



## Three new species and new records in the wolf spider subfamily Sosippinae from Argentina (Araneae: Lycosidae)

LUIS N. PIACENTINI

División Aracnología, Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Av. Angel Gallardo 470, C1405DJR, Buenos Aires, Argentina. E-mail: [piacentini@macn.gov.ar](mailto:piacentini@macn.gov.ar)

### Abstract

Three new species of Sosippinae from Argentina are described; one new species of *Hippasella* Mello-Leitão, 1944, *H. alhue* **sp. nov.**, from temperate Andean forests in the Argentinean provinces of Neuquén and Río Negro and two new species of *Aglaoctenus* Tullgren, 1905, *A. yacytata* **sp. nov.**, from the rainforests in Misiones province, and *A. puyen* **sp. nov.**, from temperate Andean forests in Río Negro province. *Aglaoctenus oblongus* (C. L. Koch, 1847) is recorded for first time in Entre Ríos province and new records for Buenos Aires province (Argentina) and Montevideo (Uruguay) are provided. The distribution of *A. lagotis* (Holmberg, 1876) is updated with first time records for the Argentinean provinces of Jujuy, Salta, Chaco, Formosa, La Rioja, Tucumán, Santiago del Estero, San Luis and Entre Ríos, new localities in the provinces of Misiones, Corrientes, Santa Fé and Córdoba.

**Key words:** *Aglaoctenus*, *Hippasella*, natural history

### Introduction

The subfamily Sosippinae Dondale, 1986 was erected by Dondale (1986) to include the genus *Sosippus* Simon, 1888 and *Porrmosa* Roewer, 1960 (a junior synonym of *Aglaoctenus* Tullgren, 1905), and it was proposed as the most basal subfamily of wolf spiders (Lycosidae Sundevall, 1833). Sierwald (2000) analysed the relationships of the sclerites in the male genital bulb, and concluded that the system of characters proposed by Dondale to define Sosippinae and its position relative to the other subfamilies should be re-assessed. Murphy *et al.* (2006) and Park *et al.* (2007) presented molecular phylogenetic analyses of the Lycosidae including two species of Sosippinae, *Aglaoctenus lagotis* (Holmberg, 1876) and *Sosippus placidus* Brady, 1972, which emerged as a monophyletic group, sister to a group that contains two *Arctosa* C.L. Koch, 1847 from Asia, although not in the same position as proposed by Dondale (1986) in relation to the other of the subfamilies. The genera *Hippasella* Mello-Leitão, 1944 and *Diapontia* Keyserling, 1877 were included in the Sosippinae by Álvares and Brescovit (2007), who proposed the retrolateral enlarged base of the pedipalpal cymbium as a new character for the subfamily.

The genus *Aglaoctenus* was revised by Santos and Brescovit (2001) who recognised two species, *A. lagotis* and *A. castaneus* Mello-Leitão, 1942. Later, Santos *et al.* (2003) included a third species in the genus, *A. oblongus* (C. L. Koch, 1847) and supported this generic transfer by the presence of plumose setae in the median septum of the epigyne and the curved male pedipalpal tibia.

The genus *Hippasella* Mello-Leitão, 1944 includes only one species, *H. guaquiensis* (Strand, 1908), recently revised by Álvares and Brescovit (2007). Males of *Hippasella* are distinguished from the rest of the Sosippinae genera by a small and pointed lateral apophysis of the conductor, a small and membranous median apophysis, and by a small lobe in the apical edge of the tegulum (figs 4 and 5 in Álvares and Brescovit 2007). The females can be distinguished from the rest of Sosippinae genera by the large and flattened median septum, and the spermathecae with a long, sigmoid curved stalk with a small and not bilobated base (fig. 8 in Álvares and Brescovit 2007).

After the study of four arachnological collections from Argentina and Chile, three new species of Sosippinae, and several new records of the previously described species *A. lagotis* and *A. oblongus* from Argentina were found.

The scope of this study is to describe these new species and expand the distribution range for *A. lagotis* and *A. oblongus*, providing new images of these species and data on the natural history of *A. oblongus*.

## Materials and methods

**Specimens and figures.** Specimens are deposited in the Arachnological collection of the Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Buenos Aires, Argentina (MACN-Ar, curator Cristina L. Scioscia), Museo de La Plata, Argentina (MLP, curator Luis Pereira), Museo Nacional de Historia Natural, Santiago, Chile (MNHN, curator Mario Elgueta) and Museo de Zoología de la Universidad de Concepción, Chile (MZUC, curator Jorge Artigas). Drawings were made using a camera lucida mounted on Olympus BH–2 compound microscope. The internal genitalia were cleared in clove oil or in lactic acid and, in the case of non-type specimens, digested with warm 10% KOH solution to dissolve soft tissues. Photographs of the preserved specimens were taken with a Leica DFC 290 digital camera mounted on a Leica M165 C stereoscopic microscope or a Nikon DXM1200 camera coupled with an Olympus B-2 compound microscope for transmitted light photographs. The focal planes were combined with Helicon Focus 4.62 Pro ([www.heliconsoft.com](http://www.heliconsoft.com)). Measurements are given in millimetres. Immature specimens of *Aglaoctenus* and *Hippasella* cannot be reliably identified, and were listed between brackets when found in vials together with adults.

**Abbreviations and terminology.** The species descriptions follow Piacentini and Grismado (2009). The macrosetae notation follows Ramírez (2003). The measurements follows Framenau (2002) with the following modifications: the posterior ocular quadrangle follows Brady (1962), the tibia and patella I-carapace width ratio follows Santos and Brescovit (2001). The nomenclature of the female genital elements follows Sierwald (2000). The following abbreviations are used in species descriptions and figures:

ALE	anterior lateral eyes
AME	anterior median eyes
BS	base of spermatheca
C	conductor
CD	copulatory duct
CH	carapace height
CL	carapace length
CW	carapace width, taken in the fovea zone
E	embolus
FD	fertilization duct
HS	head of spermatheca
LAC	lateral apophysis of conductor
MA	median apophysis
MS	median septum
PLE	posterior lateral eyes
PME	posterior median eyes
POQ	posterior ocular quadrangle
SS	stalk of spermatheca
ST	sub tegulum
T	tegulum
TCR	Tibia and patella I-carapace width ratio
TL	total length
VC	vulval chamber

We report GPS coordinates of the localities when available (denoted with “GPS”), otherwise, we provide approximate coordinates (denoted with “ca.”), calculated with the point-radius method (Wieczorek *et al.* 2004), with datum WGS84 and expressed in decimal degrees and associated error.

Each figure has a temporary preparation code that links the image with a specimen or part of a specimen used, and the imaging device. It is used for the management of image metadata in databases. The temporary preparation code is composed of a three letter abbreviation that indicates the author of the preparation, and five numbers.

## Taxonomy

**Lycosidae** Sundevall, 1833

**Sosippinae** Dondale, 1986

**Hippasella** Mello-Leitão, 1944

*Hippasella* Mello-Leitão 1944: 342; Roewer 1960: 1002; Álvares and Brescovit 2007: 313.

*Sosippus* Simon: Capocasa 1990: 140 (synonymy rejected by Sierwald 2000: 138).

See Álvares and Brescovit (2007) for genus diagnosis.

### ***Hippasella alhue* sp. nov.**

(Figs 1–4, 18c, 19c, 20)

**Type material.** Male holotype from Argentina: Neuquén: Cerro Bayo, S 40.74852° W 71.60021° elev. 1404 m GPS, III.2005, Werenkraut, V. (pitfall traps cod. M3S6M05) (MACN-Ar 22101). Three male paratypes (MACN-Ar 20471) from the same locality, data and collector, and three female paratypes (MACN-Ar 20467; temporary preparations LNP-00539, LNP-00540 and LNP-00548) from the same locality and collector, I.2005 (pitfall traps cod. M3S6M05).

**Other material examined.** **ARGENTINA: Río Negro:** Cerro Chall-huaco, S 41.23982° W 71.2878°, elev. 1123 m GPS, III.2006, Werenkraut, V. (pitfall traps cod. M5S3M06), 3 males [1 juvenile] (MACN-Ar 22090; temporary preparation LNP-00536); same locality and collector, III.2005 (pitfall traps cod. M5S3M05), 1 male (MACN-Ar 21958); Cerro Chall-huaco, S 41.25967° W 71.29105°, elev. 1404 m GPS, I.2005, Werenkraut, V. (pitfall traps cod. M5S6E05), 1 female (MACN-Ar 21771); same locality and collector, III.2005 (pitfall traps cod. M5S6M05), 2 males (MACN-Ar 21974); Cerro Chall-huaco, S 41.26248° W 71.29703°, elev. 1509 m GPS, III.2006, Werenkraut, V. (pitfall traps cod. M5S7M06), 2 males (MACN-Ar 20442); same locality and collector, I.2005 (pitfall traps cod. M5S7E05), 1 male 1 female (MACN-Ar 21773; temporary preparations LNP-00599 and LNP-00600); same locality and collector, III.2005 (pitfall traps cod. M5S7M05), 1 female (MACN-Ar 21977); Cerro López S 41.09845° W 71.54952°, elev. 1398 m GPS, III.2006, Werenkraut, V. (pitfall traps cod. M1S7M06), 1 male (MACN-Ar 20241); same locality and collector, III.2005 (pitfall traps cod. M1S7M05), 3 males (MACN-Ar 21622); Cerro López S 41.10307° W 71.56223°, elev. 1700 m GPS, I.2005, Werenkraut, V. (pitfall traps cod. M1S10E06), 1 male [1 juvenile] (MACN-Ar 20453); same locality and collector, III.2006 (pitfall traps cod. M1S10M06), 2 males (MACN-Ar 22063); same locality and collector, III.2005 (pitfall traps cod. M1S10M05), 4 male (MACN-Ar 22064). **Neuquén:** Cerro Pelado S 40.93134° W 71.33495°, elev. 1318 m GPS, III.2005, Werenkraut, V. (pitfall traps cod. M2S6M05), 1 male (MACN-Ar 21670; temporary preparation LNP-00583); Cerro Bayo, S 40.74895° W 71.60832°, elev. 1510 m GPS, I.2005, Werenkraut, V. (pitfall traps cod. M3S7E05), 1 female (MACN-Ar 20476); San Martín de los Andes, Cerro Chapelco (ca. S 40.223600° W 71.288900° + 2140 m), II.1961, Galiano, M. E. 1 female [1 juvenile] (MACN-Ar 5318).

**Diagnosis.** Males of this species can be distinguished from those of *H. guaquiensis* by the well-developed lateral apophysis of the conductor (Fig. 2e). Females differ by the more elongated and squared median septum, not rounded as in *H. guaquiensis*, and in the triangular head of spermatheca, which is rounded in *H. guaquiensis* (Fig. 4, 18c and figs 7–9 in Álvares and Brescovit 2007).

**Description. Male** (holotype). Colour in ethanol (Fig. 1): carapace brown with dark radial pattern, light brown median band narrowing posteriorly, pale submarginal bands enhanced by white setae. Chelicerae, endites and labium, dark brown. Sternum, and coxae, reddish-brown. Femora and patellae light brown with dark spots. Tibiae and metatarsi reddish brown, with light spots. Scopulae dense, on legs I and II from ventral distal sides of tibiae through tarsi, on legs III and IV from metatarsi. Abdomen brown, with two lines of white setae in posterior half, connected by five dark stripes; venter light brown.



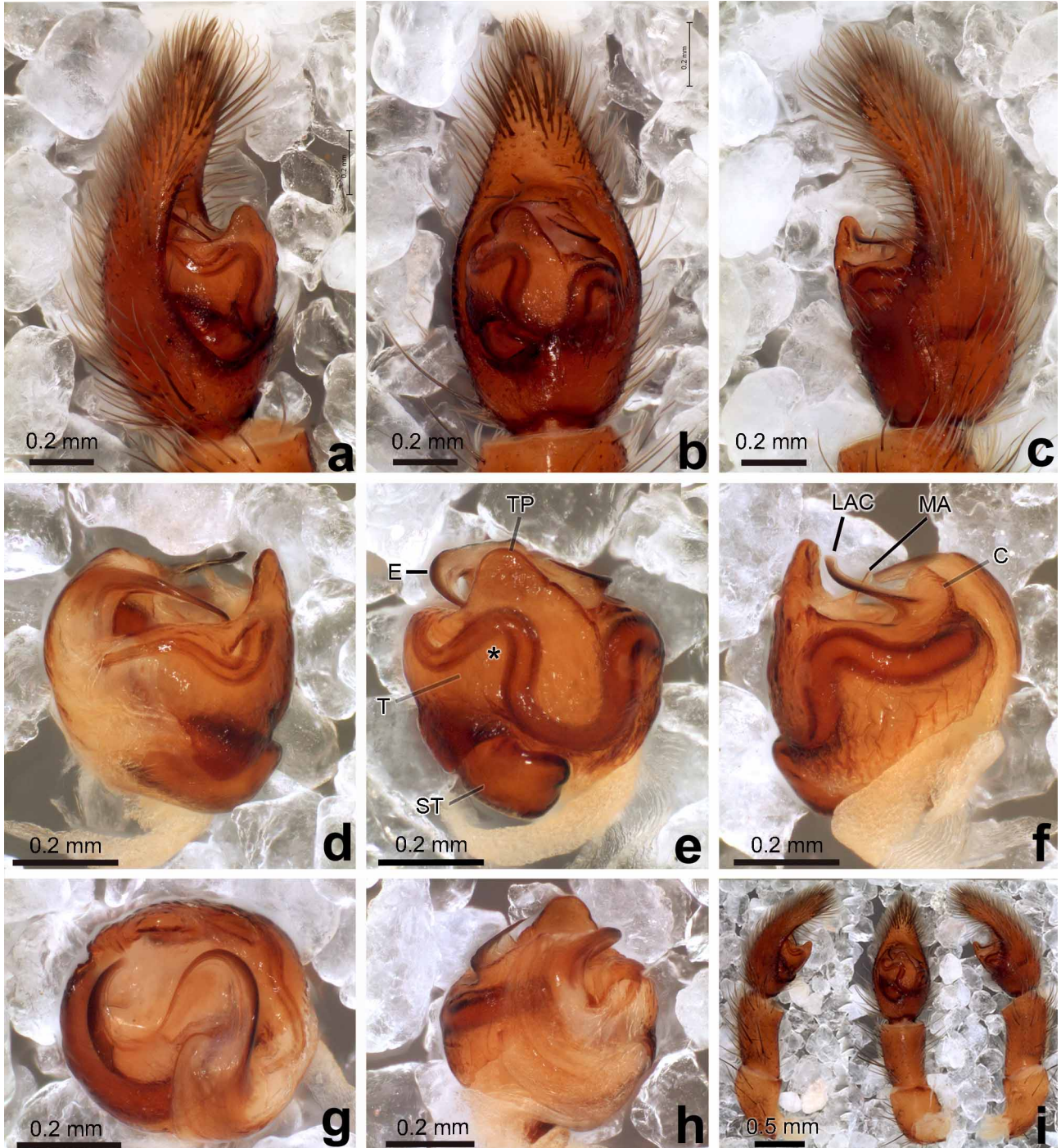
**FIGURE 1.** *Hippasella alhue* sp. nov. Male from Río Negro, Cerro Chall-huaco (MACN-Ar 21773), habitus, **a** dorsal; **b** ventral; **c** lateral. Temporary preparation LNP-00599.

Pedipalp (Fig. 2), tibia slightly curved. Cymbium without distal spines. Tegulum with an apical projection in ventral view and sperm duct with sigmoid shape in the ventral part (Fig. 2e). Lateral apophysis of conductor well developed, median apophysis small and membranous (Fig. 2f).

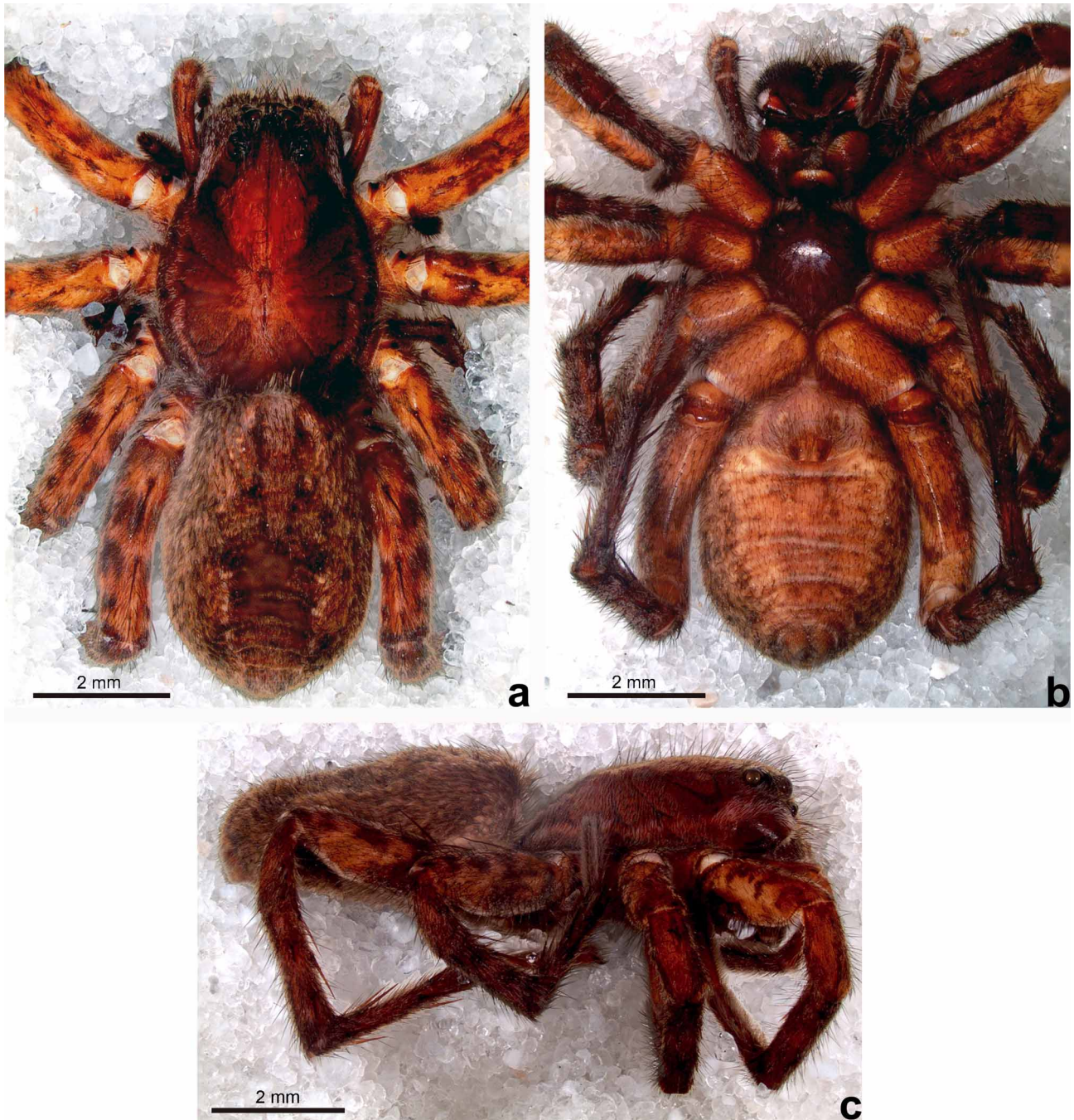
TL 8.53, CL 4.33, CW 3.27, CH 1.67. Eyes: AME 0.13, ALE 0.15, PME 0.33, PLE 0.27, POQ length 0.50, POQ posterior width 0.78, POQ anterior width 0.25. Anterior eye row slightly procurved, ALE on small tubercles. Chelicerae: 1.42 length, three promarginal teeth, the median largest; retromargin with three teeth of same size. Abdomen: length 4.20, width 2.73. Legs: length of segments (femur + patella/tibia + metatarsus + tarsus = total length): **pedipalp** 1.33 + 1.47 + - + 1.20 = 4.00, **I** 2.80 + 3.67 + 2.40 + 1.53 = 10.40, **II** 2.67 + 3.40 + 2.33 + 1.40 = 9.80, **III** 2.60 + 3.40 + 2.40 + 1.47 = 9.87, **IV** 3.13 + 4.00 + 3.40 + 3.87 = 14.40. Leg formula 4132. Spination pat-

tern: femur **I** p 0-0-d2 d 1-1, **II** p d1-0-d1 d 1-1-1 r 0-d1-d1, **III** p d1-0-d1 d 1-1-1 r d1-0-d1, **IV** p 0-0-d1 d 1-1-1 r 0-0-d1; patella **III** p 1 r 1, **IV** p 1 r 1; tibia **I** p 0-0-1 r 0-0-1 v 2-2-2ap, **II** p 1-0-1 r 0-0-1 v r1-r1-2ap **III**, p 1-1 d 1 r 1-1 v 2-2-2ap, **IV** p 1-1 d 1 r 1-1 v 2-2-2ap; metatarsus **I** p 0-d1-1ap r 0-1-1ap v 2-2-0, **II** p 0-1-2ap r 0-1-1ap v 2-2-1ap, **III** p 1-1-2ap r 1-1-2ap v 2-2-1ap, **IV** p 1-1-1ap r 1-1-2ap v 2-2-2ap.

**Female** (MACN-Ar 20467). Colour in ethanol (Fig. 3, 19c): as in male.



**FIGURE 2.** *Hippasella alhue* sp. nov. Male from Río Negro, Cerro Chall-huaco (MACN-Ar 21773), **a-c** pedipalp, **a** prolateral; **b** ventral; **c** retrolateral; **d-h** bulb, **d** prolateral; **e** ventral; **f** retrolateral; **g** apical; **h** dorsal; **i** pedipalp, general view. Temporary preparation LNP-00600. Abbreviations: C conductor, TP tegular projection, E embolus LAC lateral apophysis of the conductor, MA median apophysis, ST sub tegulum, T tegulum, \* path of the sperm duct.

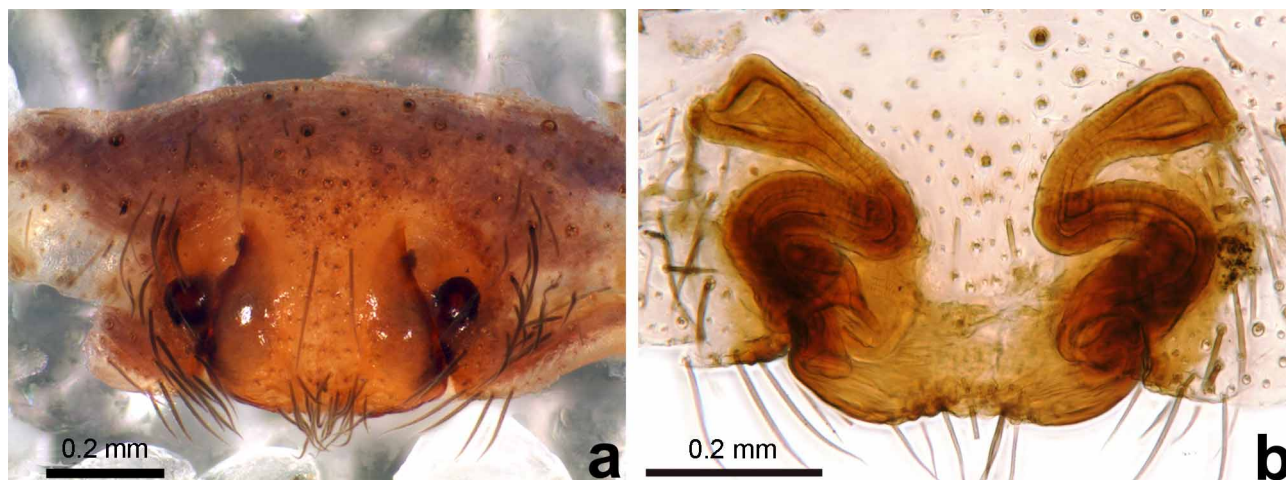


**FIGURE 3.** *Hippasella alhue* sp. nov. Female paratype from Neuquén, Cerro Bayo (MACN-Ar 20467), a-c habitus, a dorsal; b ventral; c lateral. Temporary preparation LNP-00539.

Epigyne (Fig. 4), median septum wide, covered by small setae, with lateral projections covering part of atrium. Internal genitalia (Figs 4b, 18c) spermatheca with stalk long and sigmoid, vulval chamber rounded. Head of spermatheca wide and triangular. Fertilization duct small, membranous, located at posterior margin and curved dorsally.

TL 9.47, CL 4.67, CW 3.40, CH 1.33. Eyes: AME 0.17, ALE 0.15, PME 0.32, PLE 0.27, POQ long 0.55, POQ posterior width 0.92, POQ anterior width 0.25. Anterior eye row slightly procurved, ALE on small tubercles (Fig. 19c). Chelicerae: 1.87 length, three promarginal teeth, the median largest; retromargin with three teeth of same size. Abdomen: length 4.80, width 3.20. Legs: (femur + patella/tibia + metatarsus + tarsus = total length): **pedipalp** 1.33 + 1.33 + - + 1.47 = 4.13, **I** 2.80 + 3.60 + 1.87 + 1.47 = 9.74, **II** 2.60 + 3.27 + 2.00 + 1.27 = 9.14, **III** 2.47 + 2.73 + 2.13 + 1.40 = 8.73, **IV** 3.07 + 3.73 + 3.47 + 1.53 = 11.80. Leg formula 4123. Spination pattern: femur **I** p 0-1-d2 **d** 1-1, **II** p 0-0-2 **d** 1-1, **III** p 0-d1-d1 **d** 1-1-1 **r** 0-0-d1, **IV** p 0-d1-d1 **d** 1-1-1 **r** 0-0-d1; patella **III** p 1 **r** 1, **IV**

p 1 r 1; tibia I v p1-2-2ap, II p 0-1-1 v p1-2-2ap, III p 1-1 r 1-v1 v p1-p1-2ap, IV p 0-1-v1 r 0-1-1 v p1-2-2ap; metatarsus I p 0-0-1 r 0-0-1 v 2-2-1ap, II p 0-1-2 r 0-1-2 v 2-2-1ap, III p 1-1-2 r 1-1-2 v 2-2-1ap, IV p 1-1-1 r 1-1-2 v 2-2-2ap.



**FIGURE 4.** *Hippasella alhue* sp. nov. Female paratype from Neuquén, Cerro Bayo (MACN-Ar 20467), **a** epigyne ventral; **b** dorsal, cleared in lactic acid. Temporary preparations **a** LNP-00540 and **b** LNP-00548.

**Variation.** Female (male) range, mean  $\pm$  SD. TL 7.80 – 11.53, 9.92  $\pm$  1.40; CL 4.13 – 5.47, 4.20  $\pm$  0.45; CW 2.87 – 4.00, 2.63  $\pm$  0.38; TCR0.94– 1.11, 1.04  $\pm$  0.06; n = 7 (TL 7.20 – 10.13, 7.59  $\pm$  0.78; CL 3.53 – 5.33, 4.39  $\pm$  0.52; CW 2.87 – 3.80, 3.23  $\pm$  0.28; TCR1.07 – 1.37, 1.07  $\pm$  0.09; n = 9).

**Etymology.** The specific name is a noun in apposition that means soul, ghost or spectre of the dead in the Mapuche language.

**Biology.** Most of the material was collected by Victoria Werenkraut using pitfall traps in two different habitats: In lenga forest (*Nothofagus pumilo*) between 1100 and 1700 m altitude, and in Andean steppe at 1700 m. The presence of males and females in pitfall samples suggest that this is a wandering species

**Distribution.** South-western Argentina (Neuquén and Río Negro) (Fig. 20).

### *Aglaoctenus* Tullgren, 1905

*Porrina* Simon, 1898: 327 (type species by original designation *Podophtalma diversa* O. Pickard-Cambridge, 1877); name preoccupied by a Lepidoptera (Neave 1940).

*Aglaoctenus* Tullgren, 1905: 52 (type species by monotypy *A. bifasciatus* Tullgren, 1905).

See Santos and Brescovit (2001) for description and a complete list of synonyms.

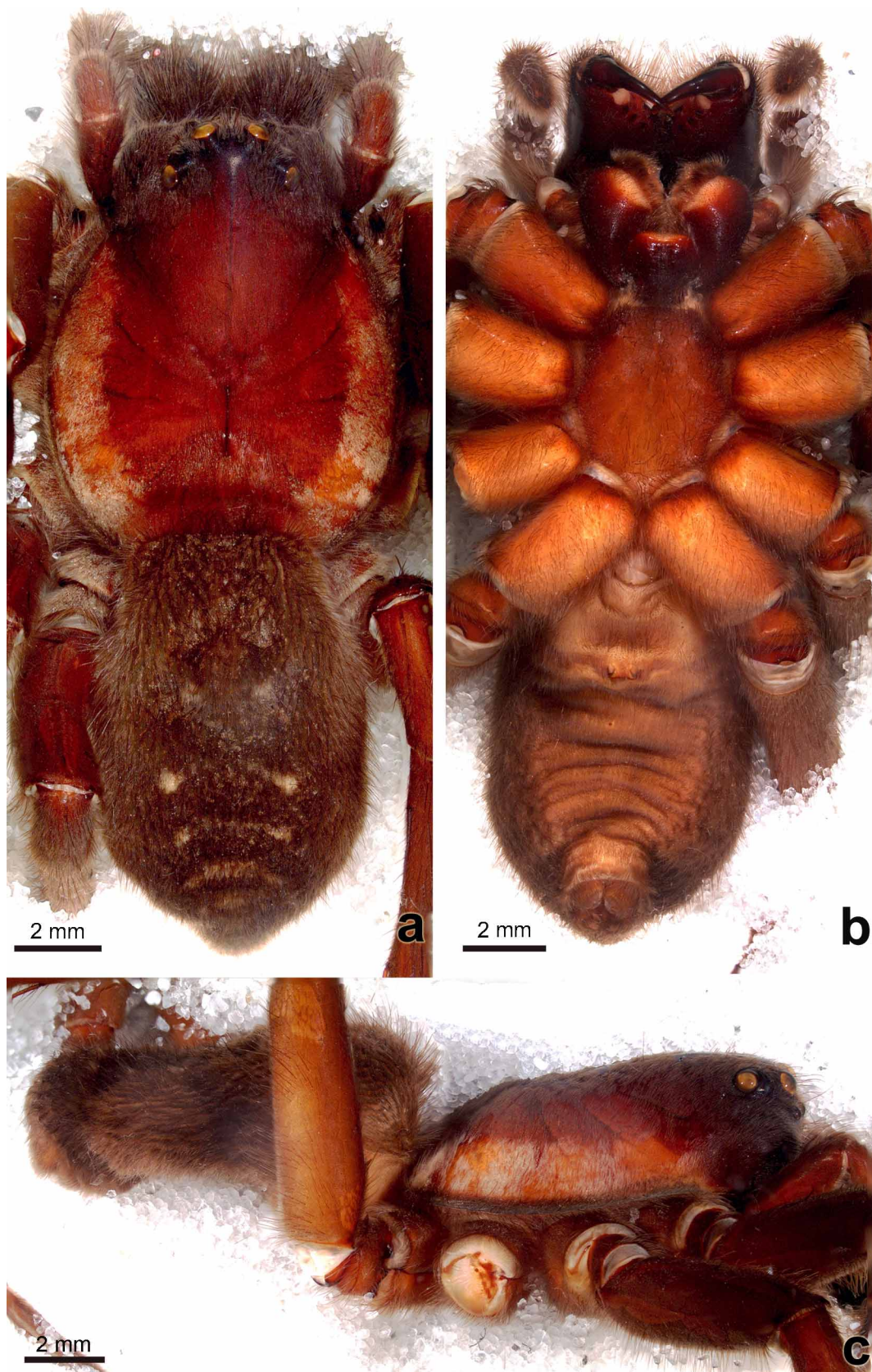
### *Aglaoctenus puyen* sp. nov.

(Figs 5–6, 18a, 19a, 20)

**Type material.** Female holotype from Argentina: Neuquén: San Martín de los Andes, Cerro Chapelco (ca. S 40.223611° W 71.288889° + 2140 m), II.1961, Galiano, M. E. (MACN-Ar 5319; temporary preparation LNP-00044) and female paratype with the same data (MACN-Ar 20301).

**Other material examined.** ARGENTINA: **Río Negro:** Cerro Catedral, Laguna Toncek (ca. S 41.199722° W 71.485833° + 2085 m), 13.I.1964, 1 female (MACN-Ar 24099; temporary preparations LNP-00041 and LNP-00608).

**Diagnosis.** Females of *A. puyen* sp. nov. can be distinguished from other species of *Aglaoctenus* by the wide marginal light brown bands in the carapace (Fig. 5a), and by the epigyne that has a wide longitudinal septum, similar to *A. oblongus* (Fig. 13a) but without well developed lateral projections (Fig. 6a).

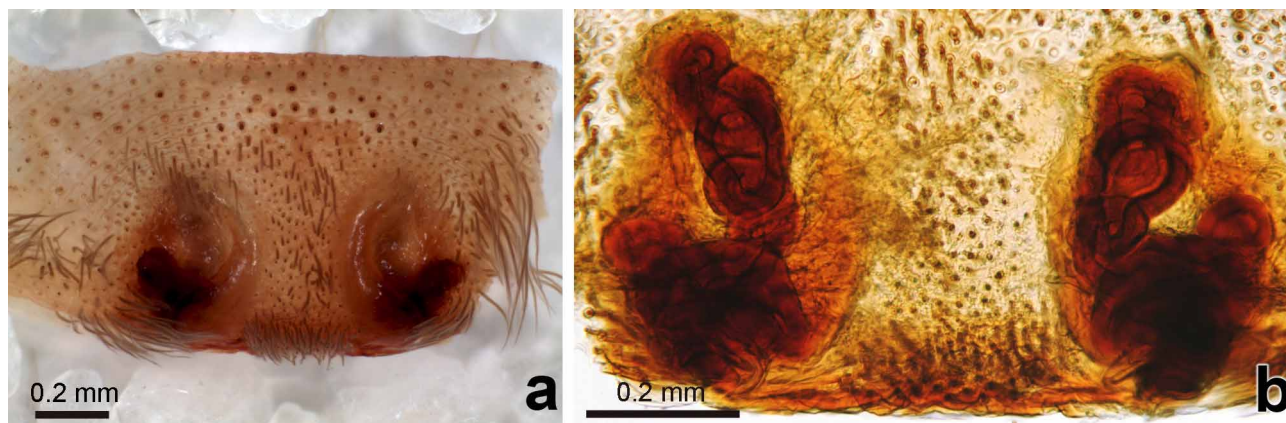


**FIGURE 5.** *Aglaoctenus puyen* sp. nov. Female holotype Neuquén, San Martín de los Andes, Cerro Chapelco (MACN-Ar 5319), a habitus dorsal; b ventral; c lateral. Temporary preparation LNP-00044.

**Description. Female** (holotype). Colour in ethanol (Fig. 5, 19a): carapace reddish-brown, covered by dark setae; wide, light brown marginal bands, enhanced by white setae. Chelicerae, endites and labium dark



brown. Sternum and coxae brown, femora brown with light areas; patellae, tibiae, metatarsi and tarsi brown. Scopulae dense from distal ventral half of tibiae trough tarsi. Abdomen dorsally reddish-brown, with two pairs of anterior white spots, followed by a third pair of spots united by a line of white setae; ventrally light brown. Epigyne (female MACN-Ar 24099 dissected) (Fig. 6a), median septum wide, without lateral projections, covered by plumose setae. Internal genitalia, (Figs 6b, 18a) spermatheca with long and twisted stalk, head of spermatheca with small projections, vulval chamber semi-oval. Fertilization ducts small and membranous, connected to the base of spermatheca at its posterior side.



**FIGURE 6.** *Aglaoctenus puyen* sp. nov. Female from Río Negro, Cerro Catedral, Laguna Toncek (MACN-Ar 24099), **a** epigyne ventral; **b** dorsal cleared in clove oil. Temporary preparations **a** LNP-00041 and **b** LNP-00608.

TL 21.42, CL 11.44, CW 8.51, CH 3.06. Eyes: AME 0.33, ALE 0.25, PME 0.73, PLE 0.60, POQ length 1.13, POQ posterior width 2.47, POQ anterior width 0.73. Anterior eye row slightly procurved, ALE in small tubercles (Fig. 19a). Chelicerae: 4.67 length, three promarginal teeth, the median largest; retromargin with three equal equidistant teeth. Abdomen: length 9.98, width 6.92. Anterior lateral spinnerets conical, two-segmented, distal segment short, truncated. Legs: length of segments (femur + patella/tibia + metatarsus + tarsus = total length): **pedipalp** 3.99 + 2.79 + - + 3.86 = 10.64, **I** 8.38 + 11.70 + 7.45 + 4.12 = 31.65, **II** 8.25 + 11.17 + 7.58 + 3.99 = 30.99, **III** 7.98 + 9.98 + 7.45 + 3.72 = 29.13, **IV** 9.18 + 11.44 + 9.04 + 4.66 = 34.32. Leg formula 4123. Spination pattern: femur **I** p d1-1-d1 d 1-1, **II** p d1-0-d1 d 1-1, **III** p d1-0-d1 d 1-1-1 r d1-0-d1, **IV** p d1-0-d1 d 1-1-1 r 0-0-d1ap; patella **III** p 1 r 1, **IV** p 1 r 1; tibia **I** p 0-0-v1 r 0-0-v1 v 2-2-2ap, **II** p 1-0-v1 r 1-0-v1 v 2-2-2ap, **III** p 1-0-v1 r 1-0-v1 v p1-2-2ap, **IV** p 1-0-v1 r 1-0-v1 v 2-2-2ap; metatarsus **I** p 0-0-1 r 0-0-1 v 2-2-1ap, **II** p 0-1-1 r 0-1-1 v 2-2-1ap, **III** p d1-1-2 r d1-1-2 v 2-2-1ap, **IV** p d1-d1-2ap r d1-1-2ap v r1-p1-r1-1ap.

**Male.** Unknown.

**Variation.** Range, mean  $\pm$  SD. TL 19.82 – 21.55, 20.93  $\pm$  0.96; CL 9.98 – 11.44, 10.95  $\pm$  0.84; CW 8.38 – 8.65, 8.51  $\pm$  0.13; TCR 1.34 – 1.37, 1.35  $\pm$  0.02; n = 3.

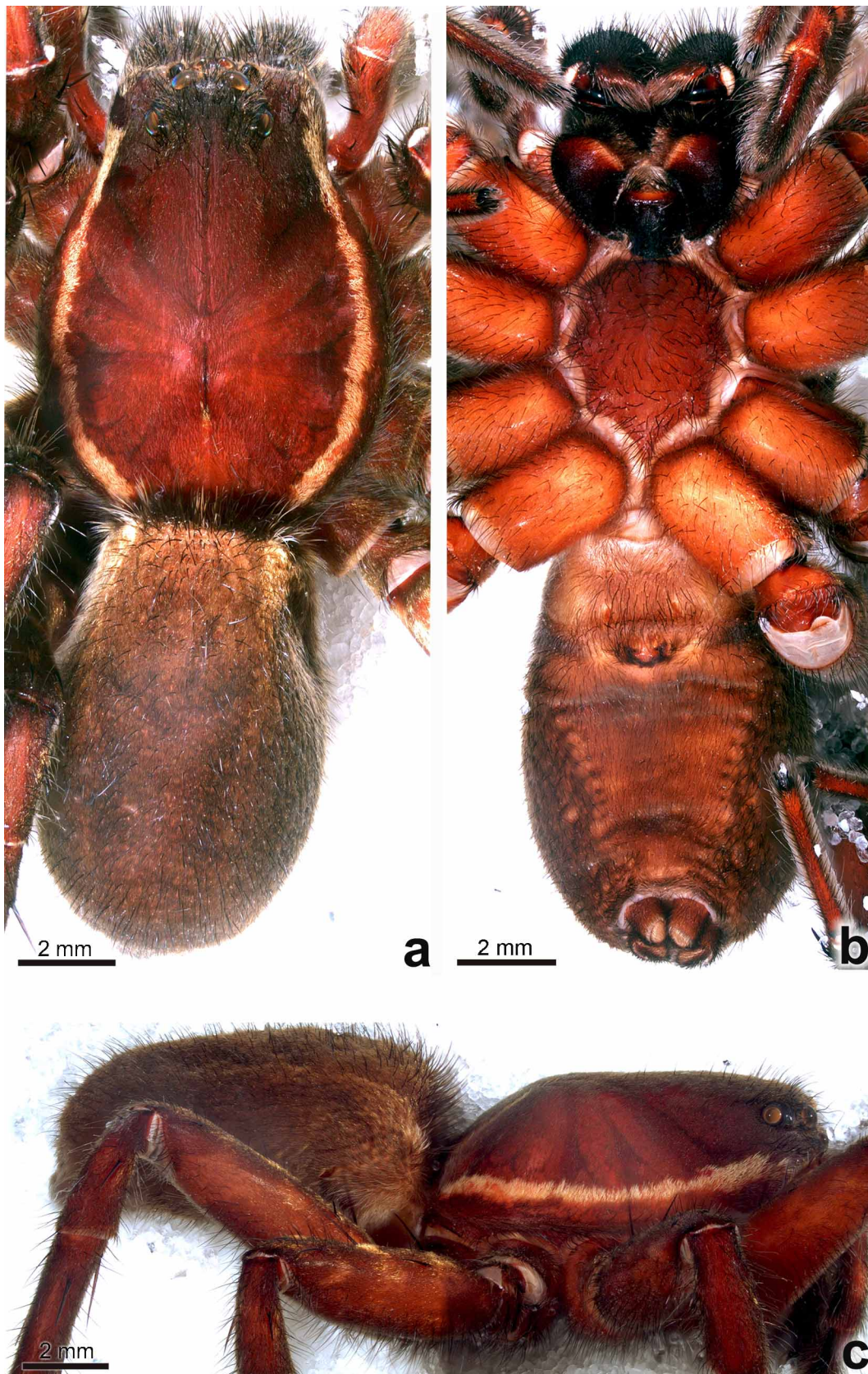
**Etymology.** The specific name is a noun in apposition after the goddess of the Moon in the Mapuche language.

**Distribution.** Know only from two records in temperate Andean forest localities in Neuquén and Río Negro provinces (Fig. 20).

### *Aglaoctenus yacytata* sp. nov.

(Figs 7–9, 18b, 19b, 21)

**Type material.** Female holotype from Argentina: Misiones: Departamento Cainguás, Parque Provincial Salto Encantado, Salto Agutí (ca. S 27.0619444° W 54.8352778° -+ 3479 m), 11.I.2005, Grismado, C., Lopardo, L., Piacentini, L., Quaglino A. and Rubio, G. (MACN-Ar 24106; temporary preparation LNP-00604). Four females paratypes from the same province, Departamento de San Pedro, Parque Provincial Cruce Caballero (26°28'S, 53°58'W GPS), 13–16.I.2005, Grismado, C., Lopardo, L., Piacentini, L., Quaglino, A. and Rubio, G. (MACN-Ar 24105; temporary preparations LNP-00578 and LNP-00579).

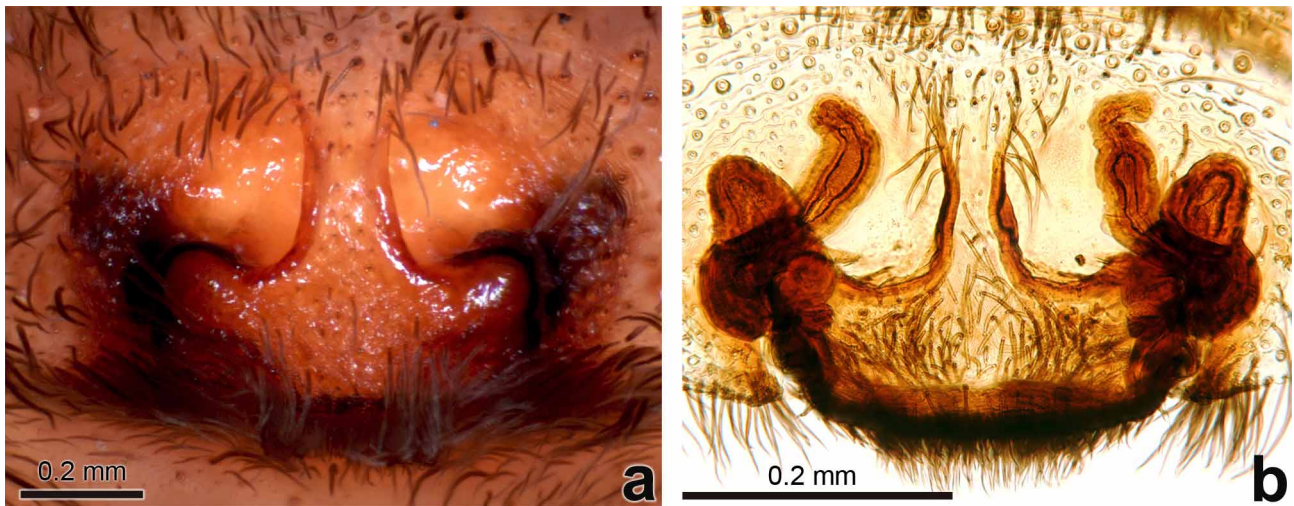


**FIGURE 7.** *Aglaoctenus yacytata* sp. nov. Female holotype from Misiones, Departamento Caingúas, Parque Provincial Salto Encantado, Salto Agutí (MACN-Ar 24106), **a** habitus dorsal; **b** ventral; **c** lateral. Temporary preparation LNP-00604.

**Other material examined.** ARGENTINA: **Misiones:** No further locality (ca. S 26.928333° W 54.598056° -+ 203397 m) XI-XII.1957, Cranwell, J. A., 1 female (MACN-Ar 24111); same locality and collector, XI-XII.1957, 1 female (MACN-Ar 24107); same data as holotype [1 juvenile] (MACN-Ar 20394); Departamento Manuel Bel-

grano, San Antonio (ca. S 26.060538° W 53.737163° -+ 1077 m), I.1966, Galiano, M. E., 1 female (MACN-Ar 24108); Piñalitos (ca. S 25.982358° W 53.897255° -+ 1556 m), 1954, Partdrige, 1 female (MACN-Ar 24109); Yacu-Poí, 30 Km de Puerto Bemberg (ca. S 25.937071° W 54.256221° -+ 3025 m), II.1951, Cranwell, J. A., 1 female (MACN-Ar 3340); same data, 1 female [4 juveniles] (MACN-Ar 3341); same locality, X.1954, Orfila, R., 1 female (MACN-Ar 24110); Yacuí (ca. S 25.671686° W 54.162192° -+ 9516 m), 27.IX.1947, Duret, P. J., 1 female (MACN-Ar 4111).

**Diagnosis.** This species is distinguished from other *Aglaoctenus*, except for *A. lagotis* (Fig. 17) and *A. castaneus*, by the inverted T-shape of the median septum, without lateral projections (Fig. 8a). The anterior lateral eyes on small tubercles (Figs 19b, e) and the colour pattern of the carapace (Figs 7a, c) distinguish this species from *A. lagotis* (Figs 16a, c) and *A. castaneus*.



**FIGURE 8.** *Aglaoctenus yacytata* sp. nov. **a** female holotype (MACN-Ar 24106), epigyne ventral; **b** female paratype from Misiones, Departamento de San Pedro, Parque Provincial Cruce Caballero (MACN-Ar-24105), epigyne dorsal, cleared in clove oil. Temporary preparations **a** LNP-00604 and **b** LNP-00579.

**Description. Female** (holotype). Colour in ethanol (Figs 7, 19c): carapace, dark reddish-brown, covered by dark setae, with light submarginal bands enhanced by white setae (orange in live specimens (Fig. 9)). Chelicerae, endites and labium, dark brown. Sternum reddish-brown, coxae brown. Venter of femora, patellae and basal third of tibiae, light brown, dorsally brown with darker areas; distal tibiae, metatarsi and tarsi brown. Scopulae dense from the tibiae through tarsi. Abdomen dorsally brown without clear pattern, ventrally light brown.



**FIGURE 9.** *Aglaoctenus yacytata* sp. nov. Live specimen from Misiones: Uruguá-í (Photo of Gonzalo Rubio).

Epigyne (Fig. 8a), median septum with inverted T-shape, without lateral projections, covered by plumose setae. Internal genitalia (Figs 8b, 18b), spermatheca with a long and medially curved stalk, vulval chamber semi-oval. Head of spermatheca branched and with small projections. Fertilization duct small and membranous, connected to the base of spermatheca posteriorly.

TL 18.09, CL 9.40, CW 7.45, CH 2.79. Eyes: AME 0.33, ALE 0.27, PME 0.57, PLE 0.47, POQ length 0.93, POQ posterior width 1.93, POQ anterior width 0.40. Anterior eye row slightly procurved, ALE on small tubercles (Fig. 19b). Chelicerae: 4.27 length, three promarginal teeth, the median largest; retromargin with three equal equidistant teeth. Abdomen: length 8.25, width 6.38. Anterior lateral spinnerets conical, two-segmented, distal segment short, truncated. Legs: length of segments (femur + patella/tibia + metatarsus + tarsus = total length): **pedipalp** 3.19 + 2.10 + - + 2.75 = 10.04, **I** 7.98 + 11.04 + 7.18 + 3.86 = 30.06, **II** 7.98 + 10.37 + 6.65 + 3.72 = 28.72, **III** 7.58 + 8.65 + 6.65 + 3.72 = 26.6, **IV** 8.78 + 11.70 + 9.98 + 4.26 = 34.72. Leg formula 4123. Spination pattern: femur **I p** 0-0-2ap **d** 1-1-1, **II p** d1-0-d1 **d** 1-1-1 **r** 0-d1-d1, **III p** d1-0-d1 **d** 1-1-1 **r** d1-0-d1, **IV p** d1-0-d1 **d** 1-1-1 **r** 0-0-d1; patella **II p** 1, **III p** 1 **r** 1, **IV p** 1 **r** 1; tibia **I p** 0-0-1 **v** 2-2-2ap, **II p** 1-0-1 **v** r1-2-2, **III p** 1-0-1 **d** 0-1-0 **r** 1-0-1 **v** 2-2-2ap, **IV p** 1-0-1 **r** 1-0-1 **v** p1-2-2ap; metatarsus **I p** 1ap **r** 1ap **v** 2-2-1ap, **II p** 1ap **r** 1ap **v** 2-2-1ap, **III p** 1-1-2ap **r** 1-1-2ap **v** 2-2-1ap, **IV p** 1-1-2ap **r** 1-1-2ap **v** 2-2-1ap.

**Male.** Unknown.

**Variation.** Range, mean  $\pm$  SD. TL 14.64 – 20.62, 17.96  $\pm$  1.95; CL 7.32 – 10.11, 9.10  $\pm$  0.90; CW 5.59 – 7.71, 6.94  $\pm$  0.65; TCR 1.40 – 1.51, 1.45  $\pm$  0.04; n = 10.

**Etymology.** The specific name is a noun in apposition after the fire of the Moon in the Guarani language.

**Natural history.** The female holotype (who at the moment of capture carried an eggsac attached to the spinnerets) was found on a fallen trunk, in a dense white tubular retreat, similar to the retreat in the web of *A. lagotis*. The web lacked the horizontal mesh web described for *A. lagotis* (Santos and Brescovit, 2001). The juvenile (MACN-Ar 20394) was collected in cracks on a rocky wall over a small water body, no web was observed there. The female illustrated in Fig. 5, was collected in a web, similar to that of *A. lagotis*, but smaller in proportion to the size of the spider (Gonzalo Rubio, personal communication).

**Distribution.** Known only from rain forest in Misiones province (Fig. 21).

### *Aglaoctenus oblongus* (C. L. Koch, 1847)

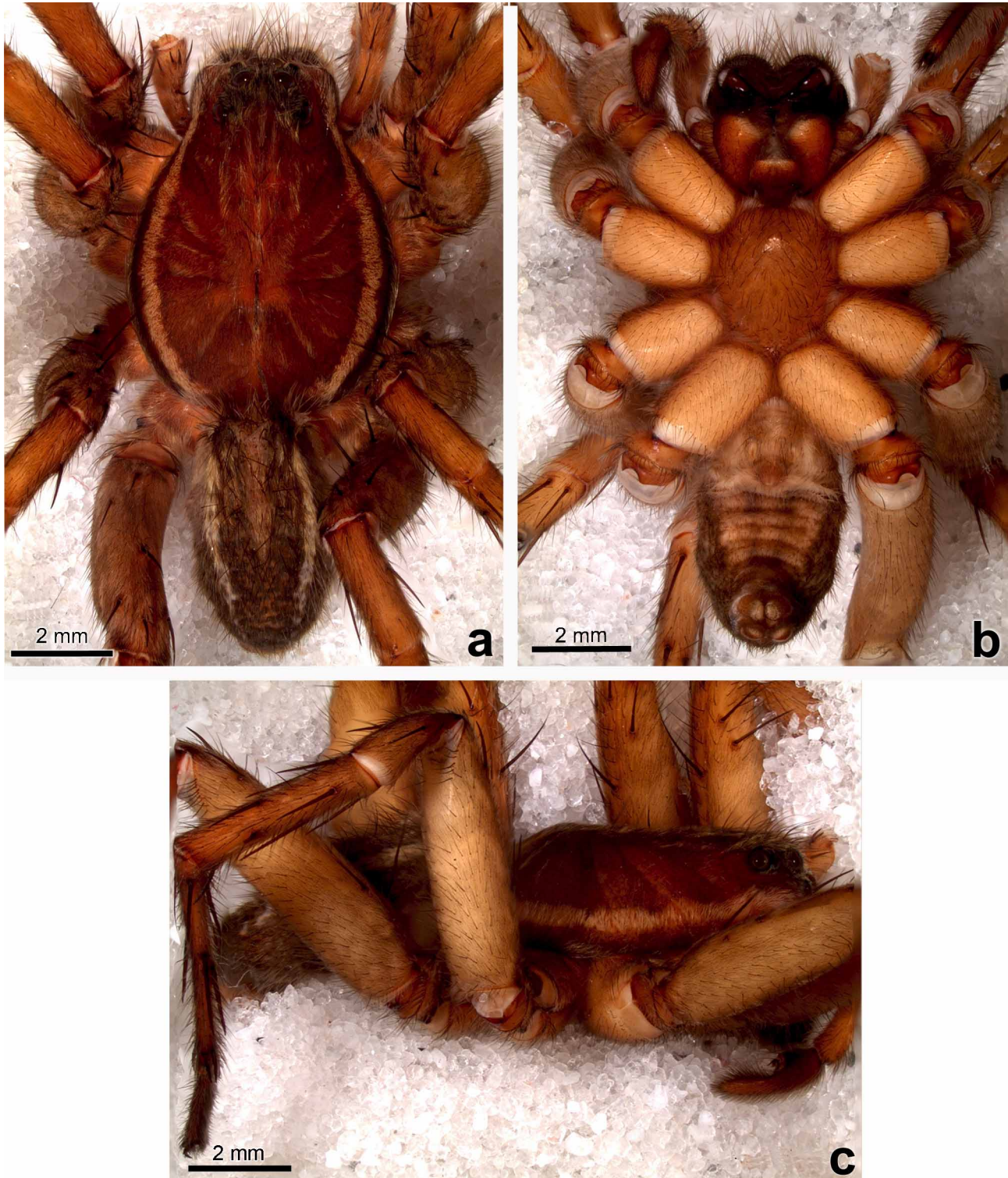
(Figs 10–13, 18e, 19d)

*Dolomedes oblongus* C. L. Koch, 1847: 114, pl. 484, fig. 1350 (female holotype from Montevideo, Uruguay, stated as lost by Santos *et al.* (2003)).

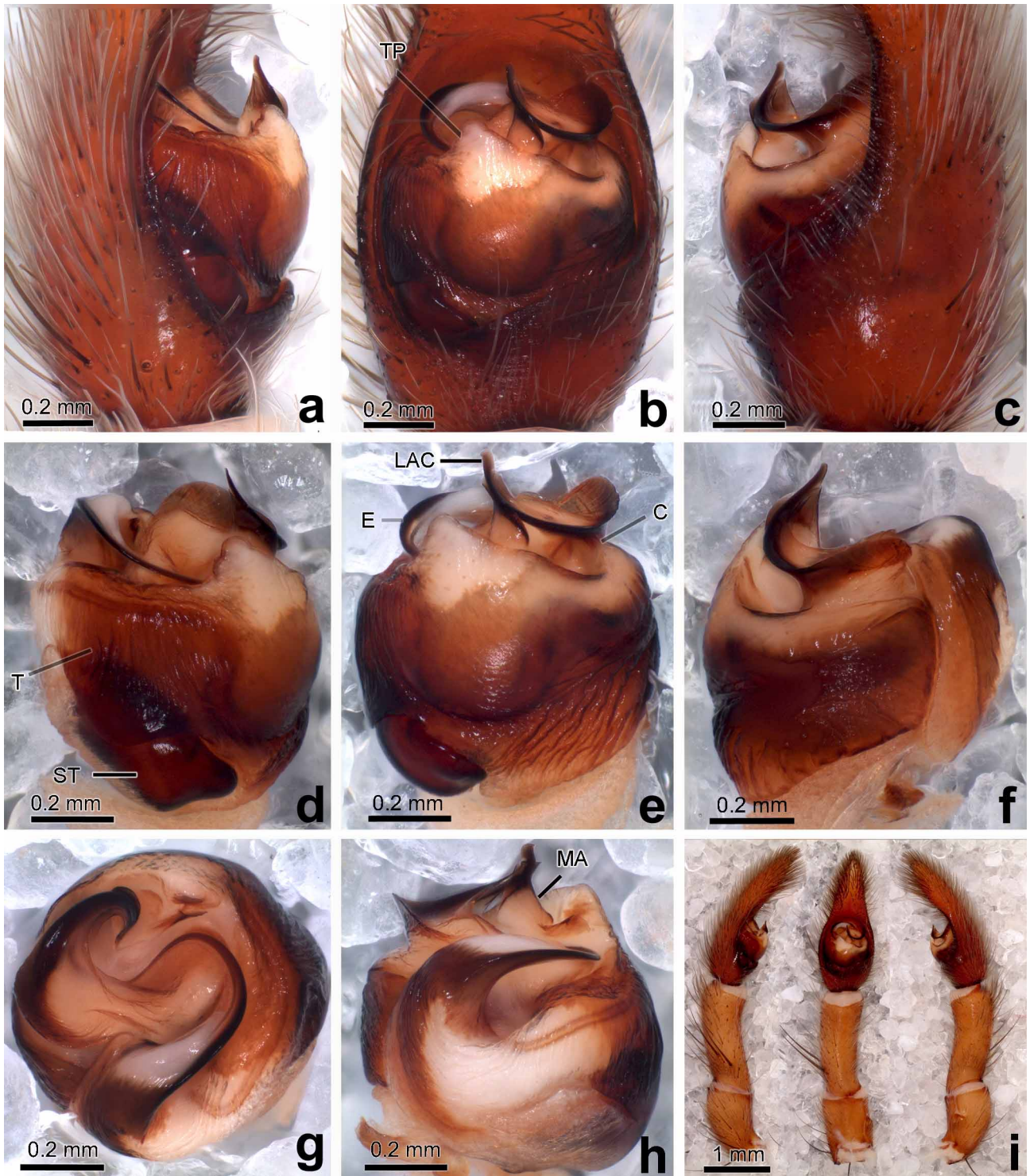
See Santos *et al.* (2003) for a complete list of synonyms.

**New records** (Fig. 21). ARGENTINA: **Entre Ríos:** Parque Nacional El Palmar (ca. S 31.884252° W 58.261611° - + 7023 m), 11.X.2003, Grismado, C., Ojanguren, A., Piacentini, L. and Labarque, F., 1 male (MACN-Ar 24146; temporary preparations LNP-00597 and LNP-00598); same data, 1 male (MACN-Ar 24142); same locality and collectors, 17.X.2003, 1 female (MACN-Ar 24149; temporary preparations LNP-00612 and LNP-00613); **Buenos Aires:** No further locality (ca. S 37.039722° W 59.675556° - + 578441 m), 2.XI.1946, Partridge, 1 female [1 juvenile] (MACN-Ar 7773); no further locality or date (ca. S 37.039722° W 59.675556° - + 578441 m), Frers A., 1 female (MACN-Ar 24157); Boca Cerrada (9 Km. de Punta Lara) (ca. S 34.7819444° W 58.0125° - + 2397 m), 4.X.1980, Zanetic and Goloboff, 2 males and 1 female [1 juvenile] (MACN-Ar 27532) Río Santiago (ca. S 34.852778° W 57.883889° - + 575 m), III.1941, Lappones, 2 females (MLP 15889); La Plata (ca. S 34.925592° W 57.961544° - + 3862 m), XI.1935, Rosas Costa, 1 female (MLP 16303); Tigre (ca. S 34.420483° W 58.634528° - + 7498 m), Viana, 4 females (MACN-Ar 254); Wilde (ca. S 34.703333° W 58.344444° - + 4168 m), 1940, Monrós, 3 females [1 juvenile] (MACN-Ar 24145); Punta Lara (ca. S 34.805302° W 58.033479° - + 10196 m), X.1941, Kepler, 1 female (MACN-Ar 24153); same locality, II.1971, Monrós, 1 female (MACN-Ar 7780); same locality, 12.VII.1946, Partridge, 1 female (MACN-Ar 7776); same locality and collector, 6.I.1946, 2 females (MACN-Ar 7775); same locality and collector, I.1947, 1 female (MACN-Ar 7779); same locality and collector, 1.XI.1946, 1 female [1 juvenile] (MACN-Ar 7777); same locality and collector, 18.VII.1946, 3 females (MACN-Ar 7778); same locality, IV.1941, Prosen, 1 female (MLP 15989); same locality, II.1941, Bezzi, 1 female (MLP 16043); same locality, 21.IX.1934, Rosas Costa, 2 females (MLP 16213); 10 Km sur de Magdalena (Pearson foundation) (ca. S

35.078333° W 57.515278° -+ 1755 m), IV.1983, Goloboff, 1 male (MACN-Ar 24140); Hudson (ca. S 34.793252° W 58.150290° -+ 10196 m), VIII.1982, Goloboff and Ramírez, 1 female (MACN-Ar 7774); **Ciudad Autónoma de Buenos Aires**: without date (ca. S 34.617649° W 58.433265° -+ 8667 m), Viana, 1 male 1 female (MACN-Ar 24155); same locality VIII.1948, Carpintos, J. Y., 1 male (MACN-Ar 24147); same locality, IV.1941, Prosen, 1 male (MLP 15953); Lagos de Palermo (ca. S 34.574448° W 58.422837° -+ 2789 m), IV.1967 (is captured as juvenile and mature XII.1967), Bachmann leg., 1 female (MACN-Ar 24143); lago de Golf (ca. S 34.558025° W 58.431993° -+ 351 m), XII.1951, Bachmann leg., 2 females (MACN-Ar 7772; temporary preparation LNP-00603);



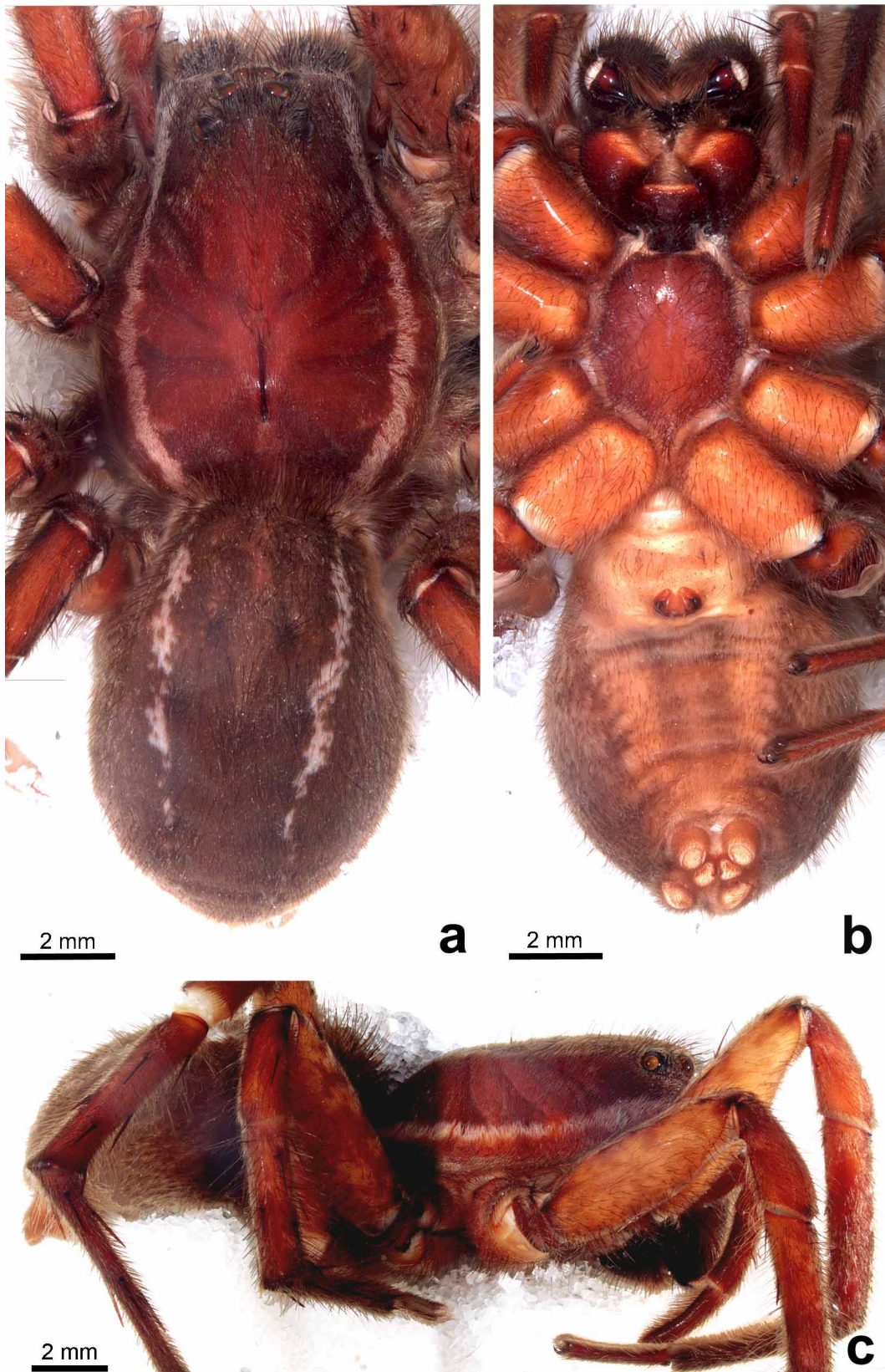
**FIGURE 10.** *Aglaoctenus oblongus* (Koch, C. L.). Male from Entre Ríos, Parque Nacional El Palmar (MACN-Ar 24146), **a** habitus dorsal; **b** ventral; **c** lateral. Temporary preparation LNP-00597.



**FIGURE 11.** *Aglaoctenus oblongus* (Koch, C. L.). Male from Entre Ríos, Parque Nacional El Palmar (MACN-Ar 24146), **a-c** pedipalp, **a** prolateral; **b** ventral; **c** retrolateral; **d-h** bulb, **d** prolateral; **e** ventral; **f** retrolateral; **g** apical; **h** dorsal; **i** pedipalp, general view. Temporary preparation LNP-00598. Abbreviations: **C** conductor, **TP** tegular projection, **E** embolus, **LAC** lateral apophysis of conductor, **MA** median apophysis, **ST** sub tegulum, **T** tegulum.

Hospital Muñiz (ca. S 34.638056° W 58.403056° + 1475 m), without date, 1 female (MACN-Ar 24156); Saavedra (ca. S 34.552500° W 58.483333° + 1625 m), IX.1937, Castillo, 1 female (MACN-Ar 24154); Playa Núñez (ca. S 34.538889° W 58.445833° + 1755m), III. 1936, Castillo, 1 male (MACN-Ar 24150). **URUGUAY:** Montevideo (ca. S 34.818889° W 56.228889° + 26604m), without date, Berg, C. 1 female (MACN-Ar 24151); Cerro de Montevideo (ca. S 34.890556° W 56.258889° + 590 m), 20.XI.1969, García J. E., 1 female (MACN-Ar 24148); Mal-

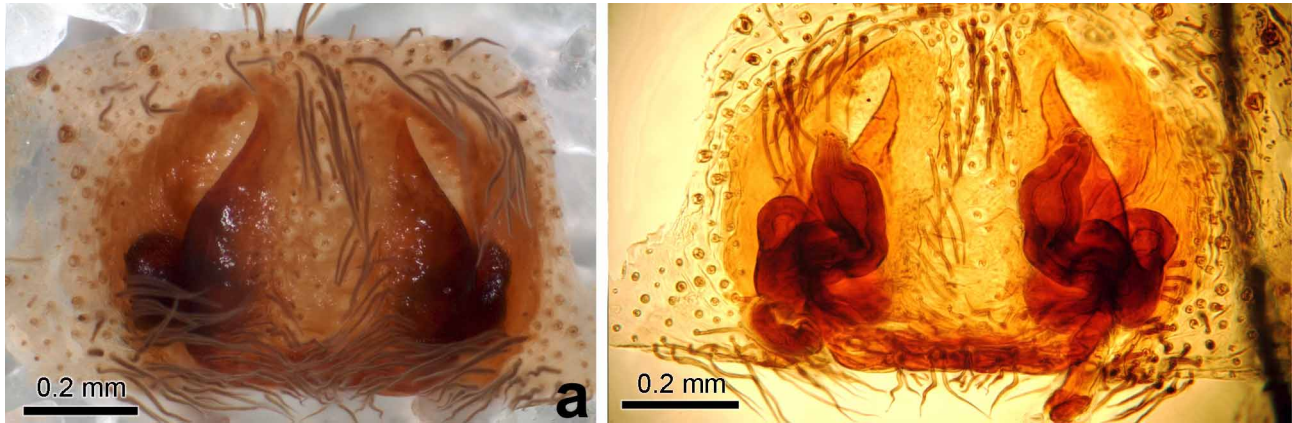
donado, Cerro Ánimas (ca. S 34.748056° W 55.317778° + 4723 m), without collector, 14.XI.1952, 1 female (MLP 17264). **WITHOUT LOCALITY:** without date, Frers, 1 female (MACN-Ar 24152); without date, Mello-Leitão, 1 female (MLP 17274).



**FIGURE 12.** *Aglaoctenus oblongus* (Koch, C. L.). Female from Ciudad Autónoma de Buenos Aires, Lagos de Palermo, lago de Golf (MACN-Ar 7772), **a** habitus dorsal; **b** ventral; **c** lateral. Temporary preparation LNP-00603.

**Diagnosis and descriptions.** See Santos *et al.* (2003).

**Natural history.** The webs of this species were found at the edges of water bodies and have the same basic structure described for *A. lagotis* and *A. castaneus*. It is made of a horizontal sheet of irregular silk forming a funnel, leading to a retreat of dense silk, which opens at the base (Berg, 1883; Carbajal 1983). Berg (1883) describes insects, spiders and tadpoles as prey, hunted in the web or directly on the water surface, where these spiders can run quickly. The eggsac is spherical and greyish-green, with a white equatorial seam (Bachmann, personal comm. in Carbajal 1983).



**FIGURE 13.** *Aglaoctenus oblongus* (Koch, C. L.). Female from Entre Ríos, Parque Nacional El Palmar (MACN-Ar 24149), **a** epigyne ventral; **b** dorsal cleared in clove oil. (Temporary preparations LNP-00612 and LNP-00613).

*Aglaoctenus lagotis* (Holmberg, 1876)  
(Figs 14–17, 18d, 19e, 21)

*Ocyale lagotis* Holmberg, 1876: 4, 26 (two female and one male syntypes, from Argentina, stated as lost by Santos and Brescovit (2001)).

See Santos and Brescovit (2001) for a complete list of synonyms.

**New records** (Fig. 21). ARGENTINA: **Jujuy:** Yuto (ca. S 23.646050° W 64.473316° + 871m), XI.1950, Galiano, M. E., 1 female [3 juveniles] (MACN-Ar 24132); San Salvador de Jujuy (ca. S 24.184299° W 65.297019° + 3450 m), 17.I.1966, Maury, E., 2 females (MACN-Ar 24127). **Salta:** Vado Hondo, Orán (ca. S 23.130773° W 64.325167° + 5813 m), III.1967, Galiano, M. E., 2 females (MACN-Ar 24129). **Chaco:** General Pinedo (ca. S 27.325633° W 61.282603° + 1157 m), X.1946, Giai, A. and Cranwell, J. A., 1 female (MACN-Ar 1713). **Formosa:** Las Lomitas (S 24°40'36.2" W 60°28'31.3", elev. 127 m GPS), 15.XI.2007, Grismado, C. and Compagnucci, L., 1 female (MACN-Ar 13163); 13 km W de Laguna Yema (ca. S 24.256183° W 61.244446° + 1513 m), 19.XI.1981, Maury, E., 1 female (MACN-Ar 24121). **La Rioja:** Guayapa, Patquía (ca. S 30.108716° W 66.956333° + 3013 m), I.1964, Galiano, M. E., 1 female (MACN-Ar 24122; temporary preparations LNP-00537, LNP-00538 and LNP-00614). **Tucumán:** No further locality (ca. S 27.057978° W 65.30482° + 140718 m), III.1960, Ogueta, E., 1 female (MACN-Ar 5139); Burruyacú (ca. S 26.500255° W 64.740989° + 1162 m), XI.1946, Birabén, M., 2 females (MACN-Ar 24139). **Santiago del Estero:** unknown locality (Colonia Golonian) (ca. S 28.043221° W 63.377932° + 469176 m), IX.1940, Ábalos, 1 male (MLP 15312); Weisburd (ca. S 27.322930° W 62.5859° + 1405 m), 22.IX.1947, 1 male 1 female (MACN-Ar 24135 temporary preparations; LNP-00610, LNP-00611). **Misiones:** No further locality (ca. S 26.928333° W 54.598056° + 203397 m), XI.1957, Cranwell, J. A., 1 female (MACN-Ar 24138); Piñalitos (ca. S 25.982358° W 53.897255° + 1556 m), XI.1954, Schiapelli, R. and de Carlo, J. A., 10 female (MACN-Ar 24119); Río Iguazú, 60 Km Puerto Iguazú (ca. S 27.116667° W 54.800000° + 2794 m), 5.III.1951, Partridge, W., 1 female [1 juvenile] (MACN-Ar 3458); Yacú-Poí, Río Uruguái, 30 Km Puerto Bemberg (ca. S 25.937071° W 54.256221° + 3025 m), II.1951, Partridge, W., 1 female [1 juvenile] (MACN-Ar 3459); same



locality, X.1954, Schiapelli, R. and de Carlo, J. A., 1 female [2 juveniles] (MACN-Ar 24131); same locality, 11.X.1950, Cranwell, J. A., 1 female (MACN-Ar 3023); Puerto Bemberg (ca. S 25.918967° W 54.581894° -+ 844 m), X.1956, Schiapelli, R. and de Carlo, J. A., 1 male (MACN-Ar 24134); Departamento Cainguás, Parque Provincial Salto Encantado; arroyo Cuña Pirú (ca. S 27.085382° W 54.877545° -+ 679 m), 12.I.2005, Grismado, C., Lopardo, L., Piacentini, L., Quaglino, A. and Rubio, G., 1 female (MACN-Ar 24123; temporary preparation LNP-00609); P. N. Iguazú (ca. S 25.680290° W 54.319289° -+ 20803 m), 1.X.1978, Galiano, M. E., 2 males (MACN-Ar 24120); Arroyo Uruguayí, km 30 (ca. S 25.898412° W 54.613905° -+ 31577 m), 01.IX.1958, Partridge, W., 1 male (MACN-Ar 24125); Tobuna (ca. S 26.468384° W 53.896057° -+ 3927 m), II.1952, Partridge, W., 2 females [1 juvenile] (MACN-Ar 4054); Santa María (ca. S 27.891895° W 55.353668° -+ 431 m), X.1953, De Carlo, J. A., Viana, J.M., Galiano, M. E. and Schiapelli, R. D., 1 male (MACN-Ar 3844); Pasarela del Río Uruguayí (ca. S 27.594179° W 54.833028° -+ 96719 m), 01.II.1950, Gaii, A. and Partridge, W., 1



**FIGURE 14.** *Aglaoctenus lagotis* (Holmberg). Male from Santiago del Estero (MACN-Ar 24135), **a** habitus dorsal; **b** ventral; **c** lateral. Temporary preparation LNP-00610.



**FIGURE 15.** *Aglaoctenus lagotis* (Holmberg). Male from Santiago del Estero (MACN-Ar 24135), **a-c** pedipalp, **a** prolateral; **b** ventral; **c** retrolateral, **d-h** bulbo, **d** prolateral; **e** ventral; **f** retrolateral; **g** apical; **h** dorsal, **i** pedipalp general view. Temporary preparation LNP-00611. Abbreviations: C conductor, LAC lateral apophysis of conductor, MA median apophysis, ST sub tegulum, T tegulum.

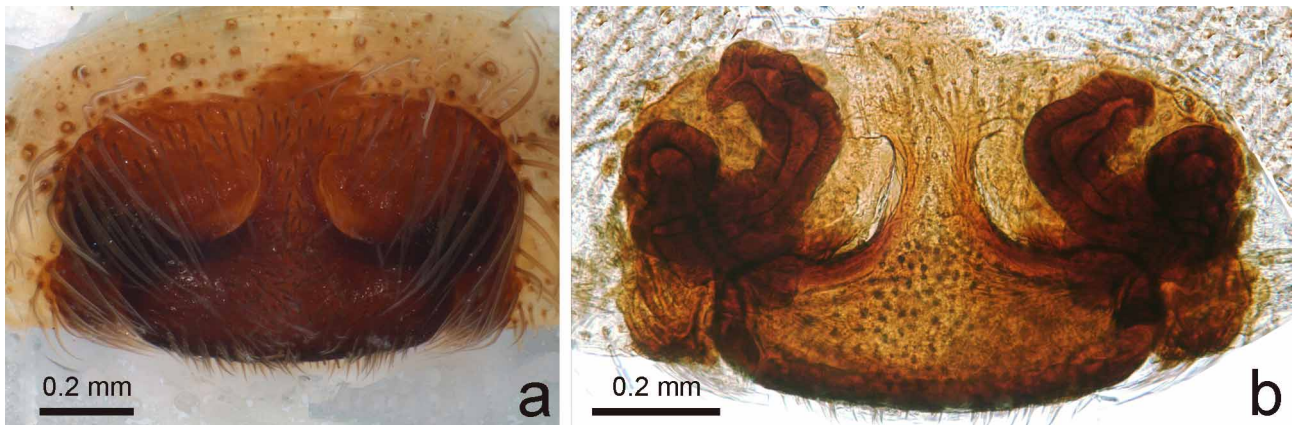
female (MACN-Ar 3260); Santa Rita (ca. S 27.520730° W 54.727709° -+ 764 m), 22.IV.1951, 1 female (MLP 17239). **Corrientes:** No further locality (ca. S 28.987633° W 57.386596° -+ 319157 m), III.2001, Esterno Valeno, 1 female (MACN-Ar 24136). **Santa Fe:** No further locality (ca. S 31.151654° W 60.901373° -+ 417757 m), I.1939, Silva, 1 male (MLP 14944); same locality, IX.1939, Birabén, M., 1 female (MLP 14945); unknown locality (El Ratón), IX.1939, Birabén, M., 1 male (MLP 15041); Caraguatá (ca. S 30.337994° W 60.562840° -+ 2315 m),



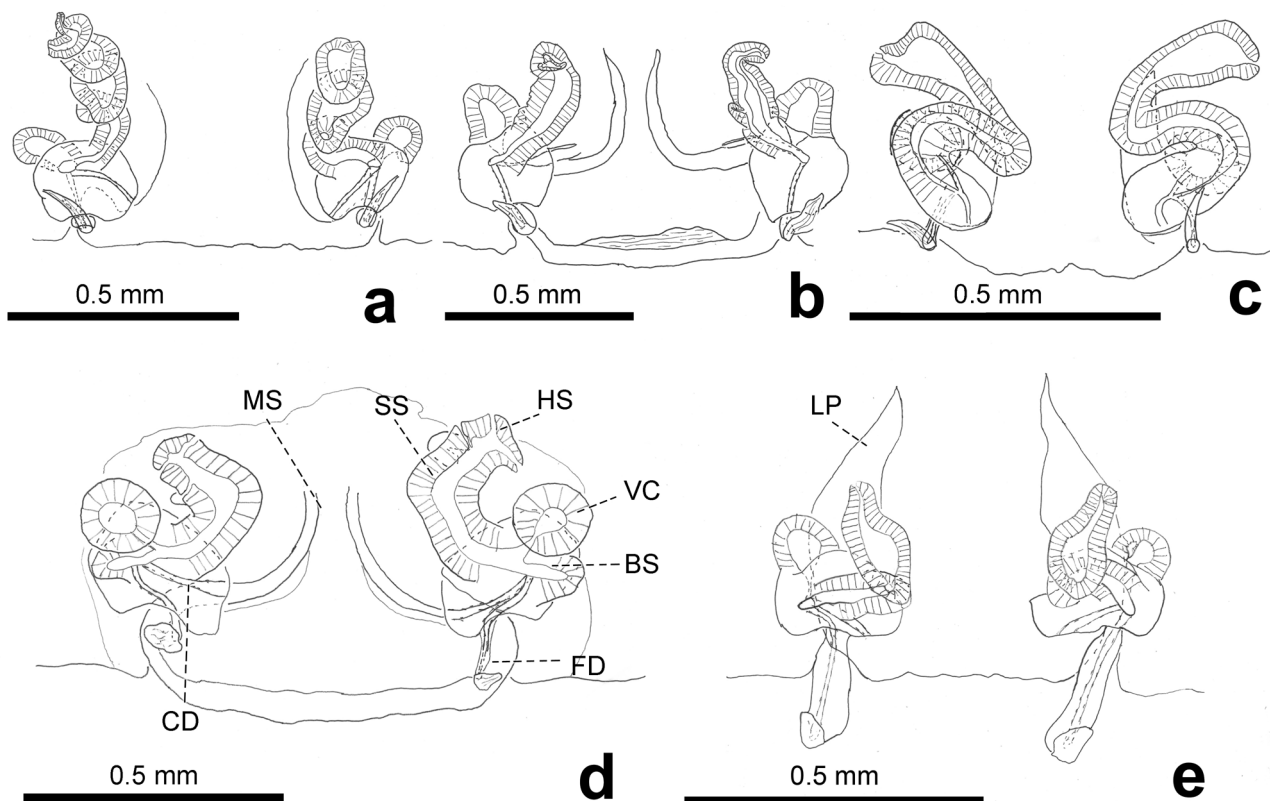
**FIGURE 16.** *Aglaoctenus lagotis* (Holmberg). Female from Misiones, Parque Provincial Salto Encantado (MACN-Ar 24123), **a** habitus dorsal; **b** ventral; **c** lateral. Temporary preparation LNP-00609.

IX.1939, Birabén, M., 1 female (MLP 14950); Departamento Vera (ca. S 29.029277° W 60.431053° → 132169 m), IX.1945, Giai, A. and Cranwell, J. A., 1 female (MACN-Ar 2145). **San Luis:** Merlo (ca. S 32.345505° W 65.007775° → 1845 m), XI.1983, Galiano, M. E., 1 female (MACN-Ar 24137). **Córdoba:** No further locality (ca. S 32.235904° W 63.812861° → 380147 m), I.1940, 1 male (MLP 15487); Alta Gracia (ca. S 31.655452° W 64.431918° → 1835 m), I.1939, Brunch, 1 female (MLP 14681); Argüello (ca. S 31.348071° W 64.259820° → 2391 m), 1939, Cáceres Freyre, J., 2 females [4 juveniles] (MACN-Ar 1354); same locality, XII.1943, De Carlo, J. A., 1 female (MACN-Ar 1993); same data 2 females (MACN-Ar 1500); same data, 1 female (MACN-Ar 1987); Calamuchita (ca. S 32.067583° W 64.546757° → 1842 m), XII.1938, Viana, J. M., 1 female (MACN-Ar 901); same locality and collector, XII.1941, 1 female (MACN-Ar 24130); same data, 1 female (MACN-Ar 24124); same data, 1 female (MACN-Ar 24128); same locality and collector, I.1955, 1 female (MACN-Ar 24133); Huerta Grande (ca. S 31.070328° W 64.494508° → 1093 m), 26.X.2003, Rodríguez Gil, 1 female (MACN-Ar 22102); Tanti (ca. S

31.356744° W 64.587479° -+ 1215 m), I.1950, Viana, J. M., 1 female (MACN-Ar 2855); Tulumba (ca. S 30.396437° W 64.123974° -+ 1555m), Birabén, M., 1 female (MLP 14111); Valle del Lago, Departamento Punilla (ca. S 31.416283° W 64.498731° -+ 3379 m), I.1967, Müller, N., 1 female (MACN-Ar 24126). **Entre Ríos:** Parque Nacional El Palmar (ca. S 31.884252° W 58.261611° -+ 7023 m), 16-18.VIII.2003, Ojanguren, A., Piacentini, L. and Labarque, F., 1 male (MACN-Ar 22105; preparation SEM, MJR 1021 and 1022); same data, 1 male (MACN-Ar 22106); same data, 1 male (MACN-Ar 22107); same data, 1 female (MACN-Ar 22103); same data, 1 male (MACN-Ar 22104); same locality, 22-23.XI.2003, Grismado, C., Ojanguren, A., Labarque, F., 1 female (MACN-Ar 22108).



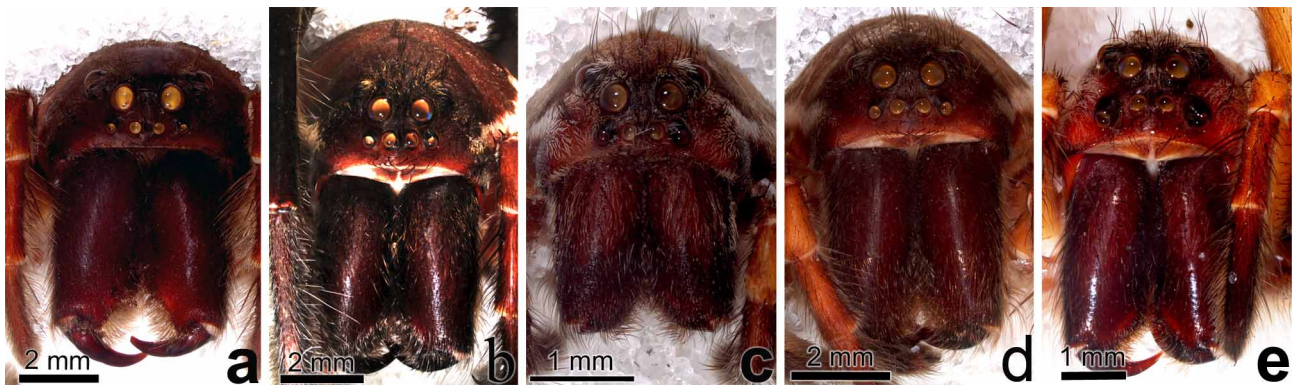
**FIGURE 17.** *Aglaoctenus lagotis* (Holmberg). Female from La Rioja, Guayapa, Patquía, **a** epigyne ventral; **b** dorsal, cleared in clove oil. Temporary preparations LNP-00537 and LNP-00614.



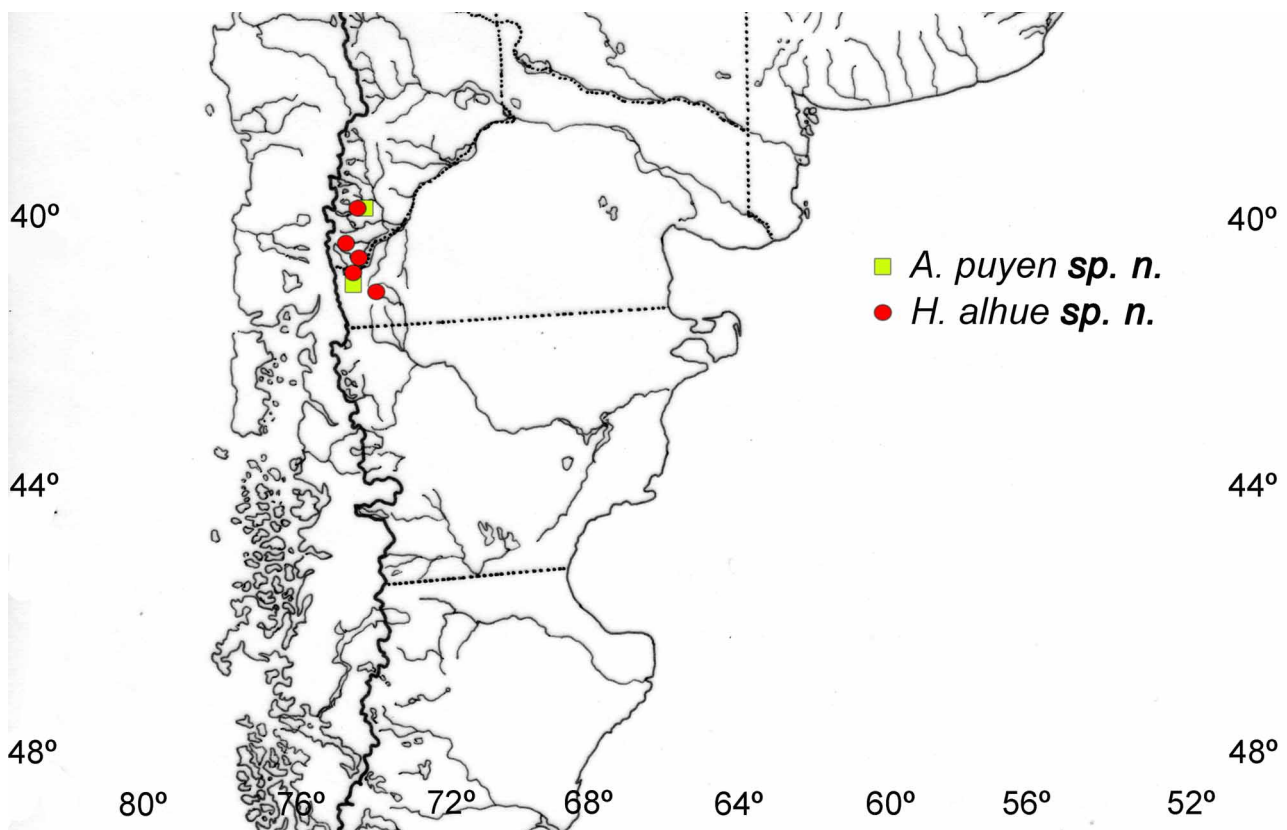
**FIGURE 18.** Female, internal genitalia, dorsal view, **a** *A. puyen* sp. nov. from from Río Negro, Cerro Catedral, Laguna Toncek (MACN-Ar 24099); **b** *A. yacytata* sp. nov. from Misiones, Departamento de San Pedro, Parque Provincial Cruce Caballero (MACN-Ar-24105); **c** *H. alhue* sp. nov. paratype from Neuquén, Cerro Bayo (MACN-Ar 20467) **d** *A. lagotis* (Holmberg) from Misiones, Parque Provincial Salto Encantado (MACN-Ar 24123); **e** *A. oblongus* (Koch, C. L.) from Entre Ríos, Parque Nacional El Palmar (MACN-Ar 24149). Temporary preparations **a** LNP-00608; **b** LNP-00579; **c** LNP-00548; **d** LNP-00614; **e** LNP-00613. Abbreviations: **BS** spermatheca base, **CD** copulatory duct, **FD** fertilization duct, **HS** head of spermatheca, **LP** lateral projection, **MS** median septum, **SS** stalk of spermatheca, **VC** vulval chamber.

**Diagnosis and descriptions.** See Santos *et al.* (2003).

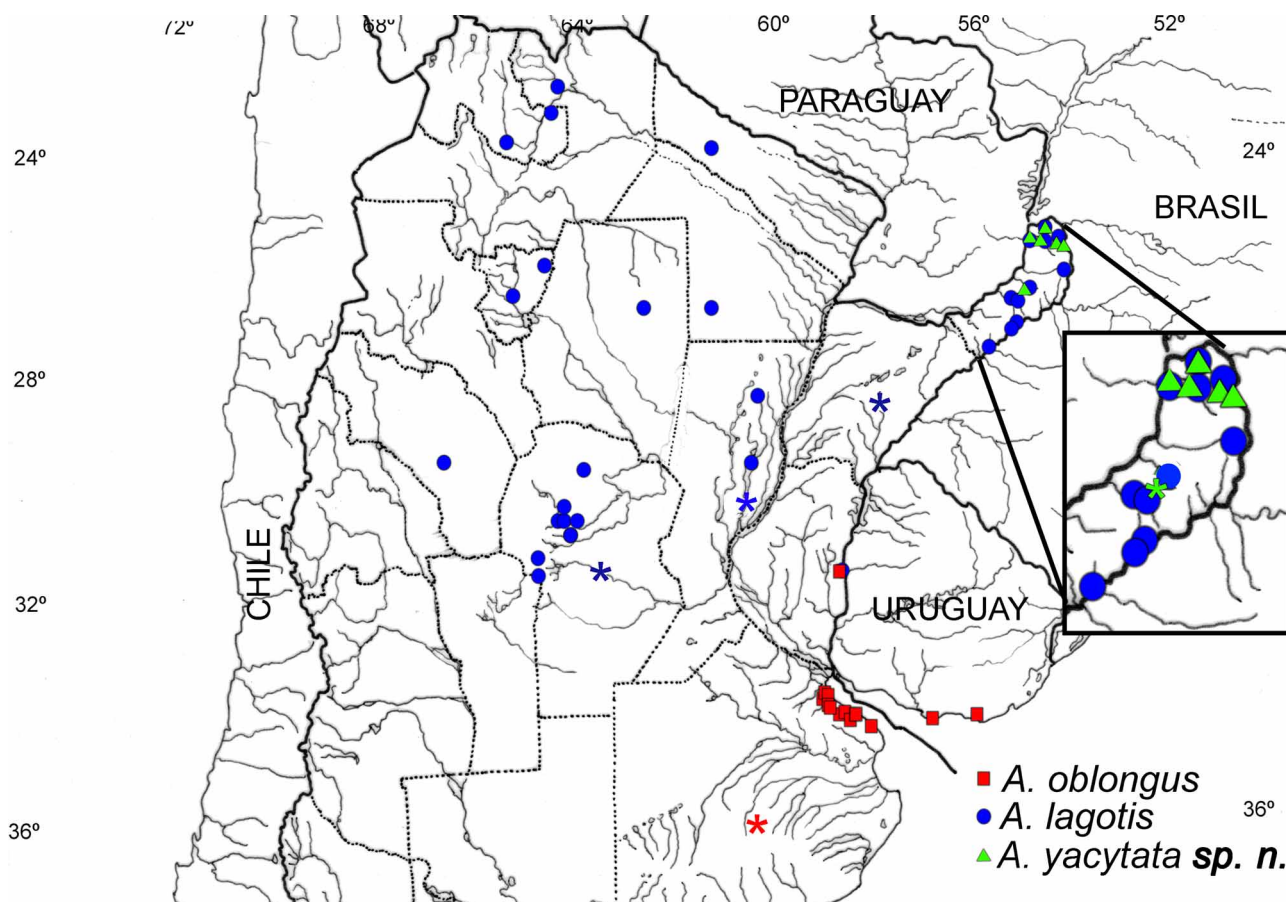
**Natural history.** See Santos and Brescovit 2001, Rubio *et al.* (2005) and Stefania *et al.* (2011).



**FIGURE 19.** Female, habitus frontal, **a** *A. puyen* **sp. nov.** holotype from Neuquén, San Martín de los Andes, Cerro Chapelco (MACN-Ar 5319); **b** *A. yacytata* **sp. nov.** holotype from Misiones, Departamento Cainguás, Parque Provincial Salto Encantado, Salto Agutí (MACN-Ar 24106); **c** *H. alhue* **sp. nov.** paratype from Neuquén, Cerro Bayo (MACN-Ar 20467); **d** *A. oblongus* (Koch, C. L.) from Ciudad Autónoma de Buenos Aires, Lagos de Palermo, lago de Golf (MACN-Ar 7772); **e** *A. lagotis* (Holmberg) from Misiones, Parque Provincial Salto Encantado (MACN-Ar 24123). Temporary preparations **a** LNP-00044; **b** LNP-00604; **c** LNP-00539; **d** LNP-00603; **e** LNP-00609.



**FIGURE 20.** Records of *A. puyen* **sp. nov.** and *H. alhue* **sp. nov.**



**FIGURE 21.** Records of *A. oblongus* (Koch, C. L.), *A. lagotis* (Holmberg) and *A. yacytata* **sp. nov.**. Records marked with an asterisk (\*) belong to records that have only the province as locality data.

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