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A new species of the wolf spider genus *Arctosa* (Araneae, Lycosidae) from Southern Brazil

Nueva especie del género *Arctosa* (Araneae, Lycosidae) del sur de Brazil

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Resumen

Se describe e ilustra una nueva especie del género *Arctosa* C. L. a Koch, 1848, en base a material procedente de Sapiranga, sur del Brasil. Los miembros de este género por lo general excavan refugios pequeños en los bordes arenosos de los lagos, sin embargo, esta nueva especie se encuentra debajo de rocas en los bordes de rios pequeños. Se puede encontrar hembras con ootecas y machos durante todo el año, aunque son más abundantes en el período del verano.

Palabras clave: arañas, taxonomia, region Neotropical.

Abstract

A new species of the wolf spider genus *Arctosa* C. L. Koch, 1847 is described and illustrated, based on material collected in Sapiranga, Southern Brazil. Members of *Arctosa* are known to build burrows in sandy lake shores, but this new species is found under the rocks on the margins of small streams. Females with eggsacs and males can be found all year, being more abundant in the summer period.

Keywords: spiders, taxonomy, Neotropical region.

Introduction

Arctosa was proposed by C. L. Koch (1847) to include spiders of medium to large size; they are swift runners with relatively keen eyesight. Most dwell in sandy places such as seashores or the banks of rivers and lakes, though some occupy heath or lichen habitats in high mountains or artic tundra (Dondale & Redner, 1983).

This genus occurs from Northern and Central America to South America. It was revised by Dondale & Redner (1983); twelve species were described or redescribed and illustrated. Platnick (2008) lists a total of 162 described species to the world. Two species are recorded from Brazil, *A. humicola* Bertkau, 1880 (only female known) and *A. pugil* Bertkau, 1880 (only male known) and *A. workmani* (Strand, 1909) based on a female specimen from Paraguay. The careful examination of the illustrations and original descriptions of these two known species of *Arctosa* from Brazil and Paraguay showed that this previous species belongs to the genus *Arctosa*.

Dondale & Redner (1983) mentioned that *Arctosa* females do not carry the eggsacs attached to the spinnerets, instead, they keep them in holes excavated in the sand. However, females of the species here described were collected with the eggsac attached to the spinnerets (Fig. 2).

The objective of this work is to describe and illustrate a new species of *Arctosa* from Sapiranga, Southern Brazil.

Material and methods

The material examined is deposited in Museu de Ciências e Tecnologia (MCTP) da Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS). The nomenclature of the male palpus and female epigynum structures follows Redner & Dondale (1983). To study the excised epigyna, the soft tissue was removed by a combination of dissection with a small surgical blade and immersion in the enzyme tripsine for 24 hours at 25 °C. The scanning electron micrographs (SEM) were made in Centro de Microscopia e Microanálises of Pontifícia Universidade Católica do Rio Grande do Sul. All the measurements are in millimeters. The abbreviations related to eyes measurements, including diameter, interdistances and median ocular quadrangle are those routinely used in spider descriptions.

Arctosa sapiranga sp. nov.

Figs. 1—26

Types: Male holotype from Sapiranga (arroio Feitoria, 29°35'43"S; 51°02'56"W, 234 m), Rio Grande do Sul, Brazil, 19.II.2008, E. L. C. Silva *leg*., deposited in MCTP 19998. Female paratype, same locality, data and collector as holotype, deposited in MCTP 19999.

Etymology: The specific name is a noun, and refers to the type locality.

Diagnosis: The male of *Arctosa sapiranga* **sp. nov.** resemble those of *A. serii* Roth & Brown, 1976 (Dondale & Redner, 1983: 26, Figs. 57, 58) by the shape of the terminal and median apophysis, but can be distinguished by the longer and heavily sclerotized acute median and terminal apophysis (Figs. 6, 11, 12). And the female of *Arctosa sapiranga* is similar to *A. perita* (Latreille, 1799) (Dondale & Redner, 1983: 20, Figs. 46, 49) but differs on the shape of the spermathecae (Fig. 10).

Description: Holotype male. Total length 4,64. Carapace (Figs. 3, 4), 2,48 long, 1,86 wide, light brown, with dark bristles forming scattered lines, some sparse white bristles laterally, darker on cephalic area (Fig. 5). Clypeus light brown, darker anteriorly, with four long bristles, 0,02 high. Anterior eye row straight, 0,50 wide; posterior 0,76 wide. Eye diameters, interdistances, and median ocular quadrangle: AME 0,08, ALE 0,07, PME 0,22, PLE 0,18; AME-AME 0,10, AME-ALE 0,04, PME-PME 0,20, PME-PLE 0,26, MOQ 0,36 long, frontal view, anterior width 0,26, posterior width 0,64. Chelicerae light brown, bristly (Fig. 17); promargin and retromargin of fang furrow with three teeth equidistant and equal in size (Fig. 16). Endites, 0,15 long, 0,05 wide, light brown, serrula prominent (Figs. 14, 15). Labium brownish, darker at anterior margin,

Figure 1. Type locality of *Arctosa sapiranga* **sp. nov.** in Southern Brazil.

Figure 2. *Arctosa sapiranga* **sp. nov.**, female carrying an eggsac in Sapiranga, Rio Grande do Sul, Brazil (MCTP 19996).

0.26 long, 0,24 wide. Sternum bristly, yellowish; 1,16 long, 1,10 wide. Legs light brown, with light brown annuli on femora, with bristles and setae (Figs. 19, 20); relative length: I-IV-III-II, I – femur 1,90/ tibia-patella 0,90/ metatarsus 0,60/ tarsus 0,36/ total 3,76; II – 0,62/ 0,70/ 0,52/ 0,38/ 2,22; III – 0,64/ 0,71/ 0,54/ 0,34/ 2,23; IV – 0,86/ 1,00/ 0,98/ 0,50/ 3,34. Bothrium conspicuous (Fig. 21). Glandular pore on the lateral of left leg I (Fig. 18). Tarsal claw with eight teeth (Fig. 22). Abdomen 1,70 long, hairy, dark brown, lighter anteriorly, with three dark bands at the posterior portion (Figs. 2, 3). Venter yellowish, scattered setae. Median and terminal apophysis of male palpus strongly sclerotized and acute at apex (Figs. 6—8, 11, 12).

Female (Paratype, MCTP 19999). Total length 6,65. Carapace 2,79 long, 2,12 wide, coloration as in the male. Clypeus brownish, 0,10 high. Anterior eye row straight, 0,56 wide; posterior 0,84 wide. AME 0,08, ALE 0,10, PME 0,24, PLE 0,19; AME-AME 0,12, AME-ALE 0,06, PME-PME 0,22, PME-PLE 0,10, MOQ, 0,40 long, frontal view, anterior width 0,28, posterior width 0,70. Chelicerae: brownish; promargin of fang furrow with three teeth, middle largest, proximal smallest, retromargin with three teeth equidistant and equal in size. Sternum as in the male; 1,16 long, 1,20 wide. Labium light brown, lighter at anterior margin; 0,30 long, 0,32 wide. Legs as in the male, relative length: IV-I-II-III, I – femur 1,70/ tibia-patella 1,90/ metatarsus 1,30/ tarsus 0,90/ total 5,80; II – 1,56/ 1,60/ 1,10/ 0,80/ 5,06; III – 1,40/ 1,58/ 1,20/ 0,84/ 5,02; IV – 1,71/ 1,72/ 1,76/ 1,10/ 6,29. Abdomen 3,45 long, as in the male. Spinnerets (Fig. 23): ALS (Fig. 24) fulvous, with numerous piriform gland spigots (pi) and the major ampullate gland spigots; PMS (Fig. 25) fuscous brown, with numerous aciniform glands spigots (ac) and minor ampullate gland spigot (ma); PLS (Fig. 26) whitish, with numerous aciniform glands spigots (ac). Epigynum with deeply excavated atrium (Figs. 9, 13). Spermathecae short, rounded at apex (Fig. 10).

Variation: Three males, carapace length 2,48—2,66; 1,84—1,86 wide. Eight females, carapace length 2,76—3,05; 1,95—2,26 wide.

Other material examined: BRASIL, *Rio Grande do Sul*: Sapiranga (arroio Feitoria), 1 female, 31.I.2004 (MCTP 19994), 1 female, 26.VI.2004 (MCTP 19995), 1 female, 28.XII.2007 (MCTP 19996), 2 males, 4 females, 19.II.2008 (MCTP 19997), all collected by E. L. C. Silva.

Distribution: Known only from the type locality (Fig. 1).

Natural history: Females carry eggsacs on spinnerets (Fig. 2). Males can be easily found under rocks in the shores of small freshwater streams all year long, but in the summer (December to March) both male and female adults are more abundant (field observation).

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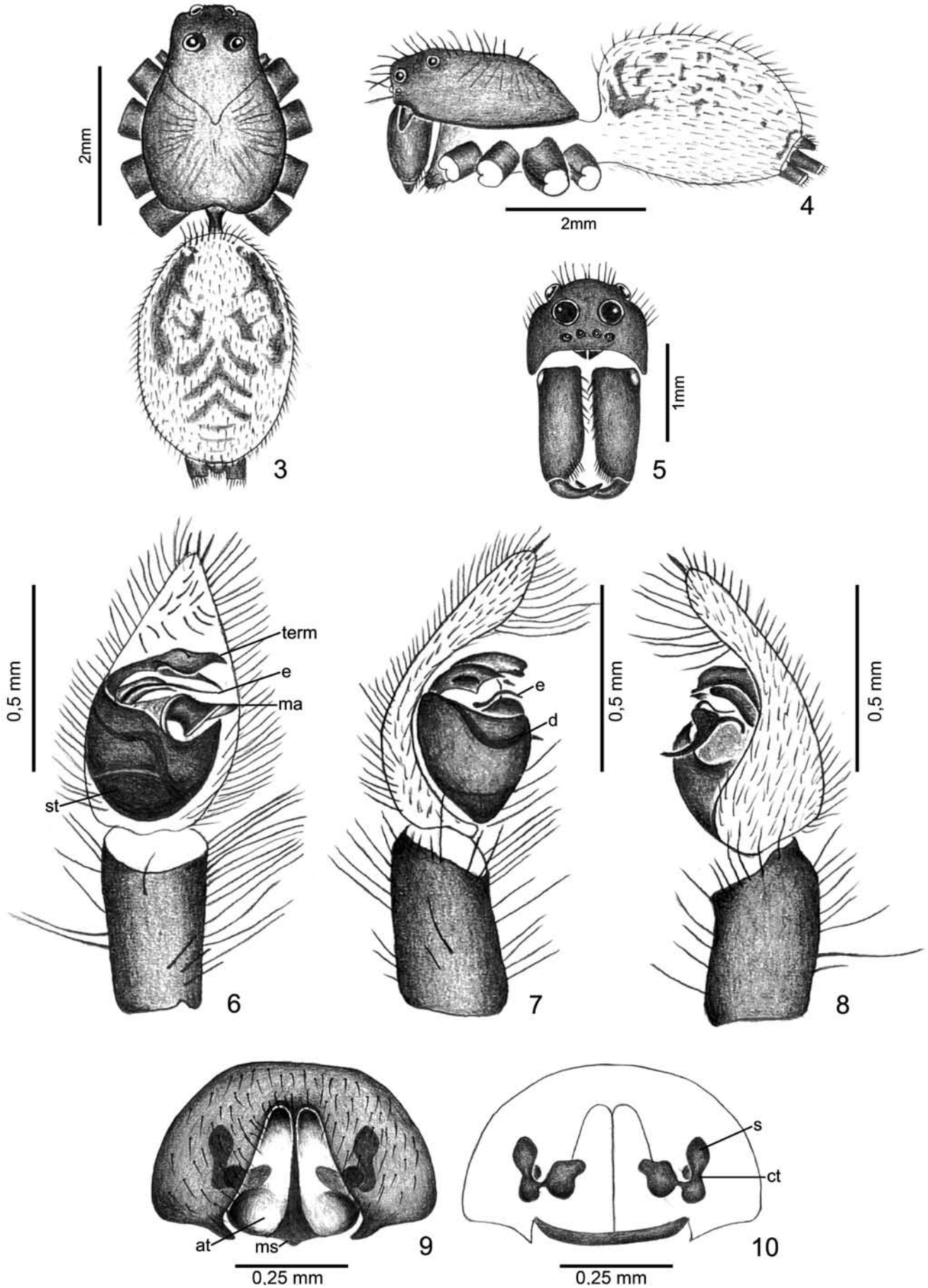
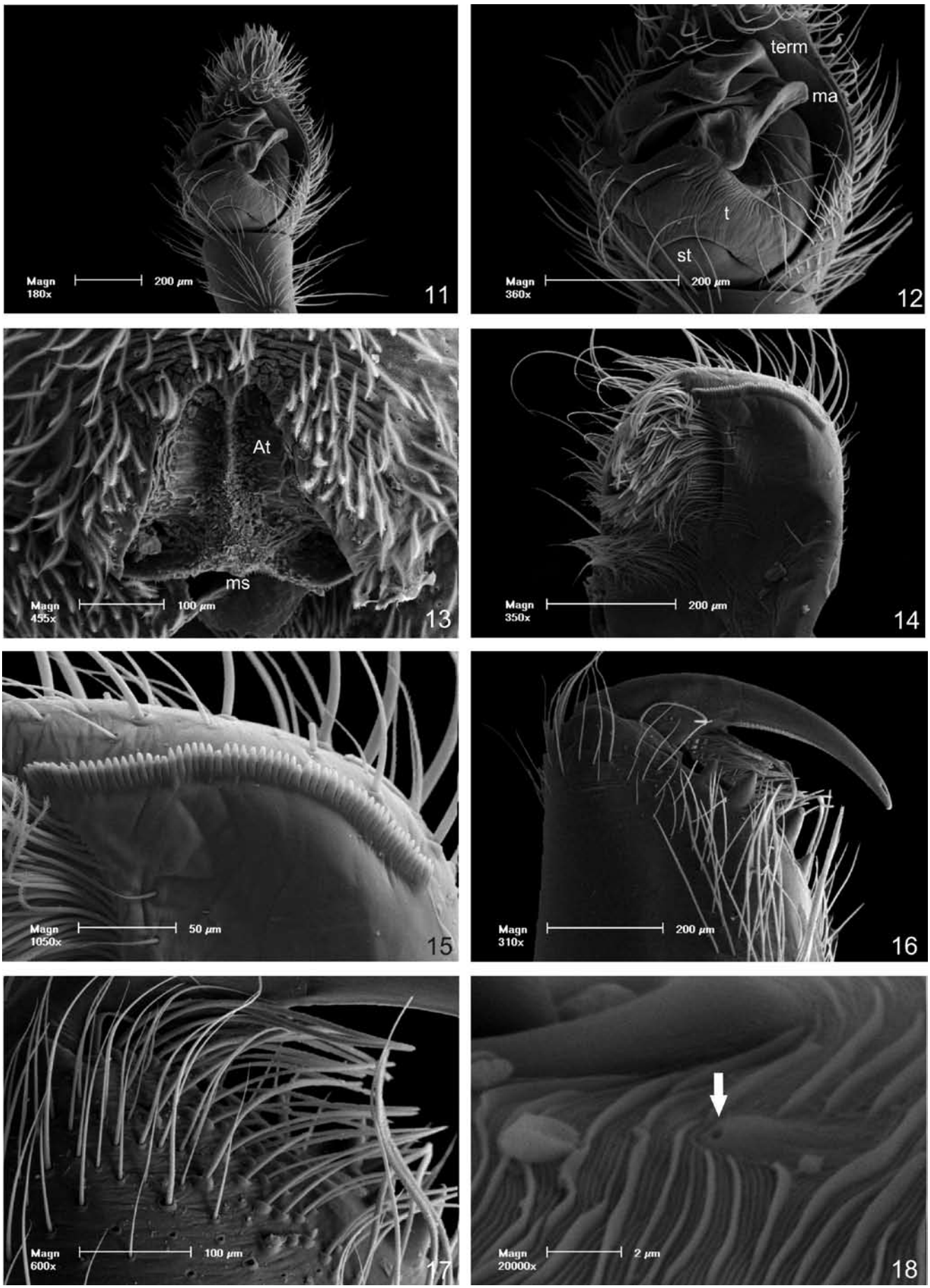
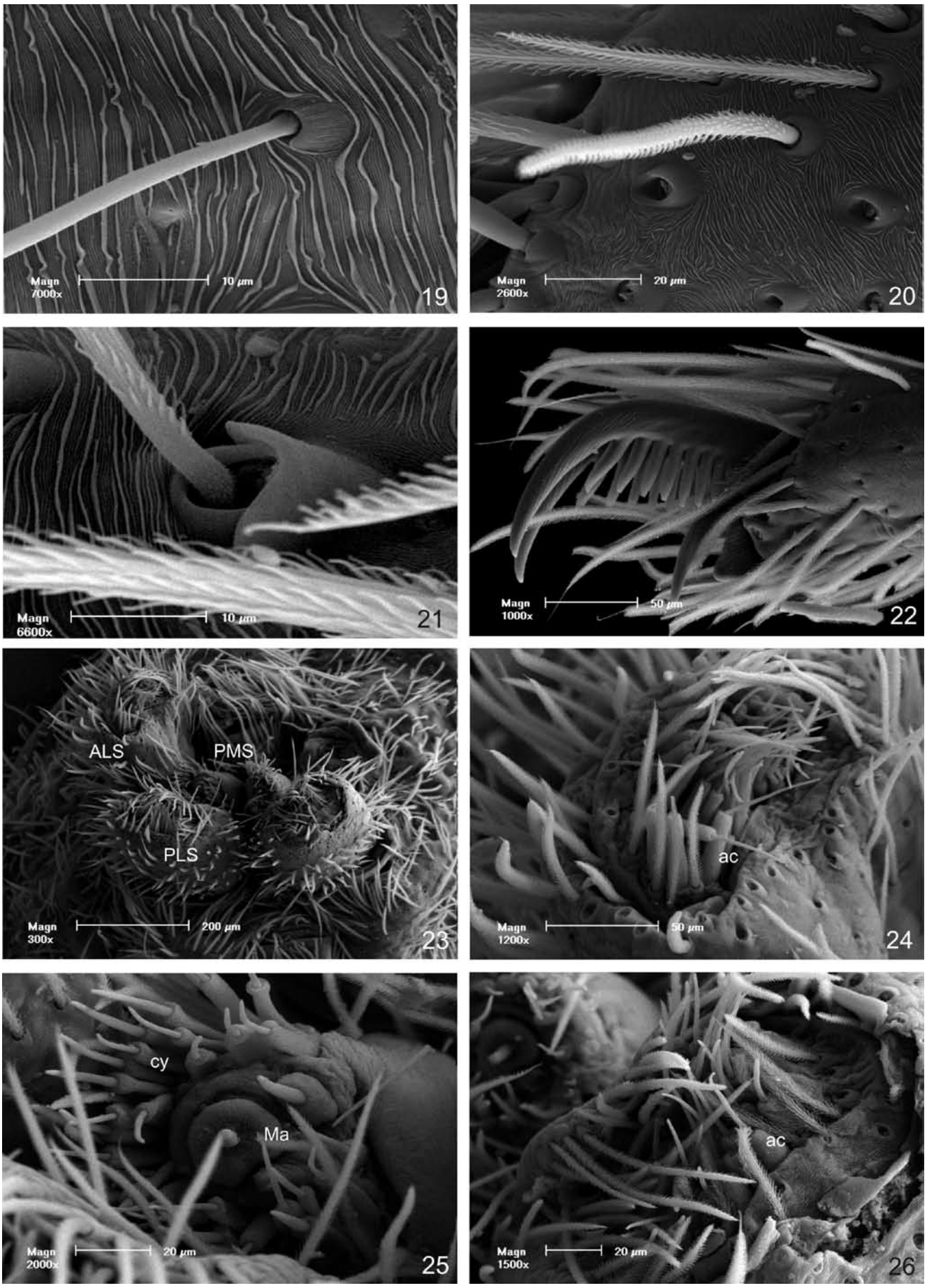


Figures 3—10. *Arctosa sapiranga* **sp. nov.** (3—5) Male, habitus: (3) dorsal view; (4) lateral view; (5) frontal view; (6-8) male, left palpus: (6) ventral view; (7) prolateral view; (8) retrolateral view; (9, 10) female genitalia: (9) epigynum, ventral view; (10) spermathecae, dorsal view. Abbreviations: *at*, atrium; *ct*, copulatory tube; *d*, duct; *e*, embolus; *ma*, median apophysis; *ms*, medium septum; *s*, spermatheca; *term*, terminal apophysis.



Figures 11—18. Morphological details of *Arctosa sapiranga* **sp. nov.** (11—12). Left male palpus: (11) ventral view; (12) palpal bulb, ventral view; (13) epigynum, ventral view; (14) left endite, posterior view; (15) detail of serrula; (16) left chelicera, posterior view; (17) setae of chelicera; (18) glandular pore of left leg I (white arrow). Abbreviations: *at*, atrium; *ma*, median apophysis; *ms*, medium septum; *st*, spermatheca; *t*, tegulum; *term*, terminal apophysis.



Figures 19—26. Morphological details of *Arctosa sapiranga* **sp. nov.** (19) setae of left leg I; (20) chemosensitive setae of left leg I; (21) bothrium of left leg I; (22) tarsal claw of left leg I; (23) spinnerets, general view; (24) anterior lateral spinneret (ALS), arrow to *pi*; (25) posterior median spinneret (PMS), arrows to *ma*, *ac* and *cy*; (26) posterior lateral spinneret (PLS), arrow to *ac*. Abbreviations: *ac*, aciniform spigot gland; *cy*, cylindrical spigot gland; *ma*, minor ampullate spigot gland, *pi*, piriform gland spigot.

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