on a female from Aguas Blancas, Salta, Argentina. Goloboff (1987, 1995) distinguished *Chaco* by the combination of the following characters: four short spinnerets, eight eyes grouped on a tubercle, anterior legs with few spines, anterior tarsi scopulate, without spines and no claw tufts; tarsal claws with numerous teeth in two rows. Males can be recognized by having a distal prolateral spur on tibia I comprising three or more spines, absence of inferior claw on all tarsi, patella III with 1-1-1 spines and anterior tibia without scopula. Females of *Chaco* can only be distinguished from other nemesiid

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genera by their combination of characters, of no pumpkiniform spigots, ITC absent from all legs, together with the absence of the autapomorphies of the *Diplothelopsini* and the absence of a scopula on the anterior tibiae (Goloboff 1995).

In a recent survey campaign (granted by the American Arachnological Society and Vincent Roth Foundation) of the Andes foothills of central western Argentina (Mendoza) in order to collect theraphosids specimens well-adapted to dry habitats, the author located a small mygalomorph spider walking at night in an extremely dry habitat. Then, a conspecific specimen was located during the examination of a parcel of mygalomorph spiders collected in Mendoza province deposited in the arachnological collection of the Instituto Argentino de Investigaciones de las Zonas Áridas, Mendoza. Both were representative of a single *Chaco* species but they did not fit any of the known species. Consequently, in this article I describe *Chaco ansilta* sp. nov., which is here diagnosed, illustrated and keyed. In addition, I present a cladistic reanalysis of the genus *Chaco* with the newly described species.

MATERIALS AND METHODS

The examined material is deposited in the arachnological collection of the Instituto Argentino de Investigaciones de las Zonas Áridas (CAI, Susana Lagos). Specimens were examined using an Olympus SZ stereomicroscope. Spine notation follows Petrunkevitch (1925). Terminology of genitalia follows Goloboff (1995). All measurements are in millimeters and were taken using the eyepiece micrometer of the stereomicroscope. The leg segment length was measured between joints in dorsal view. Total body length excluded chelicerae and spinnerets. Left male palpal bulb was removed from the cymbium and illustrated in prolateral and retrolateral views. Specimens were photographed using a SONY Hx200v camera attached to a stereomicroscope.

Female genitalia was dissected and cleared in concentrated lactic acid for 60-120 minutes. All drawings were made with the aid of a high resolution Micrometrics camera attached to a Nikon Eclipse 600 microscope. A Jeol 35 Cf and scanning electron microscope (SEM) were used for the examination of surface ultrastructure of tarsal claws. Abbreviations: AME = anterior median eyes; D = dorsal; OQ = ocular quadrangle; P = prolateral; PLE = posterior lateral eyes; PLS = posterior lateral spinnerets; PME = posterior median eyes; R = retrolateral.

Chaco ansilta sp. nov. was scored for 32 characters from Goloboff (1995) and Montes de Oca and Pérez-Miles (2013). Characters 0 – 26 were obtained from the original matrix of Goloboff (1995) and characters 27 – 31 came from the matrix proposed by Montes de Oca and Pérez-Miles (2013). The matrix for the cladistic was done using the Nexus Data Editor ver 0.5.0 software (Page 2001). The taxa used as outgroup were *Chilelopsis calderoni* Goloboff, 1995; *Diplothelopsis bonariensis* Mello-Leitão, 1938 and *Lycinus longipes* Thorell, 1894. The tree was rooted using *Lycinus longipes* Thorell, 1894 and the matrix (Table I) was analyzed with TNT version 1.1 (Goloboff et al. 2003a) using maximum parsimony as the optimality criterion. Tree searches were conducted using implicit enumeration and implied weighting (Goloboff 1993) with concavity indices (k) ranging from 1 to 6. Jackknife (Goloboff et al. 2003b) values were calculated for each node using resampled matrices, with 1000 pseudo-replicates with 36% of the probability of alteration. Specimens used in the cladistic analysis are: *Chaco castanea* Montes de Oca and Pérez-Miles, 2013; *C. costai* Montes de Oca and Pérez-Miles, 2013; *C. obscura* Tullgren, 1905; *C. patagonica* Goloboff, 1995; *C. sanjuanina* Goloboff, 1995; *C. socos* Goloboff, 1995; *C. tecka* Goloboff, 1995; *C. tigre* Goloboff, 1995, *C. tucumana* Goloboff, 1995 and *C. ansilta* sp. nov.

TABLE I
Chaco ansilta sp. nov., length of leg
and palpal segments of male.

	I	II	III	IV	Palp
Femur	1.85	2.05	2.15	2.18	1.02
Patella	0.97	0.95	1.07	1.19	0.47
Tibia	1.30	1.18	1.32	2.17	0.63
Metatarsus	1.62	1.65	2.12	2.53	-
Tarsus	1.24	1.47	1.81	2.03	0.38
Total	6.98	7.30	8.47	10.10	2.50

RESULTS AND DISCUSSION

TAXONOMY

Nemesiidae Simon, 1889

Chaco Tullgren, 1905

Chaco Tullgren, 1905, type species *Chaco obscura* Tullgren, 1905:7. Transferred from the Barychelidae

to the Ctenizidae by Gerschman and Schiapelli (1965):377; transferred from Ctenizidae and considered a senior synonym of *Neostothis* Vellard, 1925 by Raven (1985): 103; the synonymy of *Neostothis* was rejected by Goloboff, 1995:169.

Diagnosis

See Goloboff (1995).

Species included

Chaco castanea Montes de Oca and Pérez-Miles, 2013; *Chaco costai* Montes de Oca and Pérez-Miles, 2013; *Chaco obscura* Tullgren, 1905; *Chaco patagonica* Goloboff, 1995; *Chaco sanjuanina* Goloboff, 1995; *Chaco socos* Goloboff, 1995; *Chaco tecka* Goloboff, 1995; *Chaco tigre* Goloboff, 1995, *Chaco tucumana* Goloboff, 1995 and *Chaco ansilta* sp. nov.

Identification key for *Chaco* (updated from Goloboff, 1995)

Males

(Male of *C. patagonica* and *C. tecka* are unknown)

1. Tibial apophysis with five or more spines 2
Tibial apophysis with less than five spines 4
2. Embolus extremely long, bulb in lateral view, abruptly constricted to form embolus; northern Argentina (Salta and Jujuy)..... *C. obscura*
Embolus shorter, bulb more gradually tapering 3
3. Embolus as about half longer of total bulb length having short keels on base; northern Argentina (Tucumán and Catamarca)..... *C. tucumana*
Embolus as about one third or less longer of total bulb length having longer keels on base; atlantic coast of Uruguay *C. costai*
4. Tibial apophysis with four spines 5
Tibial apophysis with less than four spines 7
5. Palpal bulb with a sinuous spermophor; atlantic coast of Uruguay *C. castanea*
Palpal bulb with straighter spermophor; Chile 6
6. Maxillary cuspules less than 20 (usually 13). Construct beveled doors, grayish coloration; Region IV from Chile *C. socos*
Maxillary cuspules more than 20 (usually 33). Construct thin trap-doors, brownish coloration; Region V from Chile *C. tigre*
7. Tibial apophysis with three spines, bulb gradually tapering and embolus bent; northwestern Argentina (San Juan) *C. sanjuanina*
Tibial apophysis with two spines, bulb more abruptly tapering and embolus straight; central western Argentina (Mendoza) *C. ansilta* sp. nov.

Females

1. Spermathecae a single undivided tube (sometimes spiraled); northwestern Argentina and Uruguay 2
Spermathecae a single tube with a basal protuberance 5
2. Spermathecae very long; northern Argentina (Salta and Jujuy) *C. obscura*
Spermathecae short 3
3. Spermathecae with reniform fundus; atlantic coast of Uruguay *C. castanea*
Spermathecae with subspherical fundus 4
4. Spermathecae with a sinuous neck; atlantic coast of Uruguay *C. costai*
Spermathecae with a straight neck; northern Argentina (Tucumán and Catamarca) *C. tucumana*
5. Pseudo preening combs present, metatarsus IV with numerous strong spines on superoanterior face; southern Argentina (Chubut) *C. tecka*
No pseudo preening combs; metatarsus IV with few spines on superoanterior face 6
6. Sternal sigilla almost inconspicuous; color yellowish light; Argentina 7
Sternal sigilla normal, maxilla with medium number of cuspules (15-50), color brownish or ash gray; Chile 9
7. Maxillae with few cuspules (6-10), labium with few cuspules irregularly arranged, very light pubescence 8
Maxillae with medium number of cuspules (about 12); labium with 8 cuspules in transverse line; northern Argentina (San Juan) *C. sanjuanina*
8. Femora normal, spermathecae with sinuous neck and subspherical fundus; southern Argentina (Chubut) *C. patagonica*
Femora incrassate, spermathecae with straight and very long neck and fundus not well differentiate; central western Argentina (Mendoza) *C. ansilta* sp. nov.
9. Spermathecae with very short and thin neck and well developed subspherical fundus, construct thin trap-doors, brownish coloration; Region V from Chile *C. tigre*
Spermathecae with long neck and less developed fundus, construct beveled doors, grayish coloration; Region IV from Chile *C. socos*

Chaco ansilta sp. nov.

Figures 1-3, Tables I-II

Type material

Holotype: male: Argentina, Mendoza, Malargüe, Cerro Nevado, 35°37'43.56"S 68°32'56.82"W, 17 February 2005, 2333 m.a.s.l., G. Debandi and E. Ruiz Manzanos (CAI 3360).

Paratype

female: Argentina, Mendoza, San Rafael, Cuesta de los terneros, 34°42'59.0"S 68°33'48.9"W, at 25km southwest San Rafael city, 1218 m.a.s.l., 21 December 2013, N. Ferretti (CAI 3439).

Other material examined

Chaco patagonica Goloboff, 1995, holotype female, Comodoro Rivadavia, Chubut, Argentina, 20 Mar. 1984, P. Goloboff leg. MACN-Ar-images examined.

Diagnosis

Chaco ansilta sp. nov. can be easily distinguished from the known *Chaco* species by its size (it is the smallest species of the genus) and their noticeable incrassate femora of all legs (Fig. 3A); females with two ventral spines on tibia I – II and three ventral spines on metatarsi I – II; males uniquely possess a tibial apophysis with two spines (Fig. 2C)

and an abruptly tapered bulb with parallel low keels on basal embolus (Fig. 2A, B). It resembles *Chaco sanjuanina* but differs in its small size, and male of *C. ansilta* sp. nov. only have two spines on tibial apophysis (Fig. 2C). Additionally the male palpal bulb is more abruptly tapered. Females differ in the minor number of labial cuspules (Fig. 3C) and the shape of spermathecae (Fig. 2D). In addition, female of *C. ansilta* sp. nov. differs from *C. patagonica* with regards to its small size and the shape of spermathecae.

Etymology

Ansilta is a noun in apposition from the Ansilta Culture, an indigenous population which inhabited the region of Cordillera from the high Andean peaks to the eastern foothills and valleys (the typical locality of this new species) at the present provinces of San Juan and Mendoza, Argentina, from the 1800 B.C. until 500 A.C; the gender is feminine.

Description

Male, holotype (CAI 3360). Carapace, chelicerae and legs, uniformly yellowish (Fig. 1A); abdomen pale brown with a dorsal central chevron. Total length 4.5. Carapace anterior portion elongated, 2.9 long, 1.32 wide, with few bristles spaced on surface and ocular area. Clypeus 0.08 wide. Fovea transverse, slightly procurved, 0.27 wide. Eyes on tubercle, OQ 0.22 long, 0.47 wide. Eyes sizes and inter-distances: AME 0.12, ALE 0.10, PME 0.06, PLE 0.07, AME – AME 0.12, AME – ALE 0.06, PME – PME 0.16, PME – PLE 0.04, ALE – PLE 0.05. Anterior eye row slightly procurved, posterior row recurved. Sternum covered with bristles with very small sigilla, almost inconspicuous (Fig. 1B). Labium length 0.12, width 0.28 with four cuspules. Endites with 10 (right) and seven (left) cuspules. Cheliceral furrow with two rows of teeth; prolateral row with six large teeth and retrolateral row with five smaller basal teeth. Rastellum less developed than female with only thin attenuate

setae. Cheliceral tumescence absent. Legs very spiny with incrassate femora. Length of legs and palpal segments in Table I. Scopula present and not divided, Tarsi I – II fully scopulate; III – IV 1/3 apical scopulate. Metatarsi I 1/2 apical scopulate; II 1/3 apical scopulate; III – IV without scopula. Tarsi I and II entire, III and IV flexible with medial crack (Fig. 1C). Two claws on all tarsi (Fig. 1D). Paired claws with two rows, each with six (leg IV) to 12 (leg I) pairs of teeth. Four spinnerets, specimen lost median and apical segments. Palp: tibia with incrassate base, slightly excavated, with numerous ventrally long and erected setae; copulatory bulb piriform with embolus thin, long and straight with low keels (about seven) (Figs. 2A, B). Spinulation: Tarsi I, II, palp and patellae of palp, spineless. Femora: palp 1 P; I 1 – 1 – 1 D, 1 P; II 1 – 1 – 1 D, 1 R, 1 – 1 P; III 1 – 1 – 1 D, 1 – 1 – 1 P; IV 1 – 1 – 1 – 1 P. Patella: I 1 – 1 P; II 1 P; III 1 – 1 – 1 P, 1 R; IV 1 – 1 P, 1 R. Tibia: palp 1 – 2 – 1 P, 1 R; I 1 – 2 P, 1 R, 1 – 1 – 1 V; II 2 – 2 V, 1 R, 1 P; III 1 – 2 – 1 P, 1 – 2 – 2 V, 1 R, 2 – 2 D; IV 1 – 1 D, 1 – 1 P, 1 – 1 R, 2 – 1 V. Metatarsi: I 2 – 2 – 1 R, 1 – 1 – 1 – 1 P, 1 – 1 V; II 1 – 1 – 1 D, 1 – 1 P, 2 – 1 – 1 V, 1 R; III 1 – 2 – 1 – 1 – 2 – 2 D, 1 – 3 V, 1 – 2 R, 1 – 1 P; IV 3 – 2 – 2 V, 2 – 1 – 1 – 1 – 2 D, 2 – 2 – 1 – 1 P, 1 – 1 R. Tarsi: III 1 P, 1 R; IV 1 P, 1 R. tibial apophysis with two long spines (Fig. 2C).

Female, paratype (CAI 3439). color as in male, except: abdomen and chelicerae brownish (Fig. 3A). Total length 6.80. Carapace anterior portion rounded, almost glabrous with a central straight line of four bristles (Fig. 3B), 2.51 long, 1.92 wide. Clypeus 0.08 wide, with three clypeal bristles below. Fovea transverse, slightly procurved, 0.43 wide. Eyes on tubercle, OQ 0.17 long, 0.42 wide. Eyes sizes and inter-distances: AME 0.10, ALE 0.13, PME 0.06, PLE 0.04, AME – AME 0.09, AME – ALE 0.05, PME – PME 0.22, PME – PLE 0.02, ALE – PLE 0.07. Anterior eye row procurved, posterior row slightly recurved. Sternum covered with bristles very small sigilla, almost

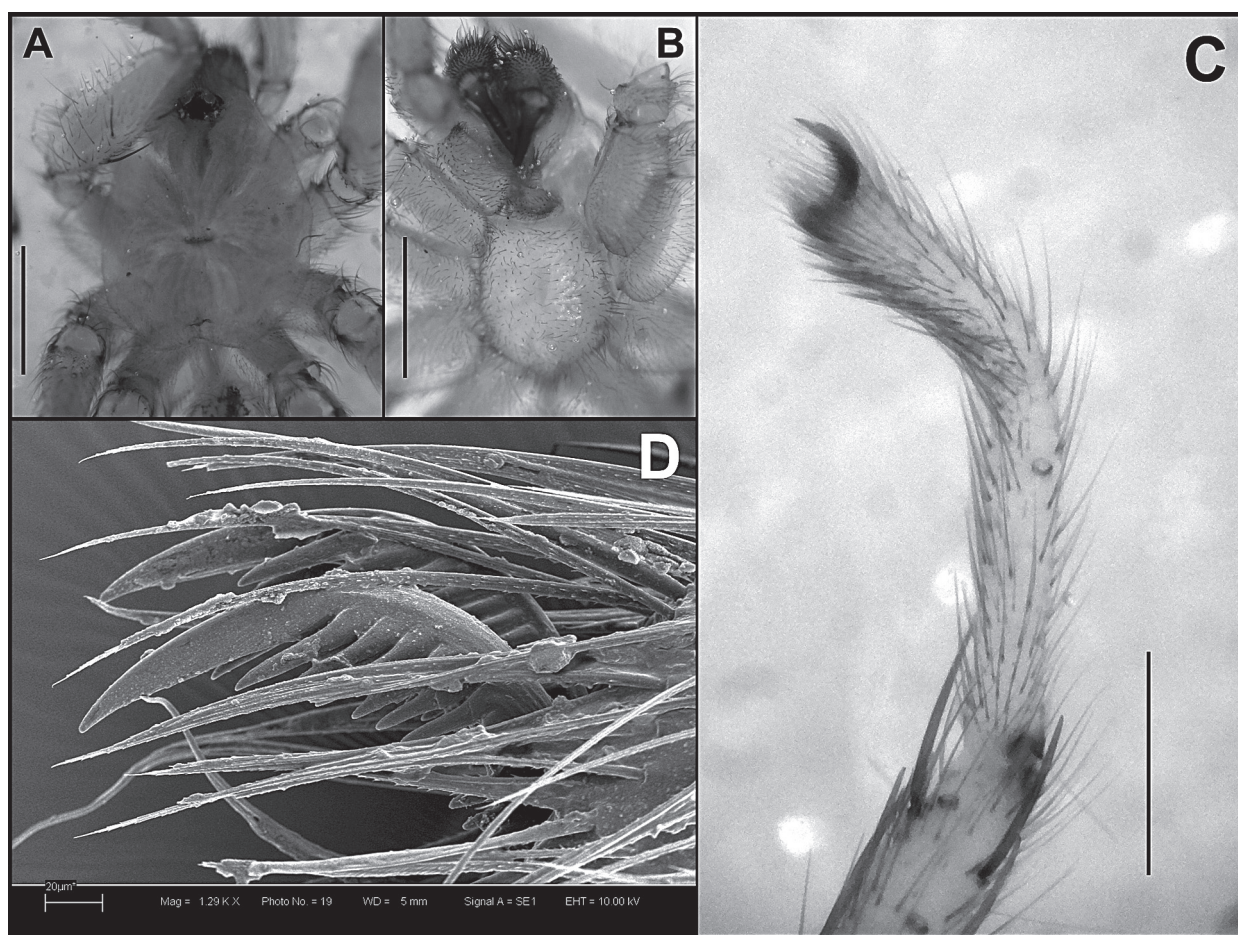


Fig. 1 - *Chaco ansilta* sp. nov. Holotype male. **A**, Cephalotorax, dorsal; **B**, Sternum, labium and maxillae showing cuspules; **C**, Tarsus I, prolateral; **D**, Tarsus I. Scale bars (**A** – **C**): 1 mm.

inconspicuous (Fig. 3C). Labium length 0.14, width 0.31 with three cuspules. Endites with 10 (right) and nine (left) cuspules. Cheliceral furrow with two rows of teeth; prolateral row with six large teeth and retrolateral row with seven smaller basal teeth. Rastellum strong and more developed than male, with short and thick attenuate setae. Cheliceral tumescence absent. Legs very spiny with incrassate femora. Length of legs and palpal segments in Table II. Scopula present and not divided, tarsi from palp and I – II fully scopulate; III 1/3 apical scopulate; IV 1/2 apical scopulate. Metatarsi I fully scopulate; II 1/2 apical scopulate; III – IV without scopula. Tarsi I – IV not flexible. Two claws on all tarsi (Fig. 3D), except palp with one claw. Paired claws with

two rows, each with four (leg IV) to 12 (leg I) pairs of teeth. Four spinnerets, PLS three segmented, basal segment 0.51, median segment 0.15, apical segment domed 0.07 long with spigots. Spinulation: Femora and patellae from palp and legs, tarsi from palp and I – II, spineless. Tibia: palp 2 – 2 – 2 V, 1 – 2 P; I 1 – 1 V; II 1 – 1 V; III 1 – 1 – 1 R, 1 – 1 – 1 D, 2 – 1 – 1 P, 1 – 2 V; IV 2 – 2 V, 1 – 1 R. Metatarsi: I 1 – 1 – 1 V; II 1 – 1 – 1 V; III 1 – 1 – 1 D, 1 – 1 – 1 P, 1 – 1 – 1 R, 2 – 2 – 2 V; IV 2 – 1 – 2 – 2 V, 2 – 1 – 1 – 1 P, 1 – 1 – 1 R, 2 – 1 – 2 D. Tarsi: III 1 P, IV 1 P, 1 R. Dorsal patellae III – IV covered by short thick setae. Presence of short thick setae on dorsal apical of femora IV. Femora of legs I – II with one dorsal central line of erected long thick setae and

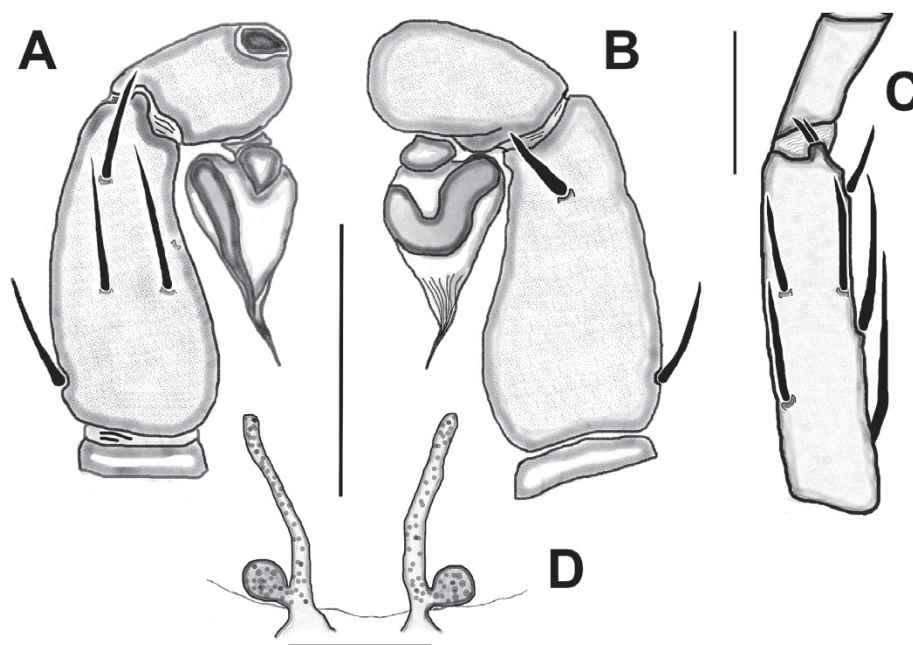


Fig. 2 - *Chaco ansilta* sp. nov. **A – C** Holotype male. **A**, Left palpal bulb, prolateral view; **B**, Retrolateral view; **C**, Tibia I, prolateral view. Scale bars: 1 mm. **D** Paratype female, Spermathecae, dorsal view. Scale bar: 0.3 mm.

III – IV with parallel additional lines of thin and shorter setae. Spermathecae densely covered by pores, composed by two long, thin, strait ducts and a single receptaculum from each base (Fig. 2D).

TABLE II
Chaco ansilta sp. nov., length of leg
and palpal segments of female.

	I	II	III	IV	Palp
Femur	1.67	1.82	1.93	1.53	0.90
Patella	0.88	0.79	0.87	1.12	0.43
Tibia	1.63	1.15	0.98	1.61	0.41
Metatarsus	0.91	0.85	0.93	1.25	-
Tarsus	1.02	0.68	0.75	1.09	0.23
Total	6.11	5.29	5.46	6.60	1.97

Distribution

Known from the eastern Andes foothills in Mendoza province, central western Argentina.

Natural history

The female paratype was found walking on a warm night at about 23:00pm. It was found in central Monte biogeographic province where landscapes

are foothills, valleys and plains with an annual precipitation of about 200 mm and characterized by closed canopy riparian forests (Roig et al. 2009). Specimen was located on a hilly environment of about 1200 meters above sea level. The spider kept in laboratory only constructed a short burrow but no flap or trapdoor was observed. The holotype male is known only from the Cerro Nevado, Malargüe department, Mendoza, comprising an extra-Andean mountainous range located 200 km east of the Andes. The Nevado range is separated from the Andean range by a plateau of 1800 m a.s.l. It extends North-South between 34° and 36°S, parallel to the Andes, with a maximum altitude of 3833 m a.s.l (summit of Cerro Nevado). This orographic system comprises a relevant area of endemism for high altitude arthropod fauna (Ojanguren-Affilastro et al. 2009). An other species of Argentinean *Chaco* occurring next to the geographic distribution of *Chaco ansilta* is *Chaco sanjuanina*. This species is registered for San Juan province (Goloboff 1995), at about 400 km northern from the known points of *C. ansilta*.

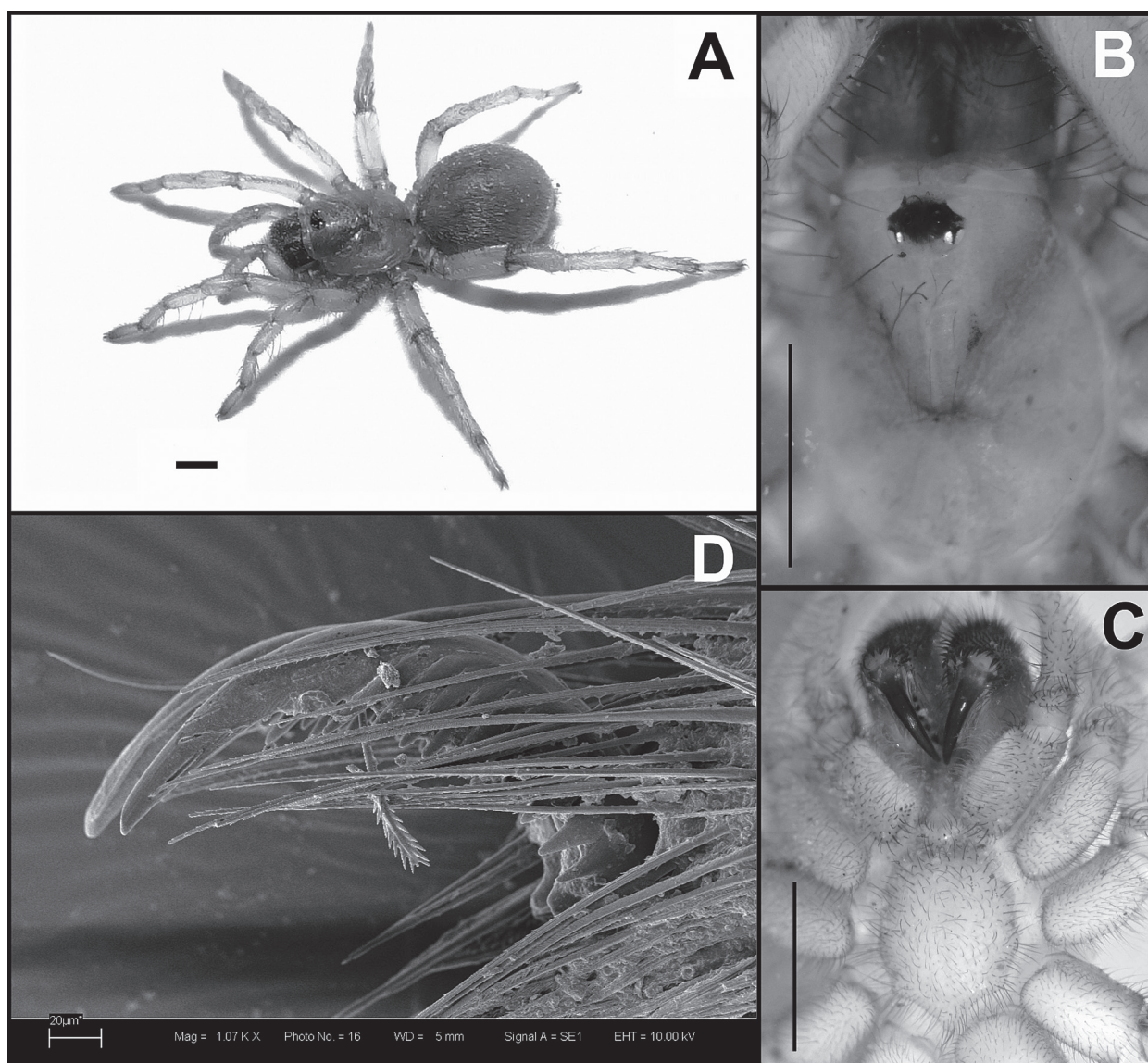


Fig. 3 - *Chaco ansilta* sp. nov. Paratype female. **A**, Habitus; **B**, Cephalotorax, dorsal; **C**, Sternum, labium and maxillae showing cuspules; **D**, Tarsus I. Scale bars (**A** – **C**): 1 mm.

CLADISTICS

Characters (see Table III): (0) Clypeus: 0, wide; 1, narrow (1) Posterior eye row: 0, recurved; 1 procurved (2) Eyes: 0, anterior median eyes and posterior median eyes subequal size; 1, anterior median eyes much larger than posterior median eyes (3) Pubescence: 0, absent; 1, light; 2, dense (4) Sternum: 0, wide; 1, normal; 2, narrow (5) Sternal sigilla: 0, conspicuous; 1, inconspicuous (6) Leg color: 0, uniform; 1, patterned (7) Setae on female

posterior legs: 0, normal; 1, dense (8) Maxillary cuspules in females: 0, few (0-10); 1, medium (11-30); 2, many (over 30) (9) Maxillary cuspules in males: 0, few (0-10); 1, medium (11-30); 2, many (more than 30) (10) Rastellum: 0, weak; 1, strong (11) Female tarsi: 0, rigid; 1, flexible (12) Scopula IV: 0, absent/very light; 1, light; 2, dense (13) Trichobothria on male cymbium: 0, medial third; 1, basal half (14) Posterior median spinnerets spigot number: 0, many; 1, few (15) Male metatarsus IV:

TABLE III
Data matrix for the genus *Chaco* and the outgroup.

											1											2											3
	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	
<i>L. longipes</i>	0	1	1	2	0	0	0	0	0	0	0	0	2	1	0	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	?
<i>D. bonariensis</i>	0	1	1	2	0	0	0	0	0	0	0	1	2	1	?	1	0	1	1	0	0	0	0	1	0	0	0	0	?	0	0	0	?
<i>C. calderoni</i>	0	1	0	1	1	0	0	1	2	2	0	0	1	0	0	1	0	1	0	0	0	0	0	0	2	1	0	0	1	0	0	0	?
<i>C. obscura</i>	0	0	0	1	1	0	1	0	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	1
<i>C. tucumana</i>	0	0	0	1	1	0	1	0	2	1	1	1	1	0	0	1	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	1
<i>C. socos</i>	1	0	0	1	1	0	1	0	2	2	1	0	1	0	1	1	1	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0
<i>C. tigre</i>	1	0	0	1	1	0	1	0	1	1	1	0	1	0	1	1	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0
<i>C. patagonica</i>	0	0	0	0	1	1	0	1	0	?	1	0	0	?	1	1	?	?	0	1	1	?	?	?	?	?	1	0	0	0	?	?	?
<i>C. tecka</i>	0	0	1	1	1	1	1	1	1	?	1	0	0	?	1	1	?	?	0	0	1	1	?	?	?	?	1	0	1	0	?	?	?
<i>C. sanjuanina</i>	0	0	0	0	1	1	0	1	1	1	1	0	0	0	1	1	0	0	0	1	1	1	0	1	0	1	?	0	0	0	0	0	0
<i>C. castanea</i>	0	0	0	1	1	1	0	0	2	1	1	1	1	0	1	0	0	0	0	0	0	0	1	1	1	1	0	?	1	0	0	0	0
<i>C. costai</i>	0	0	0	1	1	0	0	0	2	2	1	0	1	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	1	1
<i>C. ansilta</i>	0	0	1	0	1	1	0	1	0	0	1	0	0	0	1	0	0	0	0	0	1	1	1	0	1	0	1	?	0	0	0	0	0

0, 1-1-1P SUP; 1, 0-0-1P SUP (16) Dorsal spines in male palpal tibia: 0, absent; 1, present (17) Spines on male patellae I-II: 0, 0/1P; 1, 1-1-1P (18) Female patella IV: 0, 0/1P; 1, 1-1-1P (19) Spines on female tarsi IV: 0, absent; 1, present (20) Spines on female tibia/metatarsus I: 0, short; 1, long (21) Male tibial spur: 0, absent; 1, present (22) Male palpal tibia: 0, short; 1, long (23) Male bulb keels: 0, absent; 1, parallel keels or ridges along embolous base; 2, lateral keels or flanges (24) Male bulb duct: 0, basal portion evenly curved; 1, basal portion strongly sinuous (25) Female spermathecae: 0, no basal sphere; 1, with basal sphere (26) Habits: 0, flap door; 1, trap door. (27) Spermathecae fundus: 0, subspherical; 1, reniform (28) female tibiae: 0, normal; 1, short (29) Setae on male cymbium: 0, thin hair like setae; 1, thickened setae (30) Two long dorsal setae on palpal tibiae setae: 0, absent; 1, present (31) Spines on male tibial apophysis: 0, five or less; 1, more than 5.

The phylogenetic analysis using implied weighting and implicit enumeration resulted in two most parsimonious trees. The topologies across K values 1-6 were stable (63 steps, CI = 0.58, RI = 0.67, K = 1, fit = 9.41, K = 6, fit = 3.26). The genus *Chaco* is monophyletic including

the new species, supported by the following synapomorphies: Posterior eye row procurved; strong rastellum; spination of male patellae I-II; presence of male palpal tibial spur. The main differences between the topology of the two recovered trees were: (*C. castanea* (*C. obscura*, *C. tucumana*)) is the sister group of (*C. costai* (*C. socos* + *C. tigre*) (*C. tecka*, *C. sanjuanina*, *C. patagonia*, *C. ansilta* sp. nov.)) in one tree, while in the other (*C. costai* ((*C. castanea*) ((*C. tucumana*) (*C. obscura*)))) are sister to (*C. socos* + *C. tigre*) (*C. tecka*, *C. sanjuanina*, *C. patagonia*, *C. ansilta* sp. nov.)). The consensus tree (Fig. 4C) yielded a polytomy for *C. obscura*, *C. tucumana* and *C. castanea* and the clades (*C. socos* + *C. tigre*) and (*C. tecka*, *C. sanjuanina*, *C. patagonia*, *C. ansilta* sp. nov.)). The monophyletic group (*C. tecka* (*C. sanjuanina* (*C. patagonia* (*C. ansilta* sp. nov.)))) includes the new species and this relation is supported by a single synapomorphy: Scopula IV absent or very light. Montes de Oca and Pérez-Miles (2013) reported on the monophyly of the genus *Chaco*. Consequently, the monophyly appears to be well supported with the inclusion of this new species in this work.

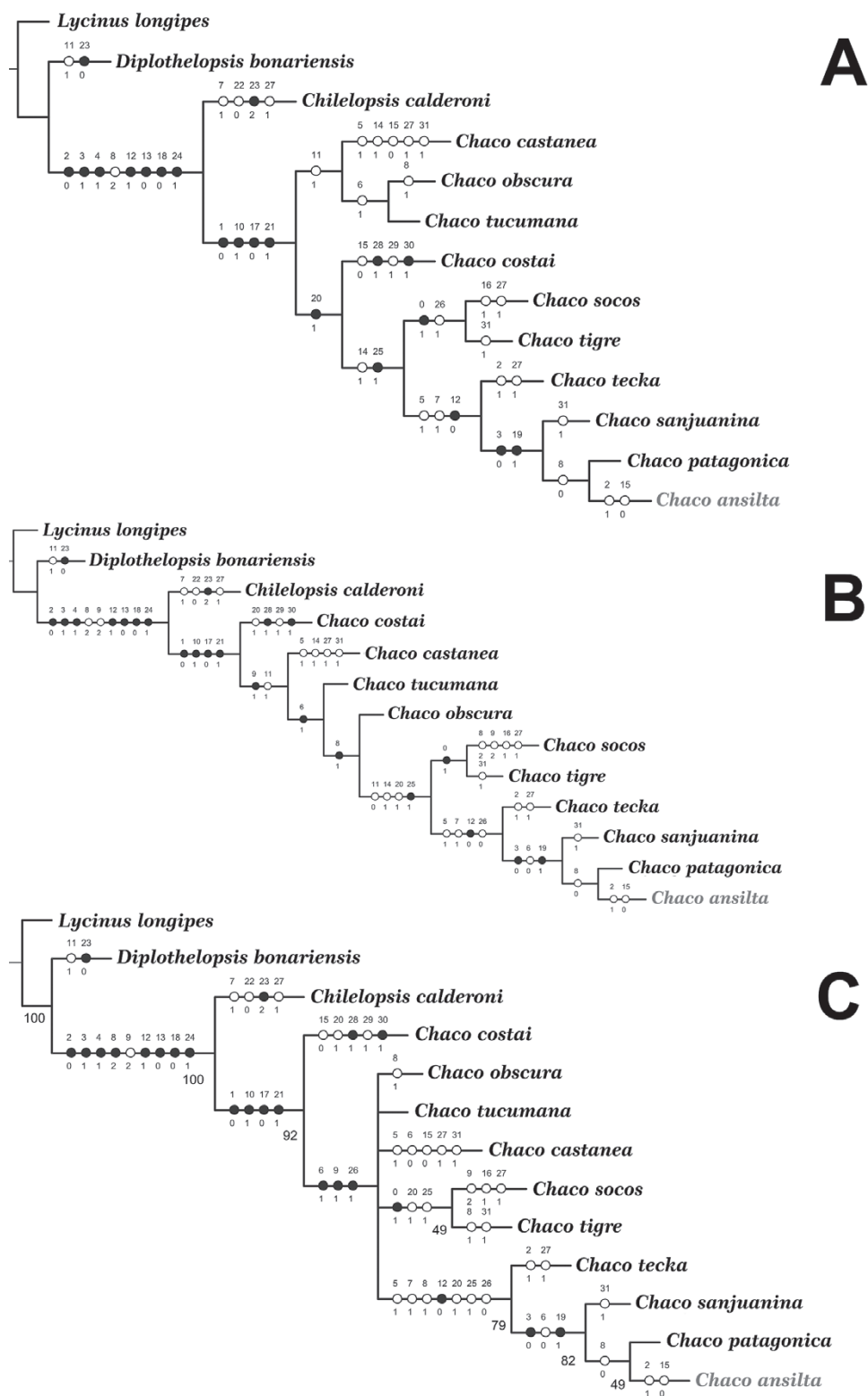


Fig. 4 - Results from cladistic analyses. **A – B**, Most parsimonious trees obtained using implied weighting (63 steps, CI = 0.58, RI = 0.67, K = 1, fit = 9.41, K = 6, fit = 3.26); **C**, Strict consensus of cladograms **A** and **B**. The numbers at each node are the Jackknife values.

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RESUMO

Uma nova espécie de *Chaco* Tullgren, 1905 é descrita e ilustrada do sopé dos Andes na província de Mendoza, no oeste da Argentina. Esta é a décima espécie do gênero e o primeiro registro de *Chaco* em Mendoza. Uma chave atualizada é apresentada para todas as espécies de *Chaco*. Uma análise cladística baseada em uma matriz de caráter morfológico publicada anteriormente resultou na árvore consenso: (C. obscura, C. tucumana, C. castanea, (C. socos + C. tigre) (C. tecka (C. sanjuanina (C. Patagonia + C. ansilta sp. nov.)))).

Palavras-chave: Sopé dos Andes, cladística, mygalomorpho, nemesiideo, taxonomia de aranhas.

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